

ADMINISTRATION REPORT

ON THE

RAILWAYS IN INDIA

FOR

1883-84.

BY

COLONEL F. S. STANTON, R.E.,

DIRECTOR GENERAL OF RAILWAYS.

PART II.



SIMLA:
GOVERNMENT CENTRAL BRANCH PRESS.

1884.

15955

SIMLA :

PRINTED BY THE SUPERINTENDENT, GOVERNMENT CENTRAL BRANCH PRESS.

PREFACE.

THE first portion of the Railway Administration Report for 1883-84 was submitted to the Government of India on the 26th May 1884, and contains a general summary of the more interesting features and results of the year's working.

The present volume, being Part II of the Director General's Report, has been compiled from the reports received from the various Local Governments and Administrations. It contains more detailed information for each individual line, and may be looked upon as supplementary to Part I, above referred to. Besides other information detailed in the list of contents, the appendices contain the audited half-yearly statistics of Indian Railways for the calendar year 1883.

The general arrangement is precisely similar to that adopted in Part II of last year's report, and seems to require no further explanation.

Since the close of the official year the following lengths of Railway have been opened for public traffic up to the end of August 1884:—

Openings since 31st March 1884.

Date.	Railway.	From	To	Miles.	Remarks.
2nd April 1884 ...	Bengal and North-Western Railway.	Gogra Ferry station	Bahraich ...	73	
14th April 1884 ...	Cawnpore-Farukhabad Railway.	Farukhabad ...	Kásganj ...	67	
22nd April 1884 ...	Bengal Central Railway.	Gobardánga ...	Bongong ...	11½	
2nd May 1884 ...	Assam Railway ...	Makum Junction ...	Margherita ...	31½	
Ditto ...	Ditto ...	Ditto ...	Dum-Duma ...	8½	
16th May 1884 ...	Northern Bengal State Railway.	Chirirbandar ...	Dinagepore ...	10½	
17th June 1884 ...	Jodhpore Railway ...	Pali ...	Towards Jodhpore	24	
Ditto ...	Amritsar-Pathankot Railway.	Dinanagar ...	Patháankot ...	15	
10th July 1884 ...	Kaunia-Dharla Railway.	Left bank, Dharla river	Jatrapur ...	4½	
1st July 1884 ...	Cawnpore-Farukhabad Railway.	Jumna Bridge ...	At Mutra ...	1½	
Ditto ...	Ditto	Kásganj ...	Hathras ...	36½	
July 1884 ...	Burma Railway ...	Pegu ...	Pyuntaza ...	41	
Ditto ...	Bombay, Baroda, and Central India Railway.	Syan Bridge ...	...	...
Ditto ...	Rajputana-Malwa Railway.	Sipra Bridge ...	...	...
Ditto ...	Great Indian Peninsula Railway.	Ajunta Bridge ...	...	...
August 1884 ...	Southern Mahratta Railway, Eastern Deccan section.	Hotgi ...	Gadag ...	173½	For goods only.
Ditto ...	Mysore State Railway.	Bangalore ...	Tumkur ...	43½	

CONTENTS.

CHAPTER I.

PAGE.

LINES UNDER SURVEY OR PROJECTED.

<i>Bengal—</i>			
Biláspur-Etáwah Railway	. . . . .		1
Bengal-Nágpur Railway	. . . . .		2
Benares-Cuttack Railway	. . . . .		5
Do. Gya Branch	. . . . .		13
Cuttack-Pooree Railway	. . . . .		13
Projected Railways in Assam	. . . . .		14
<i>Punjab—</i>			
Umballa-Kalka Railway	. . . . .		17
Kalka-Simla Hill Railway	. . . . .		18
<i>Madras—</i>			
Vizagapatam-Raipur	. . . . .	} See Chapter III .	40
Bey pore-Calicut	. . . . .		40
Vellore-Villupuram	. . . . .		41
Tinnevelly-Quilon	. . . . .		41
Nilgiri Branch	. . . . .		41
Máyavaram-Mutupet	. . . . .		41
Pálghat-Dindigul	. . . . .		41
<i>Bombay—</i>			
Dhulia Branch, G. I. P. Railway	. . . . .	} See Chapter IV .	62
Bársi Branch, ditto	. . . . .		62
Godhra-Rutlam Extension, B. B. & C. I. Railway	. . . . .		63
Vihara Branch ditto	. . . . .		63
Broach-Jambusar Branch ditto	. . . . .		63
<i>North-Western Provinces and Oudh—</i>			
Lucknow, Sitapur, Kheri, and Seramow Railway	. . . . .	} See Chapter VI .	198
Benares-Rae Bareli Railway	. . . . .		199
Dehra Dun and Hurdwar Railway	. . . . .		199
<i>Central Provinces—</i>			
Warora-Chanda Railway Extension (see Chapter VI)	. . . . .		211

CHAPTER II.

RAILWAYS UNDER CONSTRUCTION.

<i>Director-General of Railways—</i>			
Jhansi-Manikpur State Railway	. . . . .		21
Rewari-Ferozepore State Railway	. . . . .		23
Sind-Pishin State Railway	. . . . .		26
Bellary-Kistna State Railway	. . . . .		28
Cuddapah-Nellore State Railway	. . . . .		28
<i>Bengal—</i>			
Dacca-Mymensingh State Railway	. . . . .		29
Tirhoot State Railway Extensions (see Chapter VI)	. . . . .		193

CHAPTER II— <i>contd.</i>		PAGE.
<i>North-Western Provinces and Oudh—</i>		
Bareilly-Pilibhit Railway	} See Chapter VI	199
Cawnpore-Kalpi Railway		200
<i>Punjab—</i>		
Amritsar-Pathankot Railway		30
Patiala Branch Railway (see Chapter V, S. P. and D. Railway)		125
<i>Central India—</i>		
Bhopal State Railway		30
<i>Assam—</i>		
Kokilamukh State Railway		32
<i>Mysore—</i>		
Bangalore-Tumkur Railway (see Chapter VII).		225
<i>Assisted Companies—</i>		
Tarakeshwar Railway		32
Bengal and North-Western Railway		33
Rohilkhand and Kumaon Railway		36
West of India Portuguese Railway		37
Southern Mahratta Railway (see Chapter IV)		60
Assam Railway (see Chapter VIII)		233

CHAPTER III.

LINES OPEN FOR TRAFFIC UNDER THE CONTROL OF THE GOVERNMENT OF MADRAS.

Madras Railway	41
South Indian Railway	50

CHAPTER IV.

LINES OPEN FOR TRAFFIC UNDER THE CONTROL OF THE GOVERNMENT OF BOMBAY.

Great Indian Peninsula Railway	}	59 to 92
Dhond and Manmad State Railway		
Berar State Branches		
Southern Mahratta Railway		
Bombay, Baroda, and Central India Railway		
Patri State Branch		
His Highness the Gaekwar's Railway		
Bhavnagar-Gondal Railway		

CHAPTER V.

GUARANTEED AND IMPERIAL STATE RAILWAYS UNDER THE CONTROL OF THE GOVERNMENT OF INDIA.

East Indian Railway (including State Branch Railways).	93
Eastern Bengal Railway	109
Oudh and Rohilkhand Railway	120
Sind, Punjab, and Delhi Railway	125
Amritsar-Pathankot and Rupar Branches	125
Punjab Northern State Railway	130
Indus Valley and Kandahar State Railway.	139
Rajputana-Malwa State Railway.	151

CHAPTER VI.

PROVINCIAL STATE RAILWAYS.		PAGE.
<i>Bengal—</i>		
Calcutta and South-Eastern Railway		173
Nalhati Railway		176
Northern Bengal Railway		179
Kaunia-Dharlla Light Railway		189
Tirhoot Railway		193
<i>North-Western Provinces and Oudh—</i>		
Cawnpore-Achnera Railway		200
<i>Central Provinces—</i>		
Nagpur and Chhattisgarh Railway		207
Wardha Coal Railway		211
<i>British Burma—</i>		
Burma State Railways		214

CHAPTER VII.

RAILWAYS IN NATIVE STATES AND FOREIGN TERRITORY.

His Highness the Nizam's Railway	219
Mysore Railway	225
Jodhpore Railway	228
Bhavnagar-Gondal Railway (see Chapter IV).	
His Highness the Gaekwar of Baroda's Railway (see Chapter IV).	
West of India Portuguese Guaranteed Railway (see Chapter II)	37
Pondicherry Branch Railway (see Chapter II)	50

CHAPTER VIII.

ASSISTED RAILWAY COMPANIES.

Darjeeling-Himalayan Railway	229
Bengal Central Railway	232
Assam Railway	233
Deoghur Railway	236
Tarakeshwar Railway (see Chapter II)	32
Bengal and North-Western Railway (see Chapter II).	33
Rohilkhand and Kumaon Railway (see Chapter II)	36

APPENDICES.

A.—Statistics of the working of Indian Railways, Parts I and II, for the half years ended 30th June and 31st December 1883	ii
B.—Statement showing the general results of the working of the principal Indian Railways during the last five years (1879 to 1883)	cviii
C.—Statement showing the mileage, age, cost and general results of working of Indian Railways for the year 1883	cxix
D.—Table showing the progress made on Railways under construction on the 31st March 1884	cxvii
E.—Revised rules of the State Railway Provident Institution to have effect from the 1st January 1885	cxviii
F.—Statement showing the transactions of the Fine Funds on the several State Railways for the year 1883-84	cxviii

	PAGE.
G.—Statement showing the mileage of Railways during the year 1883 earning over 4 per cent.	exl
H.—Statement showing (1) Railway schools and (2) Local and District schools attended by Railway employès and their children during 1883	exli
J.—Terms for working and maintaining the State branch lines by the East Indian Railway Company, dated 24th April 1884	elix
K.—Contract between the Secretary of State and the Bengal and North-Western Railway Company	clxii
L.—Working agreement between the Madras and the Southern Mahratta Railway Companies for working the Bellary joint station from 1st January 1884	clxxiii
M.—Working agreement between the Oudh and Rohilkhand and Bengal and North-Western Railway Companies, dated 20th March 1884	clxxviii
N.—Agreement between the East Indian and the Rajputana-Malwa Railways for interchange of coaching and goods traffic, dated 21st May 1884	clxxxix
O.—Working agreement between the Rajputana-Malwa and Cawnpore-Achnera Railways, dated 1st July 1884	clxxxvi

RAILWAYS IN INDIA.

ADMINISTRATION REPORT.

CHAPTER I.

LINES UNDER SURVEY.

BILASPUR-ETÁWAH RAILWAY.

A full description of this project, based on aneroid reconnaissances, was given on pages 3 to 10 of the Administration Report for 1882-83.

Before the monsoon of 1883, the 78 miles between Katni and Sohágpur (in Rewah), in the middle of which length lie the Umaria coal-fields, were lockspitted, surveyed, and levelled over.

During the cold season of 1883-84 four survey parties were at work, namely, two on the length between Sohágpur and Biláspur (120 miles) and two between Katni and Saugor (113 miles).

Three of these completed their field work by the end of April 1884; the fourth was to have finished by the end of May.

The drawings and estimates will be worked out at Jubbulpore, and be ready, it is believed, for submission to Government by the end of September.

For next cold season there remains to be similarly dealt with the section of 43 miles between Saugor and the (projected) Bhopal-Cawnpore Extension, which will probably be joined near an unimportant village called Etawáh.

By the end of September 1884, when the complete project for the 311 miles between Biláspur and Saugor will be ready for the orders of Government, the sum of Rs. 1,79,000 (in round numbers) will have been spent on "preliminary operations," being at the rate of Rs. 575 per mile.

With a view to the early development of the Rewah coal-fields in the neighbourhood of Umaria, it is possible that, in anticipation of the construction of the entire line from Bilaspur to Etáwah, a commencement will be made, on the 5' 6" gauge, with the section which runs from the Katni station on the Jubbulpore Branch of the East Indian Railway to Umaria in the territories of His Highness the Maharaja of Rewah.

This section is 37 miles long, and is estimated to cost Rs. 31,57,486, or Rs. 85,338 per mile. There are no difficulties to be overcome on this short length of line, and the only bridge of importance is one of 4 spans of 100 feet over the Mahanadi river, a tributary of the Tons river, and the boundary between British and Rewah territory.

BENGAL-NÁGPUR RAILWAY.

From Biláspur to Sítarámpur, 365½ miles.

The location survey was carried out during the cold season of 1882-83, and the following may be taken as a fairly reliable estimate of the cost of construction and first equipment on the 5' 6" gauge:—

Heads of Estimate.	Amount. Rs.	Total. Rs.
I.—Preliminary expenses	3,37,176	3,37,176
II.—Land	2,28,820	2,28,820
III.—CONSTRUCTION OF LINE—		
(a) Earthwork	42,19,035	
(b) Bridgework	69,09,063	
(c) Tunnels	12,07,593	
(d) Fencing, &c.	4,76,420	
	<hr/>	1,28,12,111
IV.—BALLAST AND PERMANENT-WAY—		
(a) Ballasting	16,15,101	
(b) Permanent-way	69,54,882	
	<hr/>	85,69,983
V.—STATIONS AND BUILDINGS—		
(a) Station and station machinery	7,30,500	
(b) Staff quarters	5,47,875	
(c) Workshops	5,47,875	
	<hr/>	18,26,250
VI.—Plant	6,00,000	6,00,000
VII.—Rolling stock	36,25,000	36,25,000
VIII.—Establishment	23,77,434	23,77,434
IX.—Contingencies	13,99,965	13,99,965
Total	<hr/>	3,17,76,739

or per mile of railway Rs. 87,000.

The complete project for a line of railway on the broad gauge from Sítarámpur to Nágpur comprises the construction of 479 miles of new line, and the conversion to broad gauge of 148 miles of the existing metre gauge State line, or about 627 miles in all. Its cost, including that of the open line from Nandgaon to Nágpur and of its conversion to the broad gauge, with due allowance for the existing metre gauge materials and stock, may be stated as follows:—

	Miles.	Rs.
Sítarámpur to Biláspur	365½	3,17,76,739
Biláspur to Nandgaon	114	93,00,000
Nandgaon to Nágpur	148	1,36,32,000
Total	<hr/>	5,47,08,739

as compared with the estimate of Rs. 5,29,32,000 given on page 11 of last year's report.

The following extracts from the report of Mr. W. H. Parker, the Engineer-in-Chief, are descriptive of the route traversed between Biláspur and Sítarámpur:—

1. The Government of Bengal in 1881 submitted proposals for a line of railway to connect the Nágpur-Chhattisgarh Railway with the East Indian Railway at Barákar. Three different routes having been suggested, the Government of India directed that all three should be investigated, and funds were provided for a reconnaissance survey of the country between Biláspur, up to which town the Nágpur-Chhattisgarh Railway Surveys had been carried, and Barákar on the East Indian Railway.

2. This reconnaissance was carried out in the cold season of 1881-82, and a report submitted by the Engineer-in-Chief on the 15th June 1882. The lines examined were named respectively the northern, southern, and intermediate routes. Starting from Barákar, the northern route lay through the Hazáribágh and Lohardugga districts and the Native States of

Jashpur and Sirgoojah, running into Biláspur from the north. The southern route through Manbhoom, Singhbhoom, the Native States of Bamra and Gangpur, and the Sambalpur, and Biláspur districts, approaching Biláspur from the east. The intermediate route was a compromise between the two: leaving the northern route at Ranchee it traversed the Lohardugga plateau in a south-westerly direction, joining the southern route on the east side of the river Eeb, south of Suadi, the chief village of the Gangpur State.

3. The results of the reconnaissance were in favor of the southern route, the adoption of which as a broad gauge line was recommended by the Engineer-in-Chief and approved by His Honor the Lieutenant-Governor of Bengal.

4. The Government of India final orders on the project directed that a location survey between Sítarámpur on the East Indian Railway and Biláspur should be carried out during the cold season of 1882-83, the junction with the East Indian Railway being shifted from Barákar to Sítarámpur on the score of economy. The distance between the two stations is five miles.

5. This location survey has been completed during the cold season so far as the numbers of the staff available permitted. In consequence of the limited establishment, the Government of India were pleased to direct that the full details and alternative surveys proposed to be carried on through two seasons were not required, but that the best line obtainable during one season, with such detail as might be required at the most important points, should be submitted.

6. Much valuable information had already been obtained on the reconnaissance survey, as a line of flying levels had been run from Sítarámpur all the way to Biláspur, and cross-sections of all the more important streams had been taken; the general direction of the line was thus already partly fixed, and the survey parties were able, from the plans furnished them, to note the principal points where modifications might be necessary, and the obligatory points through which the line must pass.

7. * * * * *

8. The objects of the railway are, first, to form a direct connecting link between the Great Indian Peninsula Railway, terminating at Nágpur, and the East Indian Railway, shortening the distance between Bombay and Calcutta by 130 miles; secondly, to open up the fertile wheat-producing districts of Raípur and the districts of Biláspur, Sambalpur, Singhbhoom, and Manbhoom. From the east bank of the Mand river, mile 68, a short branch to the north would tap the extensive coal-fields of the Mand and Kereket Valley. North of Champa, 32nd mile, also lies the valuable coal deposit of Karba. From the east side of the Eeb river, mile 120, a branch can easily be taken to Sambalpur, some 25 miles distant to the south, and might eventually be extended to Cuttack. Lastly, if considered advisable, a line from the 275th mile could be taken to Midnapore. This would form part of a junction with Calcutta at Howrah—a subject much discussed, but the expense of which would be very considerable and of doubtful advantage.

9. It was shown in the reconnaissance survey report that the railway would serve a population roughly calculated at $4\frac{1}{2}$ millions, and that the country through which it passes, though at present very much under-populated and under-cultivated, would probably under the influence of improved communication develop to a very great extent. It was said in paragraphs 85 to 89 that the immediate traffic, on these data, might be expected to give a return of some $4\frac{1}{2}$ per cent. on the capital outlay, with a prospect of increase at no distant date to 8 per cent., and this calculation did not include the traffic that might be derived from the coal-fields adjacent to the line. His Honor the Lieutenant-Governor of Bengal, in commenting on the report, considered that this estimate of traffic was low, and that the prospects of the line were even more hopeful than was suggested by this estimate.

10. Biláspur, from which this length of railway begins, is a small town of some 5,000 inhabitants; the town is the head-quarters of the district. The old trading centre of this part of the country is Ratanpur, also a town of some 5,000 inhabitants, and is about 10 miles to the north. Owing to the want of communications there is at present but little trade, though the bazaar of Biláspur is well supplied. Imports and exports are carried mainly on pack bullocks.

11. Champa, 32nd mile, is the chief town or village of the Feudatory State of the same name, and is situated on the banks of the Hesdoo river. Some 20 miles to the north is the town of Kerba, where seams of coal to a depth of 90 feet are reported on by Mr. Ball in his geological reports. Champa will probably become one of the trade centres for the country round. Sakti, the next large town, is the head-quarters of the Feudatory Chief of the Sakti State; there is a post office here, and some prospects of trade rising.

12. Raigarh, the residence of the Feudatory Chief of the Raigarh State is a town of some 5,000 inhabitants, situated on the bank of the Kelo Nuddee, a tributary of the Mahanuddy. Considering the difficulties of transport, there is a fair trade here with Sambalpur, and a large market is held once a week. Up to this town the valley of the Mahanuddy, through which the line passes, is studded with villages, and mostly cultivated. The inhabitants are apparently well to do, and are decently clothed and housed.

13. Leaving Raigarh the line enters on a very thinly populated country, mostly covered with bamboo forest, hilly, rocky, and raviny. The first village of importance is Rajpur, mile

118, at the confluence of the Eeb and Bosundar rivers. Eight miles to the north-west of Rajpur, coal was found in a nullah, tributary of the Bosundar, the valley of which higher up shows also the existence of coal. Rajpur is a village of some 1,000 inhabitants. Sugarcane, tobacco, pân, and betelnut are grown round the village.

14. Five miles east of Rajpur will be located the engine-station of Panchpara, to the north of which is Talpachia, a large village to which traffic is brought on carts from Sambalpur, and is there stored till it can be despatched by pack bullocks to the Native States lying north. The traffic of Sambalpur will probably come to this station.

15. Leaving Panchpara the line traverses the Gangpur State on or near the top of a minor water-shed mostly covered with forest. North lies the valley of the Sumpai, which is fairly cultivated near the river. Prosperous villages are met with about three miles apart, each in its own clearing of the forest, rice, sugarcane, and tobacco being the general cultivation. The ridges are high and rocky, the valleys fit for cultivation; but the population is scanty. At Sagra, 157½ miles, the line cuts the Ranchee and Sambalpur old road, Ranchee being about 120 miles to the north-east.

16. From Sagra to Ragonathpali, 182nd mile, the line follows the narrow valley of the Sunk river, which is scarcely populated, villages being small and far apart. At Ragonathpali the Brahmini river is crossed about one mile below the junction of its two confluents, the Sunk and the Koel, which when combined form the Brahmini river. From this to Monaipur, 210th mile, on the banks of the Koina river, the valley is of the same description the hills on the south approaching close to the Koel.

17. Crossing the Koina river, and after running a short distance quite close to the bank of the Koel, the line enters the hills which form the dividing ridge between the Brahmini basin and that of the Subarnarekha. The work is very heavy, and entails a tunnel of 2,300 feet in length at the 255th mile. The sâl forest through which the line passes will supply all the sleepers required for the line. Only a few cuts in small patches of cultivation are met with as far as Daraikola, 230th mile, where the line emerges from the hills, and following the left bank of the Gogra, a small tributary of the Sangai, crosses the Sangai at Sonna, mile 235. Sonna is a fairly large village in a cultivated plain, which opens out as the line gets further down the valley.

18. The engine-station of Chakhardarpur at 248½ miles is in a wide flat open valley, well cultivated and populated. The Ranchee and Chyebassa road is crossed here, Chyebassa being some 15 miles to the south and Ranchee 70 miles to the north. There is a police-station and post office here, and a large bazar is held once a week, which is attended by the villagers for many miles round.

19. The valley is fairly cultivated and populated up to Sini, a good village at 270th mile, and two miles to the south of this is Dugni, a large village or town on the Chyebassa-Purulia road, which is the principal market for the country around.

20. From Sini to the Subarnarekha river, mile 282, the country is rocky and covered with low jungle. Crossing the Subarnarekha the line enters the district of Manbhoom, following the general direction of the Purulia road. The country now becomes very undulating, and is crossed by ridges dividing the numerous tributaries of the Subarnarekha. At the 286th mile a range of hills, which extends for miles along the north bank of the river and culminates in the Dalma hill, 3,500 feet high, is crossed by a gap in the range. The flying levels taken on the road were here somewhat misleading, as the road twists abruptly to get through the gap. As the hills on either side overlap, it was found impossible to get through with less than 90 feet cutting at the deepest part.

21. Beyond this gap, and at the 287th mile, is Chandil, a thriving village possessing a post office and thanna. It is probable that the line proposed from Benares to Cuttack would join on to the Nagpur Railway at this village, the only feasible route for a railway from Ranchee, so far as known, lying in this direction.

22. From Chandil to Purulia a few large villages are past, but the country is much covered with forest and under-populated.

Bulrampur at the 303rd mile is one of the largest villages on the road, and the traffic from the surrounding country will probably all come in here.

23. Purulia, mile 320, is the head-quarter station of the Manbhoom district. Good roads branch off from here to Ranchee on the west, Bankoora on the east, Barákar north, Chyebassa south. There is every probability of a large trade from the Lohardugga plateau coming into this station, which will also be the passenger station for travellers to and from Ranchee, which town is some 72 miles distant. The Kossye river is crossed at mile 318.

24. From Purulia to Sítarâmpur, 45 miles, the country is populous and well cultivated. The ridges are high and the valleys deep. The forest has been almost entirely cleared away, and every available plot of land appears to be tilled. Jhapra and Ragonathpur, where stations are proposed, are large and thriving villages, from which cart roads branch off in every direction.

25. Near Pached, 351st mile, are some valuable quarries of limestone, said to be most suitable for iron-works. The Damuda river is crossed at 367th mile, and on the north bank are the collieries of Deshurgarh and Santoria, the coal from which is now carted to Barákar on the East Indian Railway, some five miles distant; a colliery siding is proposed here.

26. Sítarâmpur is a small station on the East Indian Railway, 365 miles from Biláspur. The East Indian Railway branch line from Barákar here joins the main line. The engine-station of Asansol is six miles further east, *i.e.*, nearer Calcutta.

BENARES-CUTTACK RAILWAY.

The following is extracted from a preliminary report by Mr. W. H. Parker, the Engineer-in-Chief in charge of the Surveys :—

The reconnaissance of this line, ordered by the Government of India, was carried out in the cold season of 1882-83.

2. From Moghalsarai to Garhwa was prospected by Mr. G. A. Campbell, Executive Engineer, North-Western Provinces, and from Garhwa to Cuttack by Captain M. Laugharne, R.E., Executive Engineer.

3. The results of the reconnaissance from Moghalsarai to Garhwa, conducted under orders of the Engineer-in-Chief, North-Western Provinces Provincial Railways, were that a direct line to Garhwa *via* Bidjirghar, Kare, and Kantari was impracticable, but that a practicable route might be found by adding 13 or 14 miles to the line; making a detour to the west, at the ascent of the Vindhya plateau, descending the Kaimur plateau by the gorge of the Ghaggur Naddi, crossing the Son at Hardi, thence making a detour to the east as far the end of the hills bordering the south bank of the Son, and round by Chapparbar to Garhwa. The direct route being 115 miles in length, the line recommended would be 128 or 129 miles long to Garhwa. The cost of this line was estimated roughly at Rs. 1,73,22,414 for the 147 miles to Daltonganj.

4. The reconnaissance of the Bengal section of the line showed that a practicable route might be found from Garhwa *via* Daltonganj, Chandwa, ascending the Ranchee plateau by the Mahlan spur, passing either by Lodhma or Ranchee to the valley of the Tajna river, descending this a short distance, then down a ghat *via* Amki to Chandil.

5. From Chandil the route would be over the projected Bengal and Nagpur Railway, south and west for 23 miles, to little beyond Kuchai on the Sonkua nullah. Here leaving the Bengal and Nagpur Railway *via* Chyebassa, Jointi, 10 miles east of Keonjhur, crossing the Brabmini a mile and half above the Janapur bifurcation, and along the High Level Canal to Cuttack.

6. It was still doubtful whether the descent from the Chota Nagpur plateau *via* Amki could be effected with a gradient of 1 in 100. Other passes in the range of hills dividing Lohardugga and Manbhoom from Singbhoom were examined, but reported quite impracticable. It was further doubtful whether the watershed dividing the Sanjai from the Baitarni valley, and the descent from the Keonjhur plateau into the Orissa plain could be effected with the prescribed maximum gradient of 1 in 100.

7. It has since been found by actual survey that the Amki Ghat and the watershed north of the Baitarni river are practicable, but gradients of 1 in 50 and 1 in 80 appear to be required in the descent to the Orissa plains. The rough estimate from Garhwa to Chandil was Rs. 2,07,77,378 and from the junction near Kuchai to Cuttack Rs. 2,20,47,624.

8. No data in the way of levels or actual survey were obtained to show that the alignment suggested by Mr. Campbell was practicable as regards the ascent of the Vindhya plateau, or the descent from the Kaimur range by the Ghaggur valley. The alignment proposed, after crossing the river Son, ran through very rough country in a trough between two ranges of hills.

9. This section of the survey was made over in January 1884 to the Engineer-in-Chief, Bengal Section. An inspection of the maps showed that, as the projected line ran so far to the east on the south bank of the Son, it might be worth while examining the river crossing at Pareha, about eight miles above the junction of the Koel and Son, and from that crossing to endeavour to shorten the line by running across the plateau to the east of Bijirgarh, descending the face of the hills to the river crossing.

10. The adoption of this crossing also suggested an alternative level line by any practicable pass to the east of Pareha, or by taking a level line even round by Sasseram, the length of which did not appear to exceed that of the alignment proposed by Mr. Campbell, which would be an expensive line to construct and to work.

11. In consequence of the lateness of the season, the Executive Engineer deputed to make a trial survey of the western route over the plateau, was unable to run his trial line completely through. A detailed survey of the ascent to the Vindhya plateau shows that a practicable, though somewhat expensive, line can be obtained to the west of Latifpur, with the prescribed gradient, the top of the ascent being about five miles north of Sukratpur.

12. From this point a trial line was run across the plateau *via* Pannuganj to Rampur, near the head of the Ghaggur valley. Near the village is a narrow neck of the high crest of the Kaimur range, separating the Ghaggur valley from a ravine running into the Son. Mr. Roberts proposes to tunnel through this ridge for half a mile, 600 feet below the surface, which would bring the line out on the south slope below the cliffs.

13. On emerging from the tunnel, the line would run along the hill slopes for some three miles, till the level of the low outlying parallel range was attained, then would double back along the slopes of this low range and along the long slope of the Vindhya till the level of the Son valley is reached. The total descent is estimated as some 950 feet.

14. From the Son river to Garhwa trial lines were run, which ran up the Koel valley to Chapparbar, and turning to the west to Garhwa joined the Bengal section on the west bank of the Dauru river. From this trial line it is evident that, since it is necessary to keep up the Koel valley so far as Chapparbar a saving in distance of some six miles may be effected by continuing the line up the Koel valley and effecting a junction with the Bengal section at Kattua, 16 miles east of Garhwa.

15. This line would run five miles to the north of Garhwa, which does not, however, appear to be a place of so much importance as to warrant the construction of six extra miles of railway, nor is it within the area of the Daltonganj coal-field.

16. The approximate lengths of the line just described are as follows :—

Mr. Campbell's proposed line from Moghalsarai to 16th mile, Bengal section	... 146 miles.
Messrs. Roberts' and Hawkes' trial lines to the same junction <i>via</i> Garhwa	... 144½ miles.
Prospected line <i>via</i> Sasseram and Kota Pass <i>via</i> Garhwa	... 148½ miles.

For each of these lines joining in at the 16th mile of Bengal section, instead of at Garhwa, deduct six miles: the relative lengths would then be 140, 138½, and 142½ miles, respectively.

17. In favour of the Sasseram line, which is the longest, we have nearly a level line with easy work the whole way, passing through a rich and thickly populated country for 65 miles, the remaining portion being up cultivated valleys.

18. The crossing of the Son at Parcha is very favorable. On the right bank is a low rocky hill, and rock is found in the bed on this side, and probably will be found at no very great depth below the sand right across. The total length of waterway required is 27 spans of 150 feet or 4,200 lineal feet, costing probably Rs. 20,25,000.

19. From the Son crossing to Kattua, the line would run with easy gradients over a gently undulating country, following the course of the Koel river.

20. Near Kattua it enters the Daltonganj coal-field, and crosses the Koel river at the 143rd mile, *i.e.*, 17th mile of the Bengal section. From this river the mileage of the Bengal section is quoted.

21. The Koel river crossing is good: rock on both banks, and a defined channel: 1,400 running feet of waterway is required. On the right bank of the Koel a few coal pits have been worked, but it is expected that on completion of the railway a very considerable export will take place.

22. From the Koel to the 19th mile some very raviny ground is crossed. At 19½ miles, on a high level patch of cultivated ground, will be situated the junction station of Sukhua, from which the branch line to Gya will take off. From this station coal will be exported to Gya and North-Western Provinces.

23. By crossing the Koel below its junction with the Amanut, and crossing the Amanut also, the following advantage is gained: the line passes through the middle of the coalfield, and although 3½ miles is added to the main line, the Gya branch is shortened by 5½ miles, and any branch line made to Rajhera would be shortened by 2½ miles. The Amanut river must be crossed either by the main line or the Gya branch. This bridge, therefore, adds nothing extra to the necessary cost of the combined projects.

24. The Jingoi nullah, 21st mile, 200 feet waterway, and the Amanut, 25th mile 720 feet, are crossed at favorable points: sandstone and rock is found in the beds of both of these rivers. The approaches are through raviny ground, covered with low thorn jungle khair and trees. Gradients are easy and work not expensive.

25. From the Amanut river to Sathbarwa, mile 38th, the work is easy and gradients light, the country in the immediate vicinity of the line being under wheat and rice cultivation.

26. There is a continuous ascent from Sathbarwa of 1 in 100 for 3½ miles, a short level, and another ascent of 1 in 100 for four miles, the total rise between Sathbarwa and Mankah being 355 feet. From Mankah there is a fall of 90 feet to the Sukri nullah, mile 49th. This nullah requires 360 feet waterway, foundations on rock. All this length is through jungle and ravines, excepting in the immediate vicinity of villages, where small patches of cultivation occur.

27. From the Sukri nullah to Latiahar, 59th mile, the line runs through very hilly and difficult country, the gradients being in long lengths of 1 in 100 with occasional levels. Beyond Latiahar, with the exception of some raviny ground near the Auranga crossing, fairly easy country is traversed, mostly under cultivation. One gradient of nearly two miles of 1 in 100 occurs. The Auranga river will require 180 feet waterway, foundation being on rock.

28. Near Rúd, 71st mile, two sharp curves are required to keep between the Ghaggra river and the hill on the south bank, which runs down nearly into the river, being the end of a spur from the Lohardugga plateau. The line here passes through a gap which separates the Lohardugga plateau from the hills which form the boundary of the Palamow and Hazáribágh districts.

29. From Rud several trial lines were run with a view of avoiding, if possible, descending the valley of the Damuda. From Rud to the ridge separating the basin of the Damuda from that of the Koel there is a rise of 145 feet. It was found, however, that from this ridge it was not possible to get on to the plateau to the south without ascending 356 feet above its level and descending again the same amount. The alignment was therefore carried down the Damuda valley, descending by comparatively easy gradients, only 105 feet to the foot of the Mahlan hill.

30. The Mahlan hill is a long spur projecting from the Lohardugga plateau, and after thorough examination of the country afforded the only chance of getting up to the plateau with a gradient of 1 in 100.

31. The hill sides are steep, cut up with ravines, and covered with forest. The ascent is $12\frac{1}{2}$ miles in length, on a continuous gradient of 1 in 100; the curves are rather sharp, 4° deflection, or a little over $\frac{1}{4}$ mile radius, being found necessary. There is a tunnel $\frac{1}{4}$ mile long at a third of the distance up, and the work throughout is heavy. It would perhaps be found more economical in the long run to allow a steeper gradient than 1 in 100.

32. From the north edge of the plateau the country rises gradually up to the watershed of the Koel and Subanrika rivers, 117th mile, which is 2,361 feet above sea level. From this watershed to the Kanchi river, 135th mile, there is a fall of 520 feet in 19 miles, involving long descents of 1 in 100, only seven miles out of this length being on the level.

33. The valley of the Damuda is partly cultivated: just before ascending the Mahlan hill the line touches the corner of the South Karanpura coal-field: coal is obtainable at Murmur on the opposite side of the Damuda, some three miles from the foot of the hill. The Damuda river requires 120 feet waterway, and the Sapphei or Mahlan river 160 feet.

34. The location has been taken as near to Ranchee and Doranda as the nature of the ground would admit. A shorter line might have been made by running through Lodhma, but a branch line of 16 miles would probably have been required at some future date, through a difficult country, which would have been expensive to make. Ranchee is the chief civil station of Chota Nagpur, and Doranda only the military cantonment.

35. The country is open but very undulating from the crest of the plateau to 130th mile, principally under rice cultivation: ridges are mostly capped with gneiss rock, which crops up on the surface. From 129th mile to the Kanchi river is hilly and raviny ground. The whole descent from 116th mile required very careful location.

36. The Kanchi river will require 240 feet of bridging: the watershed between this river and the Tajna has to be crossed, involving a rise of 115 feet. The country is similar to that on the north bank of the Kanchi, crossing ridges and valleys of rice-fields bordering the river.

37. From 145th mile the descent of the plateau begins on an incline of 1 in 100. The line follows the course of the Tajna for $2\frac{3}{4}$ miles, up to Pirihati, thence following as nearly as possible the contour of the ground, takes the general direction of the existing track down a tributary valley, keeping to the sides of the hills, which are strewn with huge boulders covered with dense jungle, and cut up by rills and ravines, involving severe work, both in preliminary survey and location.

38. The total descent by this incline is 19 miles. Gradients of 1 in 80 and 1 in 50 are shown on the section, but there is sufficient length for a continuous gradient of 1 in 100. The alignment is most difficult: shifting the centre line a few yards to one side or the other would make very considerable difference in the heights and depths of banks and cuttings. The alignment can be corrected when work is ordered to be commenced. It is scarcely worth while to devote another season to this correction.

39. From Jaranga, 162nd mile, the gradients flatten gradually to Nori. The Khacharu river, 360 feet waterway, is crossed at 168 $\frac{1}{2}$ mile, and the line emerges into the open country at Parasi, 172nd mile.

40. From Parasi the line is nearly straight to the Subanrikha, running parallel to the great range of hills which form the northern boundary of Singhbhoom. The country is comparatively flat and cultivated with rice. No important streams are crossed, but the drainage of the northern slopes of the hills passes across the line.

41. The Subanrikha, mile 192nd, requires a bridge of 800 running feet, and the Brahmini, 240 running feet. The alignment here involved two sharp bends, and the crossing of both rivers appears to be obligatory, as the junction of the rivers is close to the hills, which run from the Dalma mountain to the left bank of the Subanrikha river, and heavy work in rock-cuttings would be required; besides, the Subanrikha river widens very considerably just below the junction.

42. The line joins into the Bengal and Nagpur projected railway at the station of Chandil, 78 $\frac{1}{2}$ miles from Sitarampur. From this station traffic will be run over that line towards the west up to Kuchai, 28 miles from Chandil, from which a fresh departure is made for the south. The length of line located from Garhwa to Chandil is 195 $\frac{1}{4}$ miles, but 16 miles of this from Garhwa will be rejected, as mentioned in paragraph 14. The approximate distance from Moghalsarai to Chandil *via* Sasseram will be 322 $\frac{1}{4}$ miles.

43. Surveys were made with a view to obtaining a route through the hills north of Singhbhoom in a more direct line to Chyebassa, and trial lines were run from the Tajna river by the Koebang Pass on the Ranhee-Chyebassa road; the Rabo Pass on the N-ri-Khursawan road; the Lathnath Sing Pass on the Kluti Dagni road; and along the right bank of the Subanrikha river. These were all found to be impracticable.

44. Leaving the Bengal-Nágpur Railway a mile west of the Sonkia nullah, at Keitera, the southern division of the railway crosses the Sanjai river, 240 feet waterway, half a mile from the junction, and runs nearly south over comparatively easy ground to Chyebassa, the sudder station of Singhbhoom, 11th mile. From 7th to 10th mile a range of low hills is crossed, which extends in a north-easterly direction from the high Saranda Range to the junction of the Sanjai and Korkai rivers. There is some rather heavy work, and a gradient of 1 in 100, up for $1\frac{1}{2}$ miles, and down for $\frac{2}{3}$ miles: at mile $10\frac{1}{2}$ the Raro river is crossed, requiring 260 feet waterway.

45. Up to the 20th mile the country is open and undulating, partially cultivated with rice. The line now enters sál forest and hilly country. In the next 20 miles there is an ascent of 650 feet, the line winding among a mass of low hills, outlines of the Keonjhar mountains. The trial section shows gradients of 1 in 80, but these have been improved in locating the line, so that the ascent will be accomplished with gradients of 1 in 100.

46. The location of these 20 miles was very troublesome: to add to the difficulty, the map, No. 16, Ganjam and Orissa survey, was found inaccurate in several places.

47. From the 40th mile there is a fall to the Konjera river, which is crossed at mile 48th. Four spans of 60 feet are required. A mile and a half to the west is the village of Jointighar, which is a trade centre of the country for many miles round. Produce is brought here on pack bullocks, and transferred to carts and carted to Chyebassa and Barákar.

48. Beyond the Konjera no carts can go at all, communication being carried on by pack bullocks along footpaths through the forest.

49. At 52nd mile the Baitarni river, 500 running feet waterway, is crossed, and the country again rises up to the 67th mile, near the village of Kosi. The line runs through undulating country partially covered with young sál forest: the line is nearly on the watershed dividing the Baitarni from its tributary, the Orerai nullah.

50. Beyond Kosi the alignment becomes very difficult: the watershed, which runs up to the Bararak hill, five miles south-east of Keonjhar, is broken up into a chain of hills, from which rocky cross ridges stretch away eastward to the Baitarni river. The country, which was partially open up to the village, is covered with dense sál forest, patches of clearance only being met with round villages which are few in number and far apart.

51. The rocks are quartz and gneiss: both cuttings and banks will be expensive. At mile 81 the Konjori nullah, 320 feet waterway, is crossed, which rises in a deep bay of the Keonjhar hills, formed by a chain of high hills projecting from the main range in a north-easterly direction to the Baitarni valley.

52. Ascending about 150 feet over the ridge at the foot of this projecting range, the line descends into the valley of the Borai river (225 feet), and crossing the river on the 87th mile ascends to a pass in the range 105 feet, and emerges on an undulating plateau at Santhrapur, 93rd mile. An alternative line was tried along the sides of the hills south of the Borai *riá* Tikaria and Masnabilla, but the detour was too great to be economical.

53. Passing over comparatively easy ground through forest with occasional patches of cultivation, the Musalu river is crossed at $102\frac{1}{4}$ miles: 200 running feet waterway is required. A range of low hills runs for some distance along the north bank, through a gap in which the river is approached. There is a descent of 155 feet from Balupukri, 98th mile, to the river, and an ascent to Kobathapathar, 104th mile.

54. From Kobathapathar the line descends the valley of the Rumalu nullah, crosses a saddle in the ridge dividing the Rumalu from the Bagera nullah at the 108th mile, and descends by the valley of the Baghera to Kasapoda, through a country almost uninhabited and covered with thick sál forest, supplies and labor being difficult to obtain. The ridge at 108th mile is 110 feet below Kobathapathar, and between the 108th and 120th mile there is a descent of 750 feet in a length of 11.37 miles, involving heavy gradients of 1 in 50, 1 in 75, and 1 in 100.

55. Alternatives were tried by the Rumalu valley, and two other branches of it, but it was found that these valleys ended with a sudden fall as they approached the plains. The topography of the country is very incorrect and incomplete between Kobathapathar and the borders of Orissa, and every line and cross section had to be cut through jungle. Further examination and survey is required, though it is very doubtful whether a better alignment can be obtained.

56. The Baghera nullah joins the Kusoi river a mile and a half north of Kasapoda. The valley of the Kusoi above the junction is quite impracticable, the river flowing through a mass of hills; the ravines on the west being 60 and 70 feet deep, and of great width, while the ridge dividing it from the Baghera is a chain of quartz and gneiss hills, running down to the beds of both streams. The Kusoi river, which forms the boundary between the Keonjhar State and the Cuttack district, is crossed at 120th mile: 300 running feet waterway is required.

57. After crossing the Kusoi, numerous small rills and ravines, drawing into the river from the Tomaku Hill, are crossed: at the 122nd mile, flat easy country is entered, mostly covered with scrub jungle, thorny trees, and bamboos.

58. From the 69th to the 127½ mile, which formed the Fifth Survey Division, trial lines only have been ranged. The party reached the end of their trial work near Gobardanpur late in March. Supplies of provisions and labor were becoming scarce, and the Keonjhar Rajah having informed the Executive Engineer that the resources of his scantily populated State were getting exhausted, it was impossible to locate the line. This was foreseen in the estimate submitted for the cost of the survey, and provision has been made for another season's work over this length.

59. From the 128th mile to the Brahmini river the country is flat and easy, the only difficulty in working through it being the cutting through forests of bamboo and thorns. Long straight lines and easy gradients are obtained. Cultivation is found only round the villages, and communication from village to village as a rule is by means of narrow footpaths. Near the Brahmini a cart road from the direction of Sukiinda was crossed, being the first of its kind between the 48th and the 143rd mile. The bridged road shown in survey maps from Keonjhar towards Midnapore is simply a footpath through the forest, where it is crossed by the proposed railway.

60. The crossing of the Brahmini is determined mainly by the approach to it on the south side. The river bifurcates below Janapur, a village on the south bank, and each branch throws off numerous spills and channels, communicating with the Baitarni to the north, and with the Mahanaddi to the south. At Janapur a weir is built across the main stream, and the High Level Canal, Range No. 1, leaves the river just above the weir.

61. South of the river, and west of Janapur, are ranges of hills, which, with occasional breaks, extend southward to the Mahanaddi. It is obligatory for the line to skirt these hills on the east side, crossing the Brahmini as far up from the bifurcation as the nature of the ground will admit. On the north side a branch channel leaves the main stream at Molpara, 21 miles above Janapur, re-entering at Kusapur, two miles above Janapur.

62. Four miles north of Kusapur is the Bodasil hill, to the east of which it is necessary to keep the alignment. The Brahmini crossing has been fixed half a mile below the junction of the branch stream and 1½ miles above bifurcation. The width of the river throughout the reach is much the same. The approach from the north is on a fairly long straight. On the south a sharp bend to the east is required to take the line round the east side of the hills.

63. A heavy spill is crossed at 143½ mile, which might perhaps be blocked up with advantage, but would require a bank of 30 feet for half a mile. An embankment extends along the south bank up to Pangewa, 9 miles above Janapur, to protect the low country at the foot of the hills from the spread of the floods; 5,400 running feet of waterway are required for the main stream, which drains an area of 13,600 square miles, and Mr. Rhind, Superintending Engineer, Orissa Circle, gives the discharge as 643,300 cubic feet per second. The bed is sand and banks clay. Foundations on wells will be required, but the depth is not known, establishment for boring not being available.

64. Leaving the Brahmini river, the line follows generally the direction of the High Level Canal to the north bank of the Mahanaddi river. The canal itself is laid out along the contour of the country with numerous curves; the location of the railway has been straightened as much as the nature of the country would admit.

65. Between the Brahmini, and Cuttack the alignment is on the western border of the delta formed by the Baitarni, Brahmini and Mahanaddi rivers: the line itself, running between the canal and the hills, passes through much bamboo jungle, the cutting of which delayed work very considerably. To the east is a populous and fertile country; to the west nothing but hills and jungle for many miles.

66. The Cuttack terminus of the line has been fixed, in communication with the Collector of Cuttack and Superintending Engineer, Orissa Circle, on the north bank of the Mahanaddi river, opposite Jobra, and at the take off of the Biropa branch, which is considered the most suitable site for communication with a steam ferry crossing. The town of Cuttack extends westward from Jobra along the south bank for 3 miles. It is situated at the end of a spit of land which forms the bifurcation of the Mahanaddi and Katjori rivers, and is a town of some 50,000 inhabitants. It is defended from floods of the Mahanaddi and Katjori rivers by an embankment. The situation seems precarious, as the beds of the Mahanaddi and its offshoots are said to be rising, in consequence of the construction of the weirs at Naraj, Jobra, and at the heads of Katjori and Biropa branches.

67. The width of the Mahanaddi above the Biropa offtake is about 1½ miles, and above the Katjori over two miles. The Katjori, on the south side of the town, is about a mile in width. Further extension of the line in this direction is therefore prohibitory. Some 9 miles above the head of the Biropa river, west of Naraj, the Mahanaddi flows in one channel between two low hills, the slopes of which run down to the river bank. The bed here appears to be of sandstone rock, and the width of the river is not more than 3,000 feet.

68. Should an extension of the railway be contemplated, this would be the most favorable crossing. A trial line was run from the 178th mile of the railway to this crossing, which was 13 miles in length. The levels have been given in the project for the projected Cuttack-Pooree Railway. By keeping to the high ground north of the Mahanaddi a fairly easy and

inexpensive line might be laid out to the bridge, and would form part of a line in the direction of Sambalpur. On the south bank the country rises rapidly to a range of laterite hills some 200 feet above the river, extending south-west into Ganjam.

69. The total length of the southern section of the railway, from its junction at Kontera with the Bengal-Nágpur Railway to a terminus opposite Jobra, is 180 miles, and is estimated to cost Rs. 2,02,19,719, or Rs. 1,12,332 per mile. The cost of the Brahmini bridge, Rs. 32,40,000, amounts to Rs. 18,000 per mile on this section. The construction of the bridge appears, however, inevitable, as a break in the line within 30 miles of the terminus would be a serious hinderance to the traffic.

70. From a financial point of view, this railway may be considered in three sections—*First*, from Moghalsarai *via* Sasseram to the junction with the Gya branch at Sukhua, 146 miles; *second*, from Sukhua junction to Chandil, the point of junction with the Bengal-Nágpur Railway, 176 miles; *third*, from Kontera, the point of departure from the Bengal-Nágpur Railway, to the Cuttack terminus, opposite Jobra, 180 miles.

71. The first section passes through the fertile valley of the Son and Ganges, thickly populated for some 70 miles. Turning up the valley of the Son, and crossing that river, it enters the Palamow district, which, though now sparsely populated, possesses a large area of land fit for wheat and rice cultivation; and at the junction station of Sukhua taps the Daltonganj coal-field.

72. The line is practically level throughout this distance, and, including the Son bridge, would cost Rs. 1,51,84,778, or Rs. 1,04,905 per mile. Without the Son bridge the cost is only Rs. 88,005 per mile. The working expenses would be low, as coal of good quality is obtainable at Sukhua, and would probably cost not more than Rs. 3-8 per ton at that station. The coal industry, when opened out, would attract labor from all sides, and induce immigration to the Palamow districts.

73. The produce of the Vindhya plateau would be brought to the line at Bhubua and Sasseram, the latter being a town of 24,000 inhabitants. The exports of the Son valley, principally bamboos and wood, which are floated down to Nasriganj, would probably be intercepted at Akherpur, a small town on the banks of the Son under Rhotasgarh. At Garhwa the produce of Eastern Sirgujia would come on the line.

82. The next section of the line from Sukhua to Chandil junction, 176 miles, will be expensive to construct and to work. It passes through a very hilly country, a great deal of which is uncultivated, though fit for cultivation if cleared of forest. The general traffic would come on to this length from two directions, *viz.*, from Moghalsarai on the west and Chandil on the east.

83. The cost of this length would be Rs. 1,79,99,595, or Rs. 1,02,270 per mile. The distance from Moghalsarai to Calcutta along this route would be :—

	Miles.
Moghalsarai to Chandil	322
Chandil to Sítarámpur along the Bengal Nágpur Railway	82
Sítarámpur to Howrah by East Indian Railway	138
Total	542

The distance by East Indian Railway between Moghalsarai and Calcutta is 469 miles.

84. In consequence of the press of traffic on the East Indian Railway it is understood that the Oudh and Rohilkhand Railway sometimes find difficulty in getting their through traffic carried over the East Indian Railway between Moghalsarai and Howrah. This difficulty will be greatly intensified on the construction of the railway extensions now in progress in Tirhoot and the completion of the Bengal North-Western Railway. It is possible, therefore, that some of the through traffic of the Oudh and Rohilkhand Railway may pass over the Benares-Cuttack Railway to Chandil.

85. If Chandil were connected with the Tárakeshwar Railway, now under construction, from Baidyabáti station, East Indian Railway, the distance from Moghalsarai to Howrah would be decreased by 57 miles, and the press of traffic on East Indian Railway between Sítarámpur and Baidyabáti be relieved, the through distance being reduced to 485 miles, or only 16 miles in excess of the direct East Indian Railway route.

86. The railway, after leaving Sukhua, enters the Aurunga coal-field near Latialhar. The quality of the coal is said to be very inferior, and cannot therefore be reckoned on to compete with the Giridih coal. But there are extensive deposits of iron ore and limestone fit for flux, which suggests the possibility at some future date of an iron industry arising.

89. The railway passes within 10 miles of the Hatia coal-field, south of the line opposite Bari. The coal of this field, described in Ball's Economic Geology, is inferior to the Daltonganj coal, but very much superior to that of the Aurunga field, being about the average of Rancegunge.

91. The South Karanpura coal-field is touched at the 81st mile. This field is said to produce coal equal to the Rancegunge field, but its position is somewhat against its being opened out until the coal east and west is worked out. Its proximity to the line will, however, lessen the cost of carriage of coal required for working the railway. The Karanpura valley is the granary of the Hazáribágh district, and exports of rice may be expected when facilities of communication are established.

100. The third section of the line from Kontera junction, Bengal-Nágpur Railway, is 180 miles in length, estimated to cost Rs. 2,02,19,719, or Rs. 1,12,332 per mile. With the exception of Chyebassa, there is no place of any importance up to Cuttack. Chyebassa is a small town, 12 miles from the junction, the civil station of Singhbhoom, and the trade centre of the Kolhan, south of the Sanjai river.

104. At 116th mile the district of Cuttack is entered. The country through which the railway passes is but scantily populated, but towards the east are fertile plains with a fairly large population.

105. The traffic over this portion of the line would therefore consist principally of the pilgrim traffic to Pooree. This would consist of the pilgrims from Benares and Gya, who travel over the northern division of the line, and at Chandil passengers from Northern and Central Bengal would probably increase the number.

111. The total length of the three sections is 502 miles, costing Rs. 5,31,04,092, or Rs. 1,06,382 per mile. The total estimated receipts being Rs. 38,76,573 per annum. Taking working expenses at 60 per cent. of the receipts, the net returns would be Rs. 15,50,629, or Rs. 2.90 per cent. on the capital, exclusive of the indirect benefit to other lines in diminishing the cost of coal.

112. One very important feature of the line is, however, that of a famine protective work. At present Orissa is almost isolated from the world, being dependent for communication with the north, south, and west on bullock tracks, and on the east by the sea ports, which are at present unfrequented and unsuitable for ships of any great tonnage. The means of rapidly throwing provisions into the province in case of famine are very inadequate.

113. Ships must unload into lighters or small country craft, of which there are not large numbers on the coast, and during the monsoon this is somewhat difficult and dangerous work. The canals can carry comparatively small quantities of grain, and that but slowly. Railway communication with the rice-producing districts of Bengal and Chutia Nágpur, and with the wheat-producing countries of the North-Western Provinces, appears to be a necessity for the protection of the province.

Benares-Cuttack Railway General Abstract Estimate for 5' 6" Gauge.

HEADS OF ESTIMATE.	1ST SECTION, 140 MILES, MOGHALSARAI TO SUKHA.			2ND SECTION, 175.02 MILES, SUKHA TO CHANDIL.			3RD SECTION, 180 MILES, KANTERA TO CUTTACK.			Total.	Totals of main heads.
	Rate.	Amount.	Total.	Rate.	Amount.	Total.	Rate.	Amount.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I.—Preliminary expenses ...	750	1,09,500	1,09,500	1,200	2,11,200	2,11,200	1,200	2,16,000	2,16,000	5,36,700	5,36,700
II.—Land ...	1,000	1,46,000	1,46,000	700	1,23,200	1,23,200	500	90,000	90,000	3,59,200	3,59,200
III.—Construction of line—											
(a) Earthwork ...	.....	9,87,139	.....	.....	42,38,840	.....	.....	38,74,071	.....	91,00,050	.....
(b) Bridgework ...	.....	43,14,600	.....	.....	28,97,894	.....	.....	51,49,321	.....	1,28,61,815	.....
(c) Tunnels ...	.....	.....	.....	.....	2,40,000	.....	.....	.....	.....	2,40,000	.....
(d) Level crossings ...	400	58,400	.....	354	62,344	.....	241	43,364	.....	1,64,108	.....
(e) Fencing ...	1,600	2,33,600	60,93,739	1,600	2,81,600	77,20,678	1,600	2,88,000	93,54,759	8,03,200	2,31,69,176
IV.—Ballast and permanent-way.—											
(a) Ballast ...	.....	6,61,306	.....	4,241	7,46,574	.....	4,724	8,50,318	.....	22,58,198	.....
(b) Sleepers ...	.....	16,05,090	.....	8,800	14,00,300	.....	8,507	15,31,200	.....	45,36,590	.....
(c) Rails and fastenings ...	.....	22,58,868	45,25,264	15,000	26,41,520	47,88,394	14,827	26,68,914	50,50,432	75,69,302	1,33,64,090
V.—Stations and buildings—											
(a) Station building ...	1,188	1,73,448	.....	1,188	2,09,088	.....	1,285	2,31,300	.....	6,13,836	.....
(b) Workshops, stores, &c. ...	1,382	2,01,772	.....	1,660	2,92,160	.....	1,161	2,08,980	.....	7,02,912	.....
(c) Station machinery ...	770	1,12,420	.....	1,382	2,43,232	.....	1,647	2,96,460	.....	6,52,111	.....
(d) Staff quarters ...	1,660	2,42,360	7,30,000	770	1,35,520	8,80,000	907	1,63,260	9,00,000	5,41,140	25,10,000
VI.—Plant ...	2,000	2,92,000	2,92,000	2,000	3,52,000	3,52,000	2,000	3,60,000	3,60,000	10,04,000	10,04,000
VII.—Steam ferries ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
VIII.—Rolling stock ...	10,000	14,60,000	14,60,000	10,000	17,60,000	17,60,000	10,000	18,00,000	18,00,000	50,20,000	50,20,000
IX.—Establishment 10 per cent. from I to V ...	.....	11,60,450	11,60,450	.....	13,72,374	13,72,374	.....	15,61,019	15,61,019	40,93,843	40,93,843
Contingencies 5 per cent. from I to VII ...	.....	6,67,825	6,67,825	.....	7,91,749	7,91,749	.....	8,88,509	8,88,509	23,48,083	23,48,083
Total ...	.....	.....	1,51,84,778	.....	.....	1,79,99,595	.....	.....	2,02,20,719	For whole	5,34,05,092
Per mile ...	.....	.....	1,04,005	.....	.....	1,02,492	.....	.....	1,12,332	line	1,06,465
Estimated percentage of net earnings upon capital ...	.....	4.5 per cent.	.....	.....	3.5 per cent.	.....	.....	2 per cent.	.....	2.9 per cent.	.....

BENARES-CUTTACK RAILWAY—GYA BRANCH.

The following is extracted from a preliminary report by Mr. W. H. Parker, the Engineer-in-Chief :—

This branch line, which is included in the general scheme of the Benares-Cuttack Railway, is projected to afford communication between Gya and Palamow, and to afford an outlet for the coal of the Daltonganj field to the north-east.

2. A considerable amount of goods from Daltonganj and Garhwa is exported to Gya and Maharajganj, from which places also the requirements of Palamow and Sirgujia are imported.

3. The branch leaves the main line at Sukhua, a village six miles from Daltonganj and 145½ miles from Moghalsarai. A preliminary survey was executed in 1879, but the project does not appear to have been matured. In the cold season of 1882-83, Captain Laugharne, R.E., made a reconnaissance of the country, and, without any knowledge of the existence of the previous survey, followed, almost mile per mile, the route selected in 1879, the only exception being a slight divergence between Sherghati and Gya, the reconnaissance line avoiding the double crossing of the Jumna and its tributary.

4. A trial line was run by Mr. Luff in the cold season of 1883-84 *via* Chattarpur and Patan, but as the line would have been six miles longer than that originally selected, and involved gradients of 1 in 75 through the hills between Chattarpur and Daltonganj, this route has been abandoned.

5. The alignment located leaves the Sukhua station with a mile radius curve, and, running to the north-east, crosses the Jingoi nullah at 5½ miles, near the village of Sirma. It will probably be found advisable to correct the alignment between Sirma and Sukhua so as to join on to the main line east of the Jingoi nullah, and thus avoid the construction of a second bridge.

6. The country is fairly easy, and gradients are 5 and 6 feet per 1,000 up to the 9th mile, where the line rounds the corner of the hill range which lies east and west, and runs down very nearly to the left bank of the Jingoi nullah. For two miles some very rough and broken ground is passed over, and up to the 16½ mile the drainage from the hills, running into the Jingoi river, is crossed, the country being partially cultivated.

7. There is a continuous rise up to the 21½ mile, Mannatu village, where the line crosses the ridge which borders the Ganges plain on its south side. The gradients are in short lengths not exceeding 8 feet in 1,000 with intermediate levels. With the exception of two short heavy banks, the work is not very expensive.

8. From the summit, which is 1,037 feet above mean sea level, a continuous descent of 1 in 100 for five miles brings the line down into the valley of the Mohur river, crossing the Baludah nulla, a tributary of the Mohur, on a level half a mile long. There is a heavy cutting at the top 1½ miles in length and from 13 to 48 feet deep. Near the bottom of the incline is a very heavy embankment for 1½ miles, the Bewalthar nulla being crossed twice at a height of 48 and 42 feet above its bed. The double crossing is said to be unavoidable, owing to the sharp bend of the stream.

9. The cuttings are in hard gneiss rock, and will be expensive to work. The banks also will be expensive, as soil is not easily procurable, and must be tipped from the cutting.

10. From the Baludah river 26¾ mile, the work is comparatively easy; and gradients flatten off, the country improving up to the crossing of the Mohur river near Lokudi, at 33rd mile, which is 486 feet below the summit at Mannatu.

11. From the 33rd to 56¾ miles the line follows the course of the Mohur, and crosses several tributaries which flow into that river from the adjacent hills. The gradients are easy, but there is a good deal of bridging and comparatively heavy work. The country is undulating, partly under cultivation, with large patches of scrub jungle.

12. From the 57th mile to Gya the gradients are light and the work easy. The Grand Trunk road is crossed at Gopalpur, 1½ miles from Sherghati, mile 59; thence, keeping west of the Jumna river the line crosses it at mile 76, and joins in to the Patna-Gya State Railway at the south end of the station ground, following the curve already laid out through Macleodganj, which is now enclosed by houses.

13. The length of line from Sukhua junction to Gya is 80 miles 1.96 chains. This is shorter than the original reconnaissance route, which was estimated up to Daltonganj. The probable cost, calculated from preliminary survey section will be Rs. 67,39,013, or Rs. 84,238 per mile, which is probably a maximum.

14. The only trading towns on the route are Daltonganj and Raneegunge, a mart on the east bank of the Mohur river opposite to Imamganj, which is simply a thana and postal station. At Sherghati there is but little trade. Raneegunge is the central depôt for the south-western portion of the Gya district.

CUTTACK-POOREE RAILWAY.

The following is extracted from a report by Mr. W. H. Parker, the Engineer-in-Chief :—

The Commissioner, Orissa Division, represented to the Government of Bengal the desirability of connecting Pooree with Cuttack, independently of any project for connecting Cuttack with a railway through Chota Nagpur.

2. Two routes were suggested—one from Cuttack to Pooree direct along the line of the existing metalled road, another making a detour *via* Khoorda. The length of the direct route was given as 48 miles, if the alignment were made independently of the road. The Khoorda route was said to be 10 miles longer.

3. In favour of the direct route are—*1st*, decrease of distance; and *2nd*, expectations of a large local traffic. Against this route is the disadvantage of being purely local, unless connected with the Chota Nágpur Railway, and that the line would pass entirely through flooded land.

4. In favour of the Khoorda route it is stated that the greater portion of the line would be on high ground, that it might be connected with feeders from the north and the west, and with the Benares-Cuttack Railway by a bridge at Naraj; that between Cuttack and Khoorda it might be considered as part of a project for connecting Cuttack with Ganjam. It was also expected to be less costly than the direct route in the items land, bridgework, ballast, and masonry. Khoorda, moreover, is an important place, the head-quarters of a large estate under British management.

5. Further report by the Commissioner, Orissa Division, regarding the traffic to be expected, and reports by the Superintending Engineer, Orissa, Irrigation Circle, and the Executive Engineer, Mahanuddee Division, regarding the floods and rates current in the district, were submitted to the local Government, on which orders were passed for examination and report on the country by the Engineer-in-Chief, Benares-Cuttack Railway. Both routes were examined during the season 1883-84.

Mr. Parker, judging from the reconnaissance made, prefers the Khoorda route as allowing of more economical connection hereafter with the country south, west, and north than in the case of the direct route.

According to the rough estimates submitted, the relative cost of the various proposals may be stated as follows for the 5' 6" gauge:—

		Rs.
(1) {	Direct route without Katjooree bridge, 44½ miles	... 40,91,631
	Add Mahanuddee ferry	... 2,00,000
		42,91,631
(2) {	Direct route with Katjooree bridge, and including Mahanuddee ferry 47½ miles	... 62,99,614
	Khoorda route without the Katjooree bridge, but including Mahanuddee ferry, 54 miles	... 50,14,942
	(3) Khoorda route with Katjooree bridge and ferry 57 miles	... 70,22,925
	(4) Khoorda route with Mahanuddee bridge and junction with Benares-Cuttack Railway	... 71,22,118

8. In comparing these amounts it must be borne in mind that the first two items under (1) above represent a local line not connected with the country to the west or south; items (2) and (3) represent the cost of a line, of which one-half may be considered a trunk line capable of extension to the south and west; item (4), a trunk line from Benares to Khoorda with branch to Pooree, and capable of being connected with the country to the west, both on the north and south of the Mahanuddee, and of extension to Ganjam or further to the south.

PROJECTED RAILWAYS IN ASSAM.

The following Resolution by the Government of India gives a general summary of what has been done, and is proposed, towards the investigation of what appear to be the best routes for opening up railway communication in Assam.

Mr. Molesworth, Consulting Engineer to the Government of India for State Railways, examined portions of the proposed railway during the past cold season, *viz.*—

- (1) The Gauháti branch line from the Lumding river to Gauháti.
- (2) The main line from the Lumding river to the Barak river near Silchar.

He confirms generally the accuracy of the results obtained by Mr. Buyers, the most important of which is that a good locomotive line, with a gradient of about 1 in 70, can be obtained through the hills from Cachar to Assam.

While of opinion that Mr. Buyers' estimate of the cost of a railway through the hills should suffice for its construction, he thinks that the branch line from Gauháti to the Lumding valley should not cost more than Rs. 66,000 or Rs. 68,000 per mile on the average.

Public Works Department Resolution No. 59R.C., dated 21st January 1884.

CHITTAGONG TO ASSAM—RAILWAY SURVEYS.

RESOLUTION.—With a view to investigating the best route for railway communication with Assam, a survey party was sent during the cold season of 1881-82 to examine the route across the Garo hills from Mymensingh to the valley of the Brahmaputra near Gauhati. As the result of this reconnaissance was not favorable, it was arranged, on the suggestion of the Chief Commissioner of Assam, that a route from Comillah through Cachar across the North Cachar hills to the upper portion of the Brahmaputra valley should be examined during the cold season of 1882-83; and at the same time a railway survey was ordered from the port of Chittagong *via* Comillah to Daudkhandi on the Megna. Owing, however, to changes in the channels of the rivers, it was reported that Daudkhandi would be difficult of approach for steamers, and the Government of Bengal recommended that Chandpore on the Megna should be selected, instead of Daudkhandi, as the terminal station of the line. The Chittagong survey has accordingly been directed on that point, necessitating an extension of the Comillah-Cachar line southwards to a place named Laksham on the Chittagong-Chandpore line.

2. The reports of these several surveys and reconnaissances have been received, and the results may be summarized as follows:—

CHITTAGONG TO CHANDPORE AND COMILLAH.

The report and estimate of the Chittagong Railway deals with the line to Chandpore, 111½ miles, and the Laksham-Comillah section of the Cachar line, 17½ miles making a total of 128½ miles. The total estimated cost, Rs. 1,08,25,000, gives the average cost per mile of construction at Rs. 84,240. This rather high rate for a metre gauge railway is necessitated by heavy banks and the provision of head-way for boat traffic at bridges. The greater portion of the country traversed is flooded in the rainy season. The Fenny is the only large river crossed, and for this, 20 spans of 100 feet each on wrought iron cylinder foundations have been provided, but the exact site of the bridge requires further investigation.

3. The gross traffic receipts have been put at Rs. 18,45,000, or about Rs. 275 per mile per week, which, allowing 50 per cent. for working expenses, would give a return on capital outlay of about 8½* per cent., irrespective of any traffic derived from extensions to the north-east.

* The Financial Department of the Government of Bengal estimate this at 10 per cent.

COMILLAH TO SILCHAR.

4. The total length of this section is 175 miles, and the estimated cost of construction amounts to Rs. 1,40,58,000, or at the average rate of Rs. 80,125 per mile. The largest river on this length is the Gumti, for which six spans of 60 feet each have been provided. This and the other navigable streams which are crossed afford highways of trade at right angles to the line, and thus will become important feeders.

5. There is little information available on which to base really reliable estimates of traffic, but the Engineer-in-Chief roughly calculates on a return of 6 per cent. on the capital outlay, on the supposition that the line terminates at Cachar, and would increase this to 7·85 per cent. if the extension northwards were carried out.

BADAPUR TO DIBRUGARH WITH BRANCH TO GAUHATI.

6. A reconnaissance only has been made of this portion, but it would appear that the best alignment obtainable will, on leaving the Cachar district, cross the Barak river either at Badapur, 18 miles by road from Silchar, or at the Telyn Tila, near Baleghat within 4 miles of Silchar. The line would then pass up the Jatinga valley on the left bank of the river to a point near Doolai-gam, where it would cross to the right bank. On leaving the Jatinga the line would run *via* the Mahur river down the Towee branch into the Mupa valley: it would thence pass round the flank of the Sandreng hill and enter at the head

of the Dajakho valley by a tunnel, and on, *viâ* the Langladisa valley, to Lunding. The cost of this hill section is estimated at Rs. 1,30,000 per mile, or Rs. 1,33,90,000 in all.

7. At Lunding the proposed line bifurcates—one branch running down the Dimapur valley into Upper Assam to Dibrugarh, a distance of 197 miles, the cost of which is estimated at Rs. 80,000 per mile, or a total of Rs. 1,57,60,000; and the other going into the valley of the Brahmaputra to Gauhati, *viâ* Roha, a distance of 122 miles, estimated to cost Rs. 97,60,000, at the same rate. If, however, the branch were taken to Nowgong, a distance of 59 miles, it would similarly cost Rs. 47,20,000.

8. The distances and estimated cost on the metre gauge of the various lines, making up one project for the opening up of Sylhet, Cachar, and Assam, and their connection with the Megna at Chandpore and with the sea at Chittagong, are therefore as follows:—

		Miles.	Rs.
(1) Chittagong to Chandpore	...	111½	94,66,000
(2) Laksham-Comillah-Silchar	...	192	1,54,17,000
(3) Badapur, on the Silchar line to Lunding	...	11½	1,42,70,000
(4) Lunding to Dibrugarh	...	197	1,57,60,000
Total length Chittagong and Chandpur to Dibrugarh		...	614½
Adding—			
(5) Branch from Lunding to Gauhati...	...	122	97,60,000
Total		...	736½

The particulars of five different schemes which have been put together by Mr. Buyers, with the object of facilitating a discussion of the whole question will be found among the papers. With regard to these, it appears sufficient for the present to observe that, in view of the existing facilities for trade afforded by the Brahmaputra the question of a railway between Gauhati and a point on the left bank of that river, opposite Dhubri, may well lie over for the present, and that if railway communication with Nowgong, or a point beyond it on the river opposite Tezpur, should hereafter be desired, it can probably be most readily afforded by a branch of the Lunding-Gauhati line taking off from Roha or its vicinity.

9. Reliable estimates of traffic are, in this case, as in that of the others, not as yet available, but it is estimated that the 433 miles on this section from Badapur to Gauhati and Dibrugarh will, in themselves, pay 1.74 per cent., and one per cent. more from local goods traffic and carriage of coal arising out of the sections between Badapur and the coast.

General remarks.

10. From the preceding remarks, it will have been observed that the financial prospects of the undertaking, as a whole, cannot be estimated with any precision. The rough estimates which have been made are, however, for the most part, based on present trade returns; whereas the opening of railway communication invariably leads to the creation of new traffic. Bearing in mind that the line will have the advantage of using excellent and cheap coal from the Makum coal-field, the estimates of 5.38 per cent. as mean net profit is perhaps not unreasonable.

11. The most important point brought out by the examination of the country that has been undertaken is, that a practicable route can be found across the North Cachar hills into Assam; and there appears little reason to doubt that a railway following this route and serving, as it would, the important districts of Sylhet and Cachar, has enormous advantages over a railway simply running down the valley of the Brahmaputra, parallel throughout its length to a navigable river and commanding only a narrow tract of country.

12. That the sections from Chittagong and Chandpore to Silchar will prove very remunerative appears to be clearly established. The undertaking, as a whole, is estimated to yield 5.38 per cent. Before, however, any final opinion can be pronounced upon this point, it is necessary to have careful reconnaissances of the lines from Lunding to Gauhati and Dibrugarh, and

further inquiry into the traffic they are likely to obtain and to develop. Three survey parties are, during the present cold season, engaged upon this duty, as also one on the further examination and location of the line between Badapur and Lunding.

13. The success of the Engineer-in-Chief, Mr. J. W. Boyers, and his party in having found out a passage for a railway through the North Cachar hills is highly satisfactory, and their labors are fully appreciated by the Government of India.

UMBALLA-KALKA RAILWAY.

During the year under review a detailed survey was made for a line of railway between Umballa and Kalka, the cost of which, exclusive of rolling-stock, is estimated as follows:—

					Rs.
Direct charges	...	...	...	...	29,59,719
Indirect charges	...	...	...	...	2,74,420
			Total	...	32,34,169

The Punjab Government has arranged for a registration of the traffic during the present season on the Umballa-Kalka road.

The following extracts from a report by Mr. T. B. Morris, the Executive Engineer, in charge of the survey, are descriptive of the route to be followed:—

The proposed railway commences by a junction with the Sind, Punjab, and Delhi Railway at a point 700 yards, or thereabouts, to the north-west of the Umballa City Station, then diverges, in a northerly direction, by a curve of 3,000 feet radius, on an ascending gradient of 1 in 1,032, through cultivated ground, until it reaches the Grand Trunk Road to Lahore which is crossed on the level.

Between the junction and Grand Trunk Road, a distance of 1 mile $1\frac{1}{2}$ furlongs, the line is in about 8 feet of embankment—accumulation of surface drainage is guarded against by culverts and drains aggregating 33 lineal feet of water-way.

The alignment continues in embankment and easy gradient on the western side of the metalled road and parallel to it until it reaches the 7th mile, where it is proposed to place a third class station for Lalru close to the serai and encamping-ground.

Lalru is in Patiala territory, and contains 7,011 inhabitants.

At $16\frac{1}{2}$ miles on the high ground between the Dhabhi nullah and the left bank of the Ghaggar river, the Mubarakpur station is placed, close to the encamping ground, about $\frac{1}{4}$ of a mile to the south-west of the village of the same name and a mile to the north of the town of Bassi. Mubarakpur is situated on the left bank of the Ghaggar, and contains, according to the last census returns, about 2,500 inhabitants.

At 16 miles $6\frac{1}{2}$ furlongs the alignment bends more to the north by a curve of 3,000 feet radius and 1,295 feet in length, then crosses the Ghaggar on the straight in a direction parallel to the present road and about $\frac{1}{2}$ a mile lower down the river.

It is proposed to bridge the Ghaggar by fifteen spans of 60 feet for the main channel and three spans of 30 feet for the minor stream on the right bank. The intervening space across the island, between the main and minor channels, will be embanked and pitched with boulders to 2 feet above highest known flood level.

Should the line be constructed, it will probably be found better to change the site of the bridge, to a point higher up-stream, near the present road crossing where the main channel of the river is more clearly defined, and the ground between it and the smaller stream, on the right bank, higher, less sandy, and less liable to be overtopped by floods. Tradition has it, however, that this ground was under water 40 years ago; but whether this be true or otherwise, it is now covered with grass and patches of cultivation, and bears no evidence of recent submersion.

The change in alignment suggested in the foregoing paragraph, although in no way affecting the estimate, would, it must be mentioned, interfere with the present encamping-ground of Mubarakpur, and thereby necessitate its being abandoned and another site substituted if required. This would be a matter of no difficulty, as there is ample space for the purpose between the proposed railway and the present line of road.

Chandigarh is reached at the 27th mile. The station will occupy the site of the present encamping-ground adjoining the village.

Chandigarh is a village in British territory containing 1,000 inhabitants. It lies between the Siwalik Range and right bank of the Ghaggar, and contains a thana supply-house and road bangalow. It is 31 miles from Umballa Cantonment by road and 7 miles from Kalka.

Above Chandigarh the alignment bends slightly to the west crossing the Umballa-Kalka road twice in the 32nd mile. This double crossing is unavoidable and necessitates a road diversion about a mile and a quarter in length.

In the 29th mile the course sweeps more to the north-west striking along the right bank of the Jhajra nullah, which is crossed at 30 miles 2 furlongs by a bridge of 2 spans, 90 feet on the square.

Having crossed the Jhajra on the level the line curves slightly westward on a gradient of 1 in 40 for about half a mile, the ascent is then eased to 1 in 54.5.

At 31 miles 1 furlong the alignment is carried close to the village of Manikpur, then ascends in a north-easterly course on a gradient of 1 in 41.5 for two miles and three quarters. The Umballa and Kalka road is crossed at the 33rd mile.

The Jhajra nullah is crossed a second time at 33 miles 7 furlongs by a bridge of two spans of 52 feet on the square.

From the upper crossing of the Jhajra the alignment is carried on a gradient of 1 in 40 by two reverse curves of 1,320 feet radius respectively (with an intervening length of straight of about 350 yards) as far as Kalka crossing the metalled road three times. The road will be diverted and a Level Crossing provided at the 35th mile.

A second class station with engine-shed, goods-shed, &c., are provided for at Kalka.

The Kalka station is level for 2,500 feet and located in a convenient position below the encamping-ground.

The town of Kalka contains 2,500 inhabitants and is 2,183 feet above sea level. It contains a Post Office, Telegraph Office, and ample accommodation for both European and native travellers. Its position at the foot of the hills on the road to Simla, Kasauli, and outlying Cantonnments renders it a place of some importance and considerable trade. The water-supply for the Kalka station will be obtained from the Jhajra stream, a culvert under the road in connection with irrigation channels already exists and ample arrangements are provided in the project for passing the water used for irrigation purposes under the railway.

KALKA-SIMLA HILL RAILWAY.

A barometrical reconnaissance of various routes for a proposed Hill Railway between Kalka and Simla was made under the orders of the Punjab Government during the year under review. The following is extracted from the report of Mr. T. B. Morris, the Executive Engineer, in charge of the reconnaissance:—

The routes suggested for examination in the first instance by the Government of India are one running up the Kassullia river from Kalka to a point 4,000 feet high, just below Dharrumpore and Dugshai, and thence to tunnel through the saddle which connects them and emerge at the same height in the valley down which the Sabathu road runs, and so on to the latter place. From Sabathu two routes are suggested, one turning back eastward round the hills and passing below the Kiarighât bungalow to the narrow saddle about 5 miles from Simla and so on round Prospect Hill to Jutogh, the other continuing past Sabathu, crossing the Dabar river with as little loss of level as may be, and then working up some one of the valleys in the direction of Haut or even Erki, and so round to Jutogh. The Government of India add, that if the feasibility of such a line with even a ruling gradient of 1 in 30 and a length of 50 to 57 miles, were established, it would improve the character of the whole project, and might eventually, after the line to Kalka was at work, be found not financially impracticable.

The Government of the Punjab was accordingly requested to arrange for a barometrical reconnaissance of the routes referred to, and to report the result to the Government of India. The necessary field operations were commenced in November, and completed early in January; some 90 miles of route surveys were made with the chain and prismatic compass and numerous barometrical observations taken for altitudes.

Before, however, entering into a description of the routes examined, it may not be out of place to describe briefly the position and physical features of the various stations it is considered necessary the railway should serve, and to add a short descriptive account of the cart road from Kalka to Simla.

Kalka (where it is proposed to terminate the broad gauge railway from Umballa and to commence the narrow gauge line to Simla) is a small town in British territory situated on the right bank of the Jhajra stream, where it debouches from the hills. It is 38 miles from Umballa Cantonment and 57½ from Simla. The height of the place above sea level is about 2,183 feet.

Simla is situated on the ridge dividing the waters of the Jumna river from those of the Sutlej. Its highest point above sea level is 8,048 feet, and the average level of the station may be taken as 7,220 feet. It is connected with Kalka by a metalled road 57½ miles in length. This road may fairly be described as practically following the natural watershed, and is actually carried along the ridge itself in four or five places. The alignment is in many places extremely tortuous, and gradients of from 1 in 14 to 1 in 20 occasionally occur. The chief obstacle is the Bareghât ascent, in the 22nd mile from Kalka. This ridge is crossed at a level of 5,841 feet, and the road is then carried towards Simla by descending gradients, some as steep as 1 in 18 for over four miles. From Solon in the 28th to Kandaghât in the 37th mile from Kalka, the approach to Simla is again a descent, but with easy gradients averaging 1 in 120.

From Kandaghât to Badaighât in the 53rd mile (where the road gains the ridge at a height of 6,070 feet) the ascent is tolerably steady, and the gradient, generally speaking, easy. From Badaighât to Simla the average ascent is 1 in 24, but gradients as steep as 1 in 14 are met with.

Dagshai is the most important military station between Kalka and Simla. It occupies a commanding position above the cart road, 18 miles from Kalka and 39 from Simla. Its highest point above sea level is 6,087 feet. The next largest is Sabathu, situated on a ridge, about 12 miles by road to the north-west of Dagshai. The highest point, within cantonment boundary, is the site occupied by the hospital 4,534 feet. The general level of the station is 500 feet lower. From Sabathu to the toll bar on the 17th mile of the Kalka-Simla road, there is an unmetalled road, 10 miles in length; there is also a bridle road connecting Sabathu with Solon, another military station situated on the cart road, 27 miles from Kalka, and 30 from Simla. The highest point on the ridge within the cantonment boundary of Solon is 5,165 feet.

Jutogh may be described as the cantonment of Simla. It lies about 5 miles due west of the latter station. The highest point is 6,775, but the general level of the inhabited part of the station is some 400 feet lower.

The Convalescent Depôt of Kasauli is not mentioned in the letter of the Government of India as one of the military stations which the proposed railway must of necessity serve, but as it will be shown further on that it may, if considered desirable, be included in the scheme, the position of the place, and its height may as well be stated. Kasauli is situated on an outer ridge of the Himalayas, 9 miles north of the town of Kalka by the bridle road. The highest point of the ridge is 6,322 feet above sea level, and the general level of the station itself is about 6,000 feet.

The route recommended for adoption is that referred to as route B. It commences by a junction with the proposed Umballa and Kalka Railway at Kalka and striking up the right bank of the Kassullia nullah, on a gradient of 1 in 35 gains a height, in 15½ miles, of 4,500 feet. Here there would be a tunnel, about 500 yards in length, through the Dharumpore spur, the line emerging on the level, south of the toll bar ridge near Barakhar, a good and convenient site for the Dagshai and Dharumpore station. The line would continue on the level (and straight) as far as 16 miles 3 furlongs, passing under the cart road, near the toll bar by a tunnel 300 yards long, and entering the valley of the Kothar river at a height of 4,500 feet. Then descending by a gradient of 1 in 50, the alignment would strike in on the Sabathu-Dharumpore Road at 18¼ miles from Kalka and continue along it on the level as far as Sabathu.

The Sabathu station would occupy a site near the Roman Catholic chapel, about 200 feet above the parade ground and 284 feet below the level of the Station Hospital.

From Sabathu the alignment would take a south-easterly course, on an ascending gradient of 1 in 84, *viâ* the Dabar and Blini rivers and join the Simla cart road near the 26th mile post from Kalka. A fair bridle road already exists along the portion of the route, but a fresh alignment would be required for railway purposes.

From mile 35½ the line would follow the cart road (with slight deviations) on a gradient of 1 in 39, to Solon where a station would be placed on the level (just below Cantonments) at a height above sea level of 5,000 feet.

From the 37th mile (Solon) the line would descend by gentle gradients for 8½ miles to the ridge at Kandaghât, where the waters of the Jumna and Sutlej rivers divide. Between Solon and Kandaghât, the rails might (with slight deviations here and there) be laid along the cart road, strengthening or constructing new bridges wherever necessary.

From Kandaghât to Shalighât (46½ mile of cart road and 56th mile of railway) a new alignment on a gradient 1 in 50 would be better than keeping to the cart road, as the gradients of the latter are, in places, unsteady, and the course of the road itself is more or less tortuous. The new alignment would pass below the present road and through the Kiarighât spur by a tunnel 100 yards long.

At or near Shalighât the line would again strike in on the cart road and continue along it, with occasional deviations, as far as the Badaighât ridge (52 mile post of cart road and 62 of railway). The gradients and the section are easy, the steepest being 1 in 79.

At Badaighât (6073 feet) the branch to Jutogh would strike off, the main line ascending to Simla, by new alignment below the cart road, on a gradient of 1 in 34. The Simla station would be placed on the level, at a height of 6,749 feet above sea level, and would occupy a site known as Glen Ilogan just below the old cemetery and about 200 yards to the south of the new Secretariat buildings of the Government of India. One or two houses would have to be purchased on the station site.

The Jutogh branch would be on an ascending gradient of 1 in 55, and its length from the junction with the main line at Badaighât, 2 miles 3 furlongs. The station would be placed on the level at an elevation of 6,300 feet in a convenient situation between two roads about 200 yards to the south-west of the Artillery Mess.

In describing the position of Kasauli, I have already mentioned that the station does not appear to be one of those which the Government of India considers it a *sine quâ non* to serve; but in case it may be deemed necessary at some future time to connect it with the railway system, I have shown that a branch to that place 4 miles in length from Dharumpore (*viâ* Sanawar) may be constructed on a gradient of 1 in 30.

The Kasauli station might be placed at an elevation of 5,204 feet on the open ground near Ghurkal about $\frac{1}{2}$ a mile to the east of the dāk bungalow.

Position of proposed station for Kasauli.

Lengths of route.

The length of route (B) from Kalka to Simla *via* Sabathu, is 67 miles.

Apart from the main consideration of cost, which is in favor of route B, it also possesses the important advantage of serving not only Dagshai, Sabathu, and Jutogh, but *all* military stations between Kalka and Simla. The railway station, moreover, for the two most important cantonments, *viz.*, Dagshai and Sabathu, would be placed at a much higher level and in a position more fully meeting requirements than in route A. It may also be pointed out as regards Solon (which would be served by route B and altogether excluded in the other route) that there is a brewery established there, in connection with which a considerable amount of traffic might be expected.

Important advantages in connection with route B.

Again it is a distinct argument in favor of route B that it admits of the convalescent depôt of Kasauli being served by a shorter and less expensive branch than would be possible from route A, as the point of junction in the former case would be 500 feet higher than in the latter.

The proposed railway would, as regards gauge (2 feet; weight of rails 40lbs.) and description of rolling stock, be similar to the Darjeeling line.

Proposed gauge.

This report only deals with the question of establishing the feasibility of a narrow gauge railway from Kalka to Simla, and is based on a barometrical reconnaissance, rough surveys, and existing maps. The important question of the probable cost of the line cannot therefore be entered into.

Scope of report. Detailed survey of route B recommended.

The following remarks were recorded on Mr. Morris's report by Mr. G. L. Molesworth, Consulting Engineer to the Government of India for State Railways:—

The general direction which Mr. Morris has recommended, for a line of railway, if made between Kalka and Simla, is judiciously selected; though I think that in places some modification is necessary in the details of his recommendations.

Starting from Kalka the line runs up as recommended by Mr. Morris with a gradient of 1 in 35, leaving Kalka at a reduced level of 2142 and tunneling through the two ridges at Dharampur at a reduced level of 4500 feet. I am doubtful, however, whether this is practicable; the length of a railway would necessarily be shorter than that of the road and to rise from 2142 to 4500 with a gradient of 1 in 35 would require nearly 16 miles, whilst the section only shows about 15 $\frac{1}{2}$ miles. I think it will probably be necessary to round the first ridge on which the Dharampur Dāk Bungalow stands, in order to gain more length and to tunnel through the ridge about $\frac{1}{4}$ of a mile on the Kalka side of the Toll Bar. I think also it will be necessary to rise to the level of about 4700 feet before tunnelling through the ridge, this should give a tunnel of about 220 yards, whereas, by keeping the lower level of 4500, a tunnel of about 800 yards would be necessary.

After passing through the Dharampur ridges, Mr. Morris proposes to drop with a falling gradient of 1 in 50 for about 2 $\frac{1}{2}$ miles; looking, however, to the fact that at some times in the year the down traffic will be heavier than the up traffic, I think it will be desirable to eliminate this gradient; its elimination will necessitate somewhat increased length at that part, but this addition will be repaid by the saving in working.

The only other portion at which there is an adverse gradient in down traffic is at Solon where Mr. Morris shows a gradient of 1 in 100; but I think it doubtful whether by the line he proposes it would not be necessary to insert a mile of 1 in 50. I should advise, however, that this gradient should be altogether eliminated by passing round the other side of the cantonments.

It seems to me to be unnecessary for the line to be carried as far as Sabathu. I should rather be disposed to surmount the ridge opposite to the 5th mile from Sabathu, where I have found a gap about 5,000 feet in elevation. The line could be carried by an easy gradient to this gap, and thence the gradient would be nearly level to Solon. By crossing the ridge at this gap, a saving of about 9 or 10 miles would be effected in the length of the line. Sabathu has not a good reputation as a healthy place, and it is not very large. The tendency of any extension or new sanitarium on this ridge would be rather above than below this gap, and I do not think it would be desirable to add 9 or 10 miles to the through mileage to Simla for the purpose of bringing the railway *quite* to Sabathu. At all events, a branch might be made hereafter from the gap to Sabathu, should it be deemed of sufficient importance.

From Solon to Khundaghât the gradient would be easy; but from Khundaghât the line rises with a gradient of about 1 in 46 to a little beyond Kiarighât, it then would keep near the road at Kuthlighât, afterwards curve round so as to avoid a steep gradient, and would join the cart road about a mile on the Simla side of Ghalighât. It would then keep the cart road as far as Bhdughât and would thence curve round below the cart road to the terminus.

I think the first site for the terminus would be either at "Innes own" or else on the ridge below "Merlin Park." I do not think that separate branches to Kasauli and Jutogh will be required."

The Punjab Government has been requested to have plans and estimates of route B, and of the alternative suggested by Mr. Molesworth, as also statistics of the probable traffic, prepared during the current year.

CHAPTER II.

RAILWAYS UNDER CONSTRUCTION.

JHANSI-MANIKPUR STATE RAILWAY.

GAUGE NOT YET DECIDED.

WORKS IN PROGRESS.

Just before the commencement of the year under review all the field work connected with the survey of the line from Jhansi to Manikpur, 180 miles in length, was completed.

During the first five months of the year, the plans and sections were plotted, design for the works drawn, and detailed estimates prepared. These were all completed and submitted for sanction by August.

In anticipation of sanction to the construction of the line, orders were received for the collection of materials for the Betwa bridge to be proceeded with. This was started in May, and by the end of October about 50,000 cubic feet of building stone were collected at a quarry about 8 miles from the bridge, and 30,000 cubic feet of kunkur were at bridge site.

Early in September sanction was received to the commencement of the works, and the following is a resumé of work done up to the end of the financial year :—

In addition to certain minor realignments of the line, an alternative line was surveyed from the Kirwee plain to the Manikpur station on the East Indian Railway, with the object of reducing the gradient from 1 in 100 to 1 in 200. This was staked out and a section of the new alignment was submitted for sanction by the end of the year.

Survey.

With the exception of land required for the new alignments and for the station sites not yet fixed, nearly all the land required for the railway has been taken up.

Acquisition of land.

About 646 lakhs cubic feet of work, including the heavy rock-cuttings to the approach of the Betwa river, or nearly one-third of the total earthwork, was executed up to the end of the year.

Earthwork.

Except in a few instances, construction was not started on these, but the collection of materials was taken in hand.

Minor bridges.

No work worth mentioning, saving the collection of materials, digging trial pits, &c., has been done on any of the major bridges except on the following :—

Major Bridges.

Betwa Bridge (13 spans of 150 feet and 2 spans of 40 feet).—With the exception of the abutment piers, which were allowed to stand over, the foundations of all the piers were excavated, 9 of them concreted, and masonry built to a height varying from 3 to 11 feet above concrete, or altogether

32,000 cubic feet of masonry executed. In addition to this block-in-course masonry, there were 10,000 cubic feet of boulder masonry built round the concrete and footings. At the close of the year a lakh of cubic feet of granite stone had been delivered at the bridge site in addition to about 85,000 cubic feet at quarry site. A large supply of fuel, both wood and charcoal, was on the ground and all necessary arrangements made for the manufacture of lime.

Dussan Bridge—13 spans of 100 feet.—The foundations of all piers, with the exception of two, were taken out. Two piers were concreted and masonry started on one; over half a lakh cubic feet of stone were collected and all the necessary arrangements were made for lime manufacture.

Cane Bridge—12 spans of 100 feet and 1 span of 250 feet.—Excavation of foundation of 9 piers was taken in hand, 3 of these were ready for concrete. About 5,500 cubic feet of stone were at site.

Bagain Bridge—8 spans of 100 feet.—One pier excavated down to the rock, which is found about 16 feet below summer water level and three piers excavated to water level. The progress on this work was not great, as the Executive Engineer of the division, in which this work is situated, joined it late in the season and most of the staff of the division were employed on survey duty.

Quarries were opened at a place called Meltoni along the Sipri road for the supply of stone required for the large bridges towards the Jhansi end. Quarries were also opened on top of hills south of the line, mile 150 to mile 165, that is, from Raoli Kalianpur as far as Rehotea, for the supply of stone for the "Cane" bridge, and other large bridges towards the Manikpur end.

Sandstone.

Electric Telegraph.

Ballasting.

Workshops and Store buildings.

Staff Quarters.

A temporary line with one wire was nearly completed from Manikpur to Jhansi.

About 7 lakhs cubic feet of ballast collected all along the line.

Temporary engineering workshops and depôt store godowns at the Betwa bridge were completed.

Under this sub-head, the following works were done by the close of the year:—

Engineer-in-Chief's bungalow at Jhansi.—Masonry nearly completed; roofing in progress.

Executive Engineers' bungalows.—One nearly completed and one being roofed.

Assistant Engineers' bungalows.—Three completed; 2 nearly completed, and 3 in fair progress.

Storekeepers' bungalows.—Two completed.

Rest-houses.—One at Betwa and one at Arjar completed.

Upper Subordinates' bungalows.—Six completed; 3 nearly ready for occupation, and 3 in fair progress towards completion.

Lower Subordinates' and Clerks' quarters.—Small temporary huts were put up for these men all along the line, where found necessary.

Hospital and Hospital Assistants' quarters.—Two of these were built at the Betwa and Dussan bridges.

Three depôt stores were opened at Soojanpura, Banda, and Manikpur.

Stores, including Engineering plant. The value of stores in hand on 31st March at these depôts amounted to about Rs. 94,000. In addition to this, there was a sum of about Rs. 1,18,000 in suspense on

account of debit schedules sent out, but not yet verified for surplus stores transferred from other Railways and also for stores, purchased at Calcutta by the Port Storekeeper, not yet brought on to the books.

Expenditure.

The approximate expenditure for the year 1883-84 was Rs. 10,63,916.

REWARI-FEROZEPORE RAILWAY,
INCLUDING A BRANCH FROM KOTKAPURA TO FAZILKA.
METRE GAUGE.
Total Length—302 Miles.

The progress made in construction during the twelve months ending 31st March 1884 was as follows:—

The embankment had been completed for 134 miles from Rewari in the previous year; during the year 108 miles from Batinda to Ferozepore and 27 miles from Muktsur to Fazilka were completed, and there remained to be done from Kotkapura junction to Muktsur 23 miles and the extensions to the banks of the Sutlej at Ferozepore and at Fazilka 8 miles. The earthwork is light, except where headway is required under the bridges spanning the Batinda and Abohar navigable branches of the Sirhind Canal.

Earthwork.

These were completed from the 94th to the 212th mile at Kotkapura during the year 1883-84.

Minor bridges.

At the Hansouti, 10th mile, 15 spans of 20 feet, the girders were erected and the work finished.

Large bridges.

A bridge of 13 girders, 40 feet span, over the Guggur was commenced and finished.

At the Abohar canal bridge, one span 60 feet and one 20 feet, the brickwork was nearly ready for girders.

The Bhatinda canal bridge was not commenced, but the approval of the Irrigation Department to the design had been obtained.

The Sirhind canal system is being constructed simultaneously with the railway, and the details of the bridges required to carry the railway over the branches and feeders as well as over some inundation canals near Fazilka were settled during the year.

The level-crossings were made fit for carts as the earthwork and plate-laying advanced. Gate-houses were built for 89 miles from Rewari, and at stations as far as Sirsa, at 140 miles.

Level-crossings.

Maintenance.

The houses for the maintenance gangs were completed for 89 miles from Rewari.

Fencing.

Fencing was not commenced.

The permanent telegraph line was completed from Hissar to Ferozepore, 157 miles, and a temporary line erected on the Toosham quarry branch, 9 miles long, from Bowanikhera station at the 62nd mile.

Telegraph.

Ballasting on the Rewari to Hissar section, 89 miles. The 53 miles of bottom ballast 6 feet section, remaining at the end of the previous year, were led out by train as well as 60 miles of the top three feet section, including the station sidings. Most of this was from the Charkhi Dadri quarries.

Ballasting.

A ballast siding of 9 miles was laid from Bowanikhera, at the 62nd mile, to Toosham, and there an engine-shed, with all necessary adjuncts and temporary quarters for drivers, guards, and other staff were built. The extensive preparations required for training out 8,500,000 cubic feet from this quarry

caused some suspension of the work, while changing from one quarry to the other, but will save much in distance.

Two hundred and sixty-eight thousand cubic feet of stone and ballast were trained out from this quarry during the year, and 2,200,000 cubic feet of broken ballast was in stock on 31st March. The working of the ballast traffic was resumed by the Engineers in February last, but up to the close of the year had not obtained a satisfactory rate of progress owing to a want of sufficient engines and brakevans.

The whole of the ballast required for the timber cross sleeper road, or up to mile 203, will be supplied from Toosham. Beyond this point the iron permanent-way, with the Denham-Olpherts-Molesworth sleeper, will be laid on sand covered with broken brick.

Plate-laying proceeded continuously through the year, but very slowly owing to the failure of contractors to fulfil their engagements to supply deodar sleepers. However, by 31st March they were all supplied and laid, and the laying of the iron sleepers had commenced and advanced to the 211th mile. Forty miles of these sleepers were then in store at Sirsa and the remainder were shortly expected.

There were also 60 miles of rails in store and 29 miles had still to be supplied.

All the passenger station buildings, latrines, &c., remaining unfinished on 31st March 1883, on the Rewari to Hissar section, were completed and a goods shed was erected at Hissar and another well advanced at Bhiwani.

The five stations between Hissar and Sirsa were built during the year as well as latrines and platforms. The latter were finished at eight stations up to Raman inclusive, and at five stations nearer Ferozepore.

The stations on the Fazilka branch were not commenced.

All quarters remaining on 31st March 1883 on the Rewari to Hissar section were finished.

All the quarters on the five stations between Hissar and Sirsa were also completed.

At Sirsa six houses for Europeans were finished and ten others well advanced. Two native clerks' houses and seventy-five native servants' houses, other than those for the European quarters, were finished.

At Bara Gudah all quarters were finished.

The native station masters' quarters were commenced at four other stations. The station servants' quarters were finished at three stations north of Bara Gudah and well advanced at seven stations.

On the Rewari-Hissar section the water-supply was still incomplete and unsatisfactory. Fairly good water is secured at the 10th and 17th miles. The water in the well at Charkhi Dadri, 34th mile, proved hard and brackish, and is not used.

The engines water instead from a village well at 32nd mile, which, however, is becoming as salt as the other from the heavy drain on it.

The well at Bhiwani, 54th mile, proves to be extremely salt and cannot be used. At Bawani Khera, 62nd mile, the village well, temporarily used hitherto, and at first found good, has also become salt. The railway well, not yet finished, yields the same brackish water.

The works at Hansi, 74th mile, are complete for supplying good canal water, and from this to Ferozepore and Fazilka good water will be procurable at every 20 miles, except possibly at Kalanwala, 160th mile, where a well has been commenced to replace that at Bara Gudah, which yields brackish water and has been abandoned. But from the 17th to the 74th mile good water will not be procurable unless for a short time after heavy rainfall, and water may have to be carried in the trains.

The deep well at Jakhod, 98th mile, has proved bad also, and canal water will be led to this station.

The deep wells at Bhattu, 117th mile, and Sirsa, 140th mile, give good water, and were nearly completed.

The engine-shed at Sirsa was built, but not roofed, and the turn-table and some engine pits completed.

Points and crossings were laid at all stations up to Jaitu, 212 miles, and signals erected up to Raman, 169 miles.

Building on the line generally north of Hissar has been much delayed from the absence of fuel and the difficulty in importing efficient brick-burners. Wood fuel was only procurable at Sirsa, and great difficulty was experienced in persuading villagers to sell the cowdung and litter which are the only substitutes at other stations.

The line was opened from Rewari to Hissar, 89 miles, for goods only on 20th March 1883, and for passengers on 1st May 1883. The Hissar to Sirsa section, 51 miles, was opened for goods on 1st January 1884, and for passengers on 1st March 1884.

PERSONS EMPLOYED.

In September 1883 the police force on the Rewari-Ferozepore Railway was placed under the control of the Punjab Government and the Inspector General of Police in the Punjab, instead of under the Superintendent of Police on the Rajputana-Malwa Railway system.

The medical staff consisted of two Assistant Surgeons, and three Hospital Assistants for the line under construction. The open line was placed under the medical Officer of the Rajputana-Malwa Railway.

STORES.

During the year the greater part of the permanent-way and heavy stores for the Hissar to Ferozepore section were received at Hissar.

The principal magazine was removed from Rewari to Hissar in May 1883 before these stores had arrived, and a depôt was opened at Sirsa in January 1884, to which the most of the iron sleepers and other heavy articles received after that date were run through.

A storekeeper was appointed in March 1883.

The value of the stores in stock on 31st December 1883 was—

Class.	Stores.							Value.
								Rs.
A.	Bridgework	...	...	...	...	...	...	37,847
B.	Engineers' plant	...	...	...	...	...	...	11,664
C.	Workshop machinery	...	...	...	...	...	...	4,374
D.	Ballast and permanent-way	...	...	...	...	...	...	8,60,813
E.	Rolling stock	...	...	...	...	...	...	3,253
F.	Station materials and fencing	...	...	...	...	...	...	1,00,343
G.	Tools and Plant	...	...	...	...	...	...	1,33,078
						Total	...	11,60,372

On the 31st December 1883, the total Capital expenditure amounted to Rs. 56,52,932.

The open line is worked by the Rajputana-Malwa Railway, and maintained by the Rewari-Ferozepore railway construction staff.

SIND-PISHIN RAILWAY.

GAUGE 5' 6".

WORKS IN PROGRESS.

During the year under review, the re-commencement of the works on the Harnai road, which had been abandoned in 1881, was determined on by the Government of India.

Colonel Browne, C.B., R.E., who was appointed Engineer-in-Chief, arrived at Sibi at the beginning of November, with instructions to work only at the most difficult parts of the road, such as tunnels, heavy cuttings and embankments, and bridge foundations. All work which could speedily be finished on an emergency was to be left untouched.

It was not until the beginning of December that work began on any large scale. The delay was caused, not by want of labor, but by the want of the duly qualified officers. By the 1st of January, however, three Executive Divisions were formed under experienced Engineers; several junior officers of Royal Engineers were attached to these divisions as Assistants, and work went on rapidly for the last three months of the financial year.

In addition to civil labor, the following troops were employed:—

- 1 Wing, 23rd Punjab Pioneers,
- 1 Wing, 1st Madras Pioneers,
- 5 Companies, Bengal Sappers and Miners.

The Punjab Pioneers were employed on a very heavy cutting near Kelati-killi, which, in spite of repeated landslips, they finished successfully by 1st April. The Madras Pioneers had a long, though not very difficult, cutting, also near Kelati-killi. Two companies of Sappers were employed on a tunnel heading through hard conglomerate, some 500 feet long, at Baberkach, and another company at a tunnel in the Kochali Defile. Both these headings were successfully completed by the end of the year—a result which was not anticipated at first. The other two companies of Sappers were employed on rock-cuttings at Kochali and Spitangi respectively.

In the first division there were some heavy works carried out close to the Nari Gorge; at the mouth of the gorge the roadway, made three years previously at the base of a high cliff, had been washed away by successive floods since the work was abandoned. The reconstruction of the road here was a matter of much time and labor.

A tunnel close to Nari, which had been begun in 1880-81 and which had partly fallen in, was completed, and lined throughout with bricks in Portland cement.

The only other work of importance in the 1st division, besides many heavy cuttings and embankments, is the Tanduri bridge, the first crossing of the Nari river, consisting of five spans of 150 feet each. Two of the pier foundations were successfully put in, and the superstructure raised for some distance. A fortified enclosure was built at the bridge site for the shelter of workmen employed on it, as well as for the custody of tools and machinery used.

In the 2nd division particular attention was given to the river crossings, which in this division are very numerous. The line crosses the Nari river three times in this division, and the most difficult of the pier foundations (four in all) in these three bridges were successfully built, not without constant use of steam pumps and incessant labor, and were finished by the 1st April.

Besides the river crossings, the tunnels and heavy cuttings at Baberkach and in the Kochali defile demanded attention. These were for the most part carried out by the Bengal Sappers, as above noted, though civil labor was extensively used in the cuttings.

In the 3rd division, extending from Kochali to 6 miles beyond Spintangi, a total distance of 18 miles, the work was chiefly cutting and embankment more or less heavy. The great difficulty on this part of the line was the want of water, which had to be brought from some distance. At Spintangi itself two tunnels were begun and nearly completed through the marble rocks of the Spintangi Gorge.

A survey division was formed in January to survey the line between Harnai and Sharigh. A new line, a great improvement on the old one, was laid out between Nassik and Sharigh. Work had been begun on it, and was being vigorously carried on at the close of the financial year.

At the close of the year, at the commencement of the hot weather, the works up to Harnai were stopped, and the entire body of staff and workmen moved up to continue the work from Harnai to the present terminus on the Pishin plateau.

At the end of May 1884 sanction was received from the Secretary of State to the resumption of the construction of the railway from Sibi to Quetta, and steps were at once taken for the rapid prosecution of work. At the same time the Government of India ordered that the open line from Ruk to Sibi, hitherto styled the Kandahar Railway, should, together with the portion under construction from Sibi to Quetta, be termed the Sind-Pishin Railway.

LINES UNDER SURVEY.

Although no new lines were surveyed during the financial year, nearly the whole of the old line had to be resurveyed and marked out. A reconnaissance was made by Mr. Molesworth, the Consulting Engineer to the Government of India, of a direct route from Quetta *via* Pir Ismail and Badra to Baberkach, which, it was thought, might shorten the line, but it was found that this route was quite impracticable.

Another reconnaissance was made by Lieutenant Scott-Moncrieff, R.E., of the route from Sharigh to Quetta up the valley of the Surkar river over the Nari pass (8,400 feet), and through the Harnai valley. This was also found impracticable.

MINERAL RESOURCES.

The district through which the railway passes abounds in sulphur, and in some parts petroleum exists. The latter has been the subject of special investigation under the orders of the Agent to the Governor General for Beluchistan.

Abstract of Expenditure incurred on the Harnai Road works during the year 1883-84.

Head of work.	Quantity.	Rate.	Per	Amount.
		Rs. A. P.		Rs.
I.—Earthwork c. ft.	29,875,445	17 7 10	1,000 ft.	5,12,736
II.—Tunnels r. ft.	1,032	58 2 7		60,023
III.—Bridges—				
(a) Foundations c. ft.	234,855	117 9 8	1,000 ft.	27,020
(b) Masonry c. ft.	99,535	66 0 0	100 ft.	65,778
IV.—Retaining walls c. ft.	86,900	15 5 3	100 ft.	13,322
V.—Establishment ... ..	...	...	...	51,541
VI.—Buildings, area s. ft.	28,663	0 3 3	s. ft.	5,865
VII.—River protective works r. ft.	4,856	1 7 10	r. ft.	7,118
VIII.—Tools, plant, and stores purchased ... ..	...	...	...	4,27,158
IX.—Credits to other lines ... ..	...	...	...	1,25,822
X.—Carriage of material ... ..	...	...	...	11,611
XI.—Miscellaneous ... ..	...	...	...	64,950
			Total	13,73,544

BELLARY-KISTNA STATE RAILWAY.

METRE GAUGE.

This line runs from Guntakal on the Madras Railway to a point on the banks of the Kistna river, opposite to Bezvada, and is 275 miles in length.

The sanction of the Secretary of State to the construction of the line was received at the end of September 1883, and work was commenced as soon afterwards as tools could be obtained. The works extend over the first two divisions, *viz.*, Guntakal and Nandicanama, aggregating 125 miles, and comprising all the difficult part of the line.

The pass, about 20 miles long, through the Eastern Ghâts, or Nulla Mulla Hills, will involve heavy work, and the country in and adjacent thereto is overgrown with dense forest, and exceedingly sickly. A good alignment has been secured. The gradient is 1 in 100, and the works, considering the nature of the ground, will be moderate. A tunnel 413 yards long occurs at the summit.

The Guntakal division comes second in importance, though it is first as regards position. It runs almost entirely through the Yerra Mulla Hills. It has been troublesome to align, the country being very undulating, but there will be no heavy works, except in the descent from the hill plateau into the Nundial Valley, through the Satkacheroo pass. Here there will be a long and winding incline of 1 in 100, with considerable cuttings. The line through the Nundial valley, which divides the two ranges of hills, and is about 20 miles wide, will be cheap.

Cuttings and embankments are in progress at intervals along these two divisions, to the full extent of the labor procurable. Building materials have been collected, and several bridges begun. Preliminary operations of all kinds are also in hand.

The Cumbum division has only just been commenced. The works will not be of much consequence, and beyond the town of Cumbum, they will be cheap, as also will be the Guntur division, which extends to the Kistna river. All this part of the line will be so easy that it will compensate for the unavoidable cost of negotiating the two ranges of hills above described, and so will bring down the mileage rate to an average figure.

The proposed extension from Guntakal junction to Hindupur is still in abeyance.

A large traffic in coal is expected from the Singareni fields, which are believed to be very promising.

CUDDAPAH-NELLORE STATE RAILWAY.

METRE GAUGE.

Since the date of the report for the previous year the sanction of the Secretary of State to the construction of this line has been received.

The staff previously engaged on the West Deccan Railway was ordered to be transferred to this line in October 1883. A commencement of the survey and final location was made in the following month. On the 16th November 1883 a telegram conveying sanction for construction was received, and arrangements for collecting material, purchase of tools and stores, and such work as was possible, were made, to proceed simultaneously with the staking out. Up to the end of the financial year about three lakhs of rupees had been expended, and a commencement had been made, but, owing to the impossibility of procuring the full staff of Engineers and subordinates, it was not found possible to achieve all that had been expected.

The line had been finally selected throughout between Nellore and the town of Tirupati, and the greater part had been staked out, but this work could not be completed because of changes that were required in approaching the towns of Kalahasti and Venkatagiri, and because of the small staff available.

The country is generally very flat: gradients of 1 in 200 are obtainable throughout, and the works will be light excepting for the long lengths of bridge-work that have been found necessary for passing country liable to be flooded at the 14th to 16th and 20th to 24th miles from Nellore.

The total length of the line on which construction has been authorized is 82 miles, from Nellore to Tirupati.

LINES UNDER SURVEY.

The selection of a line from Tirupati westwards to Madanapalle, with a continuous line of levels throughout, has been made, and an estimate of the approximate cost with a report will soon be possible. The country is much rougher than on the first section of the line, as the ascent from the level country on the sea-coast to the plateau of the south part of the Cuddapah district had to be effected. The line ordered by the Government of Madras has with some slight deviations been found practicable throughout, and a ruling gradient of 1 in 100 need not be exceeded. The earth and rock excavations will probably be heavy, but no tunnelling will be necessary, and there will be but few expensive bridges. The total distance from Tirupati to Madanapalle is 83 miles.

Inquiries are being made under the orders of the Madras Government with a view to ascertain the best line of route from a political point of view beyond Madanapalle to Dharmavaram, and the examination of that part of the line will be proceeded with as soon as the staff is relieved for the purpose. The length of this portion will be about 82 miles.

DACCA AND MYMENSINGH STATE RAILWAY.

METRE GAUGE.

WORKS IN PROGRESS.

The total length of this line from Narainganj through Dacca to Mymensingh is 86 miles. The progress made up to 31st December 1883 shows an average of 24 on the work of the whole line of 86 miles. The percentage is unsatisfactory, as the work has been in the hands of the contractors for 13 months. This is apparently due to the scarcity of labourers and their frequent desertion from the works. More energetic steps have, however, been taken by the contractors which, it is hoped, will result in an increased outturn of work.

STORES.

The value of stores in hand was estimated at about Rs. 9,12,000, permanent-way material representing over two-thirds of that amount, and rolling stock about one-fourth. The five locomotives received from England have been lent to the Northern Bengal State Railway, the two "A" class engines transferred from Ajmere are now fitted up and ready for use, 75 ballast wagons have been received, but not yet erected. Much inconvenience has been experienced at the non-receipt of the buffing gear for these wagons; this will, to a certain extent, be remedied by transfers from other lines and by fitting of dumb buffers.

CAPITAL TRANSACTIONS.

The principal transactions for the year have been on account of stores received from England, as also those obtained in India, amounting to Rs. 9,12,094; payments to contractors, Rs. 5,02,000, less Rs. 25,000 held back from them on account of their security deposit; and compensation for land, Rs. 1,96,609: the other items represent comparatively small expenditures. The total amount expended during the year was Rs. 12,72,935, which is exclusive of Rs. 7,32,515 charged off in England.

AMRITSAR-PATHANKOT RAILWAY.

GAUGE 5' 6".

WORKS IN PROGRESS.

This line is 66 miles 3 furlongs in length, of which 1 mile 5 furlongs is the portion within the fence line of the Sind, Punjab, and Delhi Railway. The actual length of the Amritsar-Pathankot Railway now constructed is therefore $64\frac{3}{4}$ miles.

2. Rapid progress was made in the construction of this line during the year. The first 51 miles from Amritsar to Dinanagar were opened for public traffic on 1st January 1884, and at the end of the year the remaining 15 miles from Dinanagar to Pathankot were approaching completion, and were opened for traffic on the 17th June 1884.

3. The line was originally estimated to cost Rs. 46,00,000, but the original estimate has been revised during the year, and the estimated cost now amounts to Rs. 62,00,000. The excess is due chiefly to—

- (1) Accepted tender rates being in excess of rates of original estimate.
- (2) Alterations in the original designs for bridges and other works.
- (3) Addition of cost of rolling stock which had not been included in original estimate.

4. The following statement shows the expenditure up to 31st March 1884 :—

Head of Accounts.	Estimated amount.	Previously expended to 31st March 1884.	Expended during 1883-84.	Total expenditure to end of 1883-84.
	Rs.	Rs.	Rs.	Rs.
I.—Preliminary expenses	44,000	42,803	1,051	43,854
II.—Land	1,80,000	1,72,276	4,655	1,76,931
III.—Construction of line	11,36,884	3,49,871	5,44,818	8,94,689
IV.—Ballast and permanent-way	28,95,795	14,07,447	13,49,731	27,57,178
V.—Stations and buildings	6,70,787	70,028	2,54,598	3,24,626
VI.—Plant	50,605	4,122	7,494	11,616
VIII.—Rolling stock	7,05,000	...	3,75,000	3,75,000
IX.—Establishment	1,70,000	52,195	67,084	1,19,279
Contingencies	4,28,000	...	...	...
Total Final Heads	62,81,071	20,98,742	26,04,431	47,03,173
Suspense Accounts	...	494	—494	...
Total Final and Suspense	62,81,071	20,99,236	26,03,937	47,03,173
Deduct Receipts on Capital Account	...	...	1,336	1,336
Grand Total	62,81,071	20,99,236	26,02,601	47,01,837

5. The working of the open portion of the line has been made over to the Sind, Punjab, and Delhi Railway Company and the maintenance for one year after date of completion will be carried out under the supervision of Government Engineers by the contractors who have constructed the line.

BHOPAL STATE RAILWAY.

GAUGE 5' 6".

Length, 57 Miles.

WORKS IN PROGRESS.

At the beginning of the year earthwork was practically finished to the foot of the Ghât (16th mile). On the Earthwork. Ghât (miles 16 to $24\frac{1}{2}$) 80 per cent of the earthwork had been finished at the beginning of the year, and at the end of the year it was nearly complete. From the head of the Ghât to Bhopal (miles $24\frac{1}{2}$ to 57) 94 per cent. of the earthwork had been finished at the beginning of year, and at the end of the year it was practically complete.

At the beginning of the year bridgework was finished up to the Nerbudda (13th mile), but the rains, which severely tested the portion of the line between the 7th and 10th miles, necessitated some additional work in pitching and widening the channel at the Kulhari bridge (7th mile), and also the insertion of a 20-foot girder span at the 9th mile. These works were still in progress at the end of the year, but were approaching completion.

The Nerbudda bridge (14 spans of 150 feet clear, 70 feet high), of which the masonry was nearly finished, and 9 spans of girders erected, at the beginning of the year, was finished in May 1883. The Godaria viaduct (4 spans of 150 feet clear, 100 feet high), of which the masonry was nearly finished at the beginning of the year, was finished, including the erection of girders, early in March 1884. The erection of the girders of this viaduct occupied about 4 months, *viz.*, November 1883 to February 1884 inclusive. The rest of the bridgework on the Ghât length, which was nearly finished at the beginning of the year, was completed during the year, with the exception of the erection of 3 spans of 60 feet girders, which were not finished till April 1884. On the length from the head of the Ghât to Bhopal the masonry in bridgework was at the beginning of the year in the following state:—

Minor bridges over three-fourths done.

Large bridges finished except 3, and at the end of the year the masonry may be said to have been complete, but no girders as yet erected. The girders for all bridges had been delivered by end of 1882-83.

No fencing had been erected at the beginning of the year. During the year the balance of iron fencing material due was received and the fence had been partly erected at Hoshangabad station. Barkhera and Bhopal stations had been fenced with ditch and mound.

At the beginning of the year the level-crossings on the Itarsi-Hoshangabad length were practically complete, while from Hoshangabad to Bhopal some work had been done in approaches and diversions. At the end of the year on the Hoshangabad-Bhopal length the approaches were nearly complete, with metalling, and the masonry of gate lodges was finished.

The Telegraph was completed to Bhopal during 1882-83.

At the beginning of the year the Itarsi-Hoshangabad length was seven-tenths ballasted, and ballast had been collected for about 21 miles between Hoshangabad and Bhopal. At the end of the year ballasting was nearly complete to the foot of the Ghât (16 miles) and on the rest of the line (41 miles) ballast for about 36 miles had been collected and bottom ballast laid throughout.

At the beginning of the year the rails had been laid to the south end of the Nerbudda bridge, $12\frac{3}{4}$ miles. At the end of the year the rails had been laid to the 24th mile near the head of the Ghât. All the rails and fastenings and 46,000 sleepers, out of a total of 116,000 required, had been delivered by the end of 1882-83. During 1883-84, 50,000 steel sleepers with fastenings, and 20,000 creosoted pine sleepers were received from England, making up the total required for the line.

Itarsi (to be carried out by Great Indian Peninsula Railway Company) not begun, except the well. Sidings and signals absolutely required for present working finished in 1882-83. No further progress made in 1883-84.

Hoshangabad completed in 1882-83.

Budhni, not begun in 1882-83, nearly completed in 1883-84, includes combined station master's quarters and booking office, menials' quarters, loop siding, and low platform.

Barkhera and Dip were practically complete at the end of 1882-83; except tiles for roofing, station sidings and watering machinery, no further progress was made during 1883-84.

Bhopal station, owing partly to change of site, had only been fairly started by the end of 1882-83. At the end of 1883-84, all ashpits, platforms, and the well were complete. The masonry of passenger building and goods shed and of 2 blocks of European staff quarters and 16 units of menials' quarters (being all the staff quarters considered necessary at present) was complete, and masonry of tank and engine-shed nearly finished.

LINES OPEN FOR TRAFFIC.

The first 11 miles, Itarsi to Hoshungabad, were opened on the 1st June 1882, and are worked by the Great Indian Peninsula Railway Company. It was expected that the rails would reach Bhopal in July, and that the line could be opened to Bhopal in October

KOKILAMUKH STATE RAILWAY.

GAUGE 2' 0".

WORKS IN PROGRESS.

These consist of (1) the line from Gosaingaon to Jorhat, $6\frac{1}{2}$ miles; (2) extension from Jorhat to Titabar on the Dhodur Alli, 13 miles; (3) extension to Mariani on the Dhodur Alli, $7\frac{1}{2}$ miles.

The line from Gosaingaon to Jorhat, which had been partially completed, has been properly levelled and packed. The line has been extended 400 feet to the Jorhat temporary terminus, and 950 feet from Gosaingaon to the bank of the Suti, which is deep enough for steamers to come up in the rains. The opening formerly left in the line, the bridge over which collapsed during the rains of 1882, has been filled in, and the bank stood successfully through the rains of 1883, the water which formerly passed through this opening having been forced back into the Brahmaputra.

The two extensions were commenced in April 1883.

Two-thirds of the total quantity of earthwork required for the Titabar extension are complete, and on the Mariani extension one-third is complete.

This Railway is being constructed on a two feet gauge by the Chief Commissioner of Assam, out of Provincial Revenues, for the convenience of the numerous tea gardens in the neighbourhood of Jorhat. The permanent-way consists of steel rails weighing 18lbs. to the yard. The extension line to Titabar, and the branch to Mariani are to be laid on existing roads. The sharpest curve will have a 500 feet radius, and the steepest gradient will be 1 in 100.

LINES UNDER SURVEY.

A line, for fair weather traffic, from the present terminus at Gosaingaon, northward, to the existing steamer Ghât across a sandy chur of the Brahmaputra, a distance of $4\frac{1}{2}$ miles, and an alternative line from the same terminus, westward, along the bank of the Brahmaputra, to a spot where it is hoped that a permanent Ghât for future use may be found, a distance of about 4 miles, are under consideration.

TÁRAKESHWAR RAILWAY.

GAUGE 5' 6". LENGTH 22 MILES.

WORKS IN PROGRESS.

Earthwork was commenced on 28th March 1883. The embankments over the lowlying ground were completed before the end of the following June. The rest of the embankments, which for the most part are over higher ground, were completed early in the spring of 1884.

The bridges over the Khatta khal, the Eden canal, the Surusutti, and Kana Damooda khal with the various minor bridges and culverts are now complete.

Bridges and culverts.

Ballasting and plate-laying are being rapidly proceeded with.

Ballasting and plate-laying.

Station buildings, sheds, &c., at Seoraphuli and the four intermediate stations are being pushed on towards completion. The Tarakeshwar buildings will be taken in hand shortly.

Station buildings, sheds, &c.

It was expected that about ten miles of the line would be completed by the middle of September, and that the remaining portion of the line would be finished in time for the complete opening in December 1884.

BENGAL AND NORTH-WESTERN RAILWAY.

METRE GAUGE.

I.—WORKS IN PROGRESS.

	Miles.
Main Line, Sonopore to Bahraich ...	273.58
Nawabganj Branch and Ferry Line ...	17.50
Total	291.08

Acquisition of land.

Nearly all land required by the Company had been acquired.

All the earthwork was practically completed, except filling in behind abutments at large bridges.

Earthwork.

All the minor bridging had been completed, except between miles 153 and 182, where the work was still in progress, but will soon be finished.

Minor bridges.

All the large bridges were in progress. They will be nearly all founded on wells, and the work of well-sinking had progressed satisfactorily. The wells will be sunk from 40 to 80 feet below beds of rivers, according to the nature of the soil met with. The well curbs are chiefly of iron, and have been obtained from England.

Large bridges.

Brick-making has been most successful during the season, and there were ample supplies of all necessary materials at the different works, so that as soon as the well-sinking is finished, the bridges will be rapidly completed. The girders had all been obtained.

The most important is the Rapti bridge, 9 spans 150 feet. Wells were sunk to an average depth of about 20 feet below bed of river. At a depth of about 33 feet there is a bed of clay of some thickness, and it was hoped that all the wells would be sunk into this before the rains set in.

The wells in this bridge are 25½ feet diameter, and the steining of them is 6 feet thick. They were being sunk partly by Bull's dredgers and partly by Bruce's dredgers.

Level-crossings.

The earthwork of all level-crossings had been completed. The metalling was to be done after the rains.

Mile and gradient posts.

Seventy-two and a half miles of posts had been fixed, and the manufacture of the remainder is in progress.

A mud wall is being provided in the vicinity of all villages and dangerous places on one or both sides of the line as circumstances may demand.

Fencing.

It is intended to put up a wire-fence around the principal stations and in the vicinity of large towns.

Electric telegraph.

The erection of the telegraph had been completed, and the wires are now in use along the whole line.

Upwards of 168 miles of ballast had been collected and stacked alongside the line, and the collection of the remainder was in active progress. It consists partly of broken bricks and partly of kunkur. The kunkur is generally of a very good, clean, hard quality.

Ballasting.

On the eastern section between Sonapore and Gorakhpur, including the branch to the Ganges ferry, upwards of 115 miles of line had been laid, and were in running order. Sidings had also been put in at the different stations. The work was stopped towards the end of the year as the rail supply failed, but other consignments of rails were shortly expected.

Permanent-way.

On the western section between Gogra ferry and Bahraich, 72½ miles had been laid, and were opened for public traffic on the 2nd April.

It was hoped that the whole of the permanent-way would be laid by the end of June, and that the line would be opened throughout for public traffic in November or December 1884.

Ten stations may be said to have been completed, and have been opened for public traffic. The work at the other stations was in progress.

Station offices.

The whole of the temporary quarters for the construction staff had been finished. Permanent quarters for native clerks and station Masters and for porters had been nearly completed at 10 stations, and elsewhere they were well advanced.

Staff quarters.

At Sonapore 10 quarters for European guards and drivers, at Gorakhpur 2 quarters, at Mankapur 4 quarters, and at Bahraich 4 quarters were nearly finished; whilst at Savan 4 quarters, at Gorakhpur 20 quarters, and at Mankapur 6 quarters, were in progress.

At Gorakhpur quarters and offices for the principal officers of the line were also nearly finished.

Temporary workshops and store buildings had been erected at Sonapore, and the whole of the carriage stock is being made there. It is proposed to locate the permanent shops at Gorakhpur, but the work on these has not yet been begun.

Workshop and Store buildings.

The construction of wells, tank-houses, engine-sheds, ash-pits, &c., is all well advanced. On the 72½ miles of line which have been opened to public traffic, the signals are all in working order.

Station machinery.

Plant.

All necessary plant for the construction works has been obtained.

The machinery for the locomotive workshops is now arriving, and such of it as is required for current repairs will be at once erected at Sonapore.

Most of the wood-working machinery has been erected, and is now in use.

A steam launch, 70 feet long and 11 feet beam, has been received from England. This will shortly be fitted up, and when ready will be employed at the Ajodhia ferry on the Gogra. To work the Sonapore-Bankipore ferry on the Ganges two steamers 125 feet long and 17 feet beam, eight cargo flats capable of carrying 60 tons each, two landing stages, and one small steam-launch are under supply from England.

Steam ferries.

Rolling Stock.

Subjoined is a memo. of the progress made with the construction and erection of the rolling stock :—

2 "E" class	locomotives	...	Finished.
8 "O" do.	do.	...	Do.
5 "O" do.	do.	...	Incomplete.
104 covered goods wagons	nearly finished,	of which 42 were quite complete.	
56 Do.	do.	...	Incomplete.
150 Low-sided wagons		...	Finished.
6 Composite carriages		...	Do.
8 Do.	do.	...	In progress.
1 Inspection carriage		...	Finished.
23 Third-class carriages		...	Do.
25 Do.	do.	...	In progress.
7 Brake vans		...	Finished.
4 Do.		...	In progress.
4 Ten-ton cranes		...	Finished.
1 Do.		...	In progress.
45 Material trollies		...	Finished.
20 Passenger do.		...	Do.

All the carriage stock has been made at the Company's workshops at Sonopore. That required for the line between Gogra ferry and Bahraich, which was opened for public traffic on the 2nd April, after being made at Sonopore, was ferried across the Ganges to Patna, sent from there by rail to Fyzabad, and from thence ferried across the Gogra to Nawabganj.

LINES UNDER SURVEY OR PROJECTED.

Gorakhpur-Benares Survey.—During the past season a trial survey was made for a line, about 120 miles long, from Sahjanwa station, on the west bank of the Rapti, near Gorakhpur, to Benares. This year a survey party has been employed in making another trial survey for a line to Benares. This begins at Uska station, about 45 miles to the east of Gorakhpur, and passes through Rusara and Ghazipur to Benares. It will be about 108 miles long. The point selected for crossing the Gogra, near Toorteeপুর, is very favourable. The river is here confined to a straight channel for about five miles, and is about 3,500 feet wide. The banks on both sides are good and of sound material. This line would serve the important commercial towns of Rusara and Ghazipur.

Extension from Bahraich to Nepaulganj.—In the original project for this Company, it was proposed to construct a branch line from Gonda to Bahramghat. This would be a very expensive line to make, as it would pass through a low country, nearly all under the influence of the floods of the Gogra, and its construction would not be of much benefit to the trade of the district. It is therefore proposed to abandon it, and in its stead to extend the main line from Bahraich to the frontier, near Nepaulganj. This extension would be about 32 miles long, and would open up a fertile district, the produce of which is now chiefly exported by boats down the Gogra river. The works on this extension would be very light.

MINERAL RESOURCES.

No minerals are believed to exist in the vicinity of this railway. The fuel for working the railway will be coal obtained from the Kurhurbaree mines, and will cost at Sonopore about Rs. 12 per ton.

LINES OPEN FOR TRAFFIC.

On the 2nd April the western section of the Company's undertaking between Gogra ferry and Bahraich, 72½ miles long, was opened for public traffic.

PERSONS EMPLOYED.

There have been few changes during the year in the staff, but a few additional European and Eurasian subordinates have been engaged.

The staff required for working $72\frac{1}{2}$ miles of open line has also been arranged for.

The hospital and medical arrangements are similar to those reported last year.

The Engineers attached to the Chupra and Savan districts belong to the Behar Mounted Volunteers, and the European and Eurasian staff at Gorakhpur have nearly all joined the Benares Volunteers, whilst those of the Gonda district belong to the Oudh Volunteer Rifles.

The sanctioned estimate for the line amounts to Rs. 1,63,00,000, the expenditure during the year, including interest charges, was Rs. 68,24,595, of which amount Rs. 29,96,081 represented the net Indian outlay.

The total expenditure from the commencement of operations to the 31st December 1883 amounted to Rs. 71,04,348.

ROHILKHAND AND KUMAON RAILWAY.

ORIGINAL LENGTH OF LINE, 62 MILES.

REVISED LENGTH, 53 MILES 7 FURLONGS.

The realignment of the entire line, away from the Government road, was commenced at the end of January 1883, and was completed with location survey, plans, and sections before the end of May following, and the land plans were nearly all prepared and submitted by that time to the Local Government.

Land was obtained as the plans were approved by the Local Government, and by December 1883 almost all had been acquired.

Simultaneously with the acquisition of the land, earthwork was put in hand. A part of the first seven and a quarter miles was thrown up by the end of March 1883, when it was made over to the Bareilly-Pilibhit State Railway to form a portion of that line. Earthwork was also put in hand on the upper section in February of the same year, but owing to the absence of local labour and the unhealthiness of the climate in the Terai and Bhabur only a portion could be done before the rains. Before the end of September 1883 nearly all the banks of the remaining 27 miles in the Bareilly district were thrown up. In the upper section the work was resumed at the end of November 1883, and was all practically completed by the end of February 1884.

Minor bridges.

Up to the end of March 1884, all except 6 minor bridges were completed and the rest were in progress.

All the major bridges were in hand and the wells down in two of them; work was being pushed on so as to complete all before the beginning of the rains.

The difficulty in getting and keeping labor to make bricks, or in fact for any purpose in the Terai, is considerable, but work was progressing fairly. Girders were all at sites of bridges.

Ballast for about 19 miles was on cess, and a large quantity of gravel ballast was stored in the (Bhabur) Kumaon district, ready to be trained down.

Some 48,000 sal sleepers had been secured and 70,000 Huldú sleepers had been cut in the Kumaon forests and had been delivered. The line had

been partly laid, with sal sleepers for the joints and intermediate sleepers of Huldú.

The laying of permanent-way was begun at the end of December 1883, and at the end of March 40 miles were laid, including diversions at the larger bridges.

Permanent-way.

At Huldwani the station building was ready for the roof, and the goods shed nearly so; at Dorunna, Baheri, and Kitcha the plinth course of the station building had been completed; at the Katgodam terminal station the yard is for the most part in cutting, about 3 to 11 feet in depth, and there has necessarily been delay with construction.

Stations and offices.

The staff quarters were in progress at Katgodam, and at Huldwani they were completed. Temporary quarters for construction staff were all ready.

Staff quarters.

Materials were in Bareilly ready for erection. Points and crossings had been put in as far as the permanent-way was laid. The station well at Baheri was being sunk, and at Salkua in the upper section, dry sinking had been finished to 38 feet in depth, where water had been found. Temporary arrangements for water-supply had been made at Baheri and Huldwani.

Station machinery.

Eight locomotives, class O, were at site and five in running order. Thirty low-sided goods wagons had been delivered, and the remaining vehicles were being erected.

Rolling stock.

WEST OF INDIA PORTUGUESE RAILWAY.

METRE GAUGE.

This Railway is not in British territory, but it is closely allied with the Southern Mahratta line, which it will connect with the Portuguese port of Marmagao, and the following particulars, which have been extracted from information kindly supplied by Mr. Sawyer, the Agent and Chief Engineer of the Company, will be of interest.

The undertaking may be divided into two parts, (1) the harbour works, and (2) the railway works, and is being carried out under a guarantee of interest given by the Portuguese Government.

The harbour works comprise the construction of an extensive breakwater and other works necessary to adapt Marmagao for the accommodation of sea-going vessels, and to serve the traffic which is expected to arise.

Harbour Works.

Owing to the severity of the monsoon on the west coast the working season is practically limited to the seven months from November to May in each year, and the staff have throughout been hampered by the difficulty of obtaining a sufficient supply of labor. The Company's officers arrived at Marmagao at the end of November 1881, and preliminary operations were at once commenced.

The rootwork of the breakwater, which consists of laterite rubble thrown into the sea and protected by blocks of concrete, was begun at the end of April 1882, and at the end of May 1883 a length of 450 feet from the shore had been thrown out, but during the monsoon little or nothing could be done beyond maintenance.

During the season of 1883-84 the main objects in view were to construct the rubble base for the breakwater proper, to push on the manufacture of concrete blocks, and to make such a commencement of the breakwater as to thoroughly protect the end of the rootwork.

By the end of March a length of 700 feet, from the commencement of the breakwater had been covered with rubble, and it was expected that this length would be brought up to proper level by the end of the working season.

In block making little progress was, however, made, owing chiefly to the want of suitable lifting and traversing gear. Improved traversing gear was received at the beginning of March, and is reported to work satisfactorily, and it is hoped that good progress will now be made.

The breakwater was commenced on November 1st, 1883, by the placing of 9-ton blocks and masswork until a proper depth could be obtained on which to found the special blocks at the desired angle of 70 degrees, and by the end of March 10 diagonal sections were successfully set.

The protection of the junction between the rootwork and the breakwater, a re-entering angle into which the sea rushes with great violence, remained to be done before the monsoon.

The railway, slightly over 51 miles in length from the breakwater to the British frontier, where it joins the Southern Mahratta Railway, is being constructed on the metre gauge.

Railway Works.

The first 38 miles up to the Collem station, on which the ruling gradient is 1 in 100, are being constructed for a single, and the remaining 13 miles, with a maximum gradient of 1 in 40, for a double line of rails.

The Ghât section proper does not, however, begin till the Alfandega is reached at mile 40 $\frac{3}{4}$. The work on this section is very heavy, comprising no less than 10 tunnels in as many miles. Of these, 8 will apparently be through solid rock and 2 through soft material.

The railway works were in the first instance given out on contract, and work was commenced on the 22nd February 1882. The contractors having, however, failed to make satisfactory progress, the works were taken over by the Company at the end of January 1884, and arrangements made to carry them on departmentally under the Company's officers, by whom it is anticipated that these measures will result in a much more rapid and satisfactory prosecution of the extensive works which have to be undertaken on this line of railway.

CHAPTER III.

RAILWAYS UNDER THE CONTROL OF THE GOVERNMENT OF MADRAS.

GENERAL.

General working.—There have been no serious train accidents during the year. In October 1883 small breaches occurred at the 91st and 95th miles, North-West line, and at the 272nd mile, South-West line, Madras Railway, due to heavy rainfall, but in no case was traffic suspended for more than 7½ hours.

On the South Indian Railway through communication was suspended for four days, owing to six breaches in the line, aggregating 240 feet in length, caused by the failure of a tank near the line at the 356th mile.

Block system.—The proposal to establish the block system for the present train despatching system over the entire length of the Madras Railway has received the approval of the Board of Directors, and been sanctioned by the Government of India. An indent, amounting to Rs. 76,959, for the instruments and stores required, is now in the hands of the Board.

Native drivers.—The system adopted on both railways for training native lads for the duties of drivers and shunters is the same, *viz.*, to employ them as cleaners or second firemen, promoting them through the higher grades according to ability shown; the results have been widely different, as the table below shows:—

	SOUTH INDIAN RAILWAY.				MADRAS RAILWAY.			
	1880.	1881.*	1882.	1883.	1880.	1881.	1882.	1883.
Drivers	10	9	12	18	0	0,	1	2
Shunters	10	17	19	16	1	2	3	4
Firemen	108	125	126	135	0	6	8	15
Cleaners or Second Firemen ...	93	116	100	152	} 298 0	} 294 5	} 283 ...	} 286 *9

The work does not seem to be popular on the broad gauge line.

The figures in black type show the number of natives who are employed by the Madras Railway about the engines as firemen or cleaners, the promotion of whom to the higher grades does not seem to be contemplated.

Class C lands.—The question regarding the payment of rent by the Madras Railway Company for land occupied under class C has at length been decided. The Railway Company are to be permitted to build quarters on land already in their possession, but they agree to pay rent for land that it may hereafter be necessary to take up under class C.

* Twelve others disappeared within two months.

Madras and South Indian Railways.—The work done by the two lines during the year compares as follows:—

	Passengers.	Average distance. Miles.
Madras Railway carried	4,447,533	46·3
South Indian Railway carried	5,197,236	35·4
	Tons of Merchandise.	
Madras Railway carried	511,279	151·2
South Indian Railway carried	434,834	84·2

The average bookings per mile of the line were:—

Madras Railway ...	{ 5,166 passengers and 594 tons of goods, exclusive of harbour materials.
South Indian Railway	{ 7,935 passengers and 656 tons of goods, exclusive of harbour materials.

The average contents of a train on the two lines were, assuming all trains to be mixed:—

Madras Railway ...	109·4 passengers and 43·4 tons of goods.
South Indian Railway...	115·5 passengers and 26·6 tons of goods.

In the preceding year, the number of passengers was alike on both lines, *viz.*, 105.

Transshipment at Erode.—It has been found at Erode Junction that goods, instead of being transhipped at the platform and booked through, are now unloaded by consignors at the terminal shed of one railway and rebooked at the other. The matter is now being investigated, and it is hoped that an understanding on the point will be speedily come to between the two Railway Companies.

LINES IN PROGRESS.

Bangalore-Tumkur.—The Bangalore-Tumkur line, 43 miles, on the metre gauge, is nearly completed, and will probably be opened for traffic about July 1884. For the Tumkur-Tiptur Section, 44 miles, the plans and estimates have been submitted to the Government of India for approval.

Bellary-Kistna.—The survey of the Bellary-Kistna State Railway from Bezvada to Guntakal has been nearly completed, and construction has commenced on the metre gauge. The junction between this line and the Southern Mahratta Railway will possibly be effected by a third rail being laid down between Bellary and Guntakal, the broad gauge being only maintained in the event of a famine or other emergency. The proposed extension from Guntakal to Hindupur *via* Dharmavaram and Anantapur will, it is hoped, be surveyed during the present season.

Cuddapah-Nellore.—The survey of the Cuddapah-Nellore State Railway from Nellore to Tirupati town has been completed, and construction has commenced on the metre gauge. It is expected that this section of the line will be completed within three years. The survey of a proposed extension from Tirupati town by Chandragiri, Mangleput, Pulicherla, and Piler to Madanapalle and thence *via* Kadiri to join the Hindupur extension at Dharmavaram, is making good progress.

LINES UNDER SURVEY AND PROJECTED.

Vizagapatam-Raipur.—The survey of the Vizagapatam-Raipur line has been completed, but from a "protective" point of view, the extensions from Guntakal to Hindupur, and from Tirupati to Kadiri and Dharmavaram, seem to be of relatively greater importance. The prospects of a portion of the line from Vizagapatam to Parvatipur as a "productive" work are being investigated.

Beypore-Calicut Extension.—A revised survey for the proposed Beypore-Calicut extension of the Madras Railway, with a branch line to the beach,

has been made, and the estimate has been submitted to the Government of India, with a view to obtain the sanction of the Secretary of State to the construction of the line.

Vellore-Villupuram.—The survey of the Vellore-Villupuram line will be completed shortly, after which it will be extended to Chittoor, with a view to a line joining the Tirupati-Madanapalle extension of the Cuddapah-Nellore Railway.

Tinnevelly-Quilon Extension.—For the extension of the South Indian Railway from Tinnevelly to Quilon two routes—the “Northern” and the “Southern—” were examined and partially surveyed in 1882. The Travancore Government gave the preference, from a commercial point of view, to the former, and this has now been carefully resurveyed throughout. It is feared, however, that the costly character of the work through the Arienkavu pass will prove prohibitive to the construction of the line.

Nilgiri Branch.—The promoters of the Nilgiri branch line, having failed to raise the required capital on the terms already sanctioned, have now made a proposal to the Madras Government for a guarantee on terms similar to those granted to the “Darjeeling-Himalayan Tramway Company.” The terms of agreement proposed are under the consideration of the Government of India.

Mayavaram-Mutupet.—A survey has been made for a line from Mayavaram to Mutupet, its cost being met from the Railway Guarantee Fund of the Tanjore District; the results have not as yet been laid before the Madras Government.

Palghat-Dindigul.—A survey of the country between Palghat and Dindigul will be made on completion of the Vellore-Villupuram Survey.

MINERAL RESOURCES.

There is at present no mineral traffic on the open lines in the Madras Presidency. A railway survey is being made between Bezvada (whence there is water communication with Madras) and the frontier of His Highness the Nizam's dominions. Should this line be constructed and pass through the Singareni coal fields, it should, in connection with the line from Bezvada to Guntakal, which is now under construction, materially lessen the price of coal on the Madras Railways.

MADRAS RAILWAY.

LINES OPEN FOR TRAFFIC.

The open length of this Railway is 861 miles, of which 818½ miles are single, and 42½ miles double line, all on the 5' 6" gauge.

The capital expenditure during the year was Rs. 1,78,078. The principal engineering works on which outlay was incurred were as follows:—

	Rs.
Extension of workshops, Perambur	15,188
Extending the line to Bangalore pettah	39,924
Constructing an aqueduct through Palar bridge	7,490
School-house at Podanur	4,455
Substituting wrought-iron cross beams and laying new permanent-way over certain of the girder bridges	34,272
Station-house, &c., at Patakottacheru	7,118
Raising line and bridges at 166th mile	3,816
Raising line at the 86th mile	3,610
Locomotive plant	7,890
Transshipping arrangements at Arkonam	8,972
Platform for feast passengers at Tiruvallur station	3,787
Station-house, &c., at Urampad station	12,535
Extra siding accommodation and goods transfer platform at Cuddapah	6,537
Alteration in carriage shed at Perambur works	9,350
Extension of block system on the South-West and North-West lines	5,178
Additional works at the Kristnarajapuram station	12,226

The principal credit to capital was on account of sale of buildings at Bellary to the Bellary-Hubli Railway, Rs. 31,686.

Condition of way and works.—The permanent-way has been well maintained, and no damage of a serious nature occurred to the road during the year.

Bridges.—The strengthening of girders of the old type is steadily progressing, and more bridges have during the year been supplied with the new type of permanent-way.

Stations.—The lengthening of platforms and the improving of stations to meet the development of third class traffic has made good progress, the total additional length of platform constructed during the year being 3,885 feet.

One new trial station has been opened at the 241st mile, South-West line.

Accidents.—The following table gives the number of accidents of various kinds during the last and two preceding calendar years:—

	1881.	1882.	1883.
I. Collisions	2	3	2
II. Derailments	30	28	29
III. Running over cattle	59	52	72
IV. Gates run through and obstructions on line	11	9	5
V. Defects in rolling stock	1	...	...
VI. Damage to line	1	9	8
VII. Fires in trains	22	36	24
VIII. Miscellaneous or other causes	11	4	4
Total	137	141	144

On the 31st May 1883, the mail train collided with an extra goods train standing at the Vellore station, owing to the pointsman having turned the former on to the main line instead of into the platform siding. Three vehicles of the goods train were derailed, and six passengers slightly injured.

A large decrease of fires in trains is shown in 1883 over 1882. But in three instances the damage and resulting delay were great. In one of these cases a horse-box, together with two of the ponies in it, was completely burnt and the third animal so severely injured that it died subsequently.

The roof of the goods shed and one end of the station verandah at Kuppam were blown off by high wind. The other accidents were unimportant.

PERSONS EMPLOYED.

The following table shows the number of employés on the open line:—

	Europeans.	East Indians.	Natives.	Total.	Number of miles open.	Number of stations.
Madras Railway ...	197	878	9,707	10,782	861	116

Police.—The following statement shows the strength and cost of police on the Madras Railway, and the amount of compensation payments due to theft for the year 1883:—

	No.
(1) Subordinate officers	8
(2) Constables and men	239
	Rs.
(3) Salaries and fixed allowances of officers	3,852
(4) Office expenses and travelling allowances	4,304
(5) Salaries of subordinate officers and men	27,454
(6) Total cost of force per annum	35,610
(7) Cost of force per mile of railway	41.36
(8) Compensation payments due to theft or carelessness of police	848
(9) Compensation payments per mile of railway ... ..	.99
	Miles.
(10) Length of railway open for traffic	861

The Inspector General of Police has made certain proposals in view to the improvement of the Railway Police administration, the principal points being the use by the police of the telegraph for the prevention and detection of crime along the line, and the frequent travelling of platform constables by trains, especially at night, to prevent thefts. These proposals have been approved by Government, and arrangements have been made with the Agents to carry them out.

Volunteers.—The Volunteers on this line are organized in five companies, *viz.*, 2 at Perambur, 1 at Podanur, 1 at Salem, and 1 at Jalarpet, with a total strength of 273 distributed as follows:—

Perambur	...	...	...	...	...	159
Podanur	...	...	...	...	...	46
Salem	...	...	...	...	...	25
Jalarpet	...	...	...	...	...	43
						273
				Total	...	273

They are under the command of Mr. Trevethick, the Locomotive Superintendent, who is a major in the regiment, assisted by two other officers; but the Commandant, Madras Volunteer Guards, observes, with regret, "that no other of the Company's officers appear inclined to take such interest in the movement as to show a desire to join the commissioned ranks."

The amount of capitation grant due from Government (all the volunteers except four being "efficient") is Rs. 6,826-8-0.

In musketry there has been a great improvement during the year 1883, notwithstanding the fact that the range for the Perambur companies is 5 miles off, and that the privilege of buying ammunition was temporarily withdrawn by the ordnance authorities through the reserves falling short of the regulated establishment.

Some 54 residents of Cuddapah have enrolled their names to form a company there; the number includes the greater proportion of the railway employes at that station. A site for a rifle range has been selected, and application made to Government to enrol the company, which, it is hoped, will be made efficient by the commencement of the next cold weather.

Medical Department.—The medical staff consists of a medical officer and 18 apothecaries. The cost of the establishment for the year ending December 1883 was Rs. 31,702, including medicines.

Schools.—On this railway, 5 railway schools have been established at Perambur, Jalarpet, Podanur, Gooty, and Raichur, intended only for Europeans and Eurasians. The number on the rolls for the year 1883 was 167, and the average daily attendance was 140.7. The outlay on these institutions, which receive no grant from Government, was Rs. 5,880, towards which the Company contributed Rs. 3,381; and the school-fees realized Rs. 1,852.

In addition to these, the children of railway employes, attend 642 local and district schools, of which more than one-half (355) are situated in or near Madras and Perambur.

The total number of children attending is 2,352, of whom 435 are Europeans and Eurasians, the average daily attendance being 1856. Besides these, twenty-two native apprentices and workmen, employed at the Perambur workshops, attend these schools, the average daily attendance being 14.75. The contributions towards these institutions, in the shape of fees paid by the employes and their children, amount to Rs. 1,358, or Rs. 0-9-2 per head on an average per mensem.

STORES.

During the year under review, 3,526 tons of stores and materials, valued at £41,813, were shipped to India in 18 consignments, besides which 2,017

tons of coal and coke were forwarded from England at an average cost at port of delivery of £1-10-5 per ton:—

The balance of stores in hand at the end of December 1883 was	Rs.	23,02,648
As against that in December 1882		25,04,600
Showing a decrease of		2,01,952

This decrease is due principally to the receipts from England being smaller, and the amount of issues being larger than usual.

The following are the details of the value of stores in hand, the limit assigned by the Government of India being 22½ lakhs:—

General stores	...	...	...	...	Rs.	6,04,379
Locomotive stores	...	...	...	...		9,30,881
Engineering stores	...	...	...	...		7,16,566
Stores in transit	...	...	...	...		50,260
Traffic	...	...	...	...		— 93
Materials lost account	...	...	...	...		655
Total	...	...	...	...		23,02,648

The following statement shows the reduction made in stock during the past four years:—

In 1880	...	...	...	...	Rs.	8,26,016
„ 1881	...	...	...	...		1,97,874
„ 1882	...	...	...	...		4,49,594
„ 1883	...	...	...	...		2,01,952
Total decrease in four years	...	...	...	...		16,75,436

Rolling stock.—The additions to rolling stock during the year have been as follows:—

STOCK ON 1ST JANUARY 1883.			ADDITIONS OF NEW STOCK DURING YEAR 1883.			STOCK ON 1ST JANUARY 1884.			STOCK UNDER ERECTION ON 1ST JANUARY 1884.		
Locomotives.	Coaching vehicles.	Goods vehicles.	Locomotives.	Coaching vehicles.	Goods vehicles.	Locomotives.	Coaching vehicles.	Goods vehicles.	Locomotives.	Coaching vehicles.	Goods vehicles.
157	597	2,821	...	6	29	157	603	2,850	...	5	1

CAPITAL TRANSACTIONS.

The capital expenditure up to 31st December 1883 was Rs. 11,17,22,586 (£10,241,237), being at the rate of Rs. 1,29,780 (£11,896) per mile. The value of stores in stock on 31st December 1883, including stores in transit (Rs. 50,260), was Rs. 23,02,648. The total capital expenditure, including stores, was up to same date Rs. 11,40,25,234 (£10,452,313).

The capital expenditure during the year was Rs. 1,78,078.

REVENUE TRANSACTIONS.

The net profits of the year under review were Rs. 25,26,549 (£231,600), giving a dividend at the rate of 2·2 per cent. on the total capital expenditure. The net profits fell short of the guarantee by £292,000.

The guaranteed interest from the formation of the Company up to 31st December 1883 amounted to £11,289,814; and the net profits for the same period to £4,883,368, leaving a balance of £6,406,446 to be met from the revenues of India, in addition to the expenditure on land and control.

TRAFFIC AND WORKING.

The result of the train service, introduced in July 1882, shows that 3rd class passengers have availed themselves largely of the increased facilities placed within their reach.

The decrease in the speed of the mail trains, which enabled them to serve the smaller stations, has resulted in increased traffic, and in a marked transfer of 3rd class passengers from the local trains to the mails, indicating their preference for a through service to one that necessitates a daily halt *en route* to their destination.

The through service has induced longer journeys, while the decrease in the number of fixed trains has produced a better filling of the trains that run, and lessened the cost of conveyance to the Railway Company.

With some very slight modifications, mainly in the reduction of some local trains, and increasing the number of stations at which the mail trains stop, the train service introduced on the 1st July 1882 has remained in force.

Comparison of earnings and working expenses.—The general results of last five calendar years are compared in the following table:—

Year.	Gross Earnings.	Expenditure.	Net Revenue.	Percentage of Expenses to Receipts.	Receipts per open mile per week.
	Rs.	Rs.	Rs.	Rs.	Rs.
1879	66,26,486	45,51,316	20,75,170	68·68	148·3
1880	61,62,546	42,05,409	19,57,137	68·24	137·5
1881	63,11,313	42,35,456	20,75,857	67·11	141·1
1882	69,18,571	48,47,729	25,70,842	62·84	154·4
1883	66,31,909	41,05,360	25,26,549	61·90	147·7

The gross earnings in 1883 include an abnormal item of Rs. 20,000 on account of haulage of Post Office vehicles; they are less than in the preceding year, chiefly under "Troops and Police," and also under ordinary goods, but greater as compared with the years 1880 and 1881.

The working expenses during the year under review show an improvement when compared with the preceding years.

The earnings under Coaching and Goods (the former abnormally increased by the Rs. 20,000 paid for haulage of mails) were—

Year.	COACHING.		Goods.		Total.
	Amount.	Per open mile per week.	Amount.	Per open mile per week.	
	Rs.	Rs.	Rs.	Rs.	
1879	26,21,195	58·66	37,30,522	83·48	63,51,717
1880	25,45,839	56·85	33,41,731	74·58	58,87,570
1881	26,42,909	59·07	34,85,445	77·91	61,28,354
1882	29,00,202	64·71	38,41,103	85·70	67,41,305
1883	27,33,435	60·88	37,25,755	82·99	64,59,190

The train mileage and earnings per mile were as follow :—

Year.	Mean mileage worked.	Traffic train mileage.	Average number of trains each way per diem over the whole line.	PER TRAFFIC TRAIN MILE.		
				Gross earnings.	Expenses.	Profits.
	Miles.	Miles.	No.	Rs.	Rs.	Rs.
1879	857	2,073,541	3.314	3.196	2.195	1.001
1880	857	1,873,339	2.986	3.290	2.245	1.045
1881	858	1,921,916	3.069	3.254	2.204	1.080
1882	859½	1,963,280	3.129	3.524	2.215	1.309
1883	861	1,880,749	2.992	3.526	2.183	1.343

The traffic train mileage shows a decrease; the profits per train mile show a marked improvement. The Traffic Manager states "that there was an increase of 18,000 miles in traffic train mileage due to extra trains on the western coast during the last quarter of the second half of the year in consequence of a demand for rice from North Arcot, while the falling off in traffic on the North-West line was accompanied by a reduction in the extra train mileage of 9,000 miles."

Passenger traffic.—The numbers of passengers (exclusive of troops and police) carried in each class were as follow :—

Year.	First class.	Second class.	Third class.	Fourth or cooly class.	Total.
1879	10,836	35,213	2,586,987	645,750	3,278,786
1880	10,970	34,566	3,907,487	...	3,953,023
1881	11,956	33,502	4,178,289	...	4,223,747
1882	12,172	33,081	4,235,860	...	4,281,113
1883	12,068	32,907	4,345,480	...	4,390,455

The receipts from each class were—

Year.	First class.	Second class.	Third class.	Fourth or cooly class.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.
1879	1,40,875	1,15,472	15,63,793	2,65,730	20,85,870
1880	1,44,662	1,11,770	18,01,248	...	20,57,680
1881	1,59,012	1,12,977	18,95,850	...	21,67,839
1882	1,61,275	1,17,250	19,77,448	...	22,58,973
1883	1,55,035	1,12,808	19,72,199	...	22,40,042

The percentages of numbers and receipts were—

Year.	NUMBERS.				RECEIPTS.			
	First class.	Second class.	Third class.	Fourth or cooly class.	First class.	Second class.	Third class.	Fourth or cooly class.
1879 ...	0·33	1·07	78·90	19·70	6·75	5·54	74·97	12·74
1880 ...	0·28	0·87	98·85	...	7·03	5·43	87·54	...
1881 ...	0·28	0·79	98·93	...	7·34	5·21	87·45	...
1882 ...	0·29	0·77	98·94	...	7·27	5·19	87·54	...
1883 ...	0·27	0·75	98·98	...	6·92	5·04	88·04	...

These figures show that the receipts from passengers (excluding troops and police) amounted to Rs. 22,40,042, against Rs. 22,58,973 in the preceding year—a decrease of Rs. 18,931 equivalent to 0·8 per cent. The number carried was 4,390,455, against 4,281,113 last year—an increase of 109,342 equivalent to 5 per cent., probably to some extent due to the introduction of 3rd class return tickets from 1st October 1883 on all trains except mail trains. The slight falling off in money was due to the depressed state of trade, and to the fact that these return tickets, though they attracted more passengers, did not do so in sufficient numbers to compensate for the concession made in the fare. The severe visitations of cholera and small-pox in the towns and villages served by the railway, especially between Madras and Jalarpet, and Arkonam and Cuddapah, also reduced the receipts.

The average sum paid by a 3rd class passenger during the year was annas 7·3; the average paid by the mail trains was annas 9·4, and by other trains annas 5·6.

The 3rd class earned 88·04 per cent. of the gross number.

The revenue from parcels continues to improve, but there is a falling off in the receipts from special trains.

Goods traffic.—The receipts from and tonnage of merchandize are shown in the following table:—

		1882.	1883.
Receipts from goods	... Rs.	36,34,610	35,26,877
Tonnage of goods	... Tons	480,637	511,279
Average receipt per ton lifted	... Rs.	7·56	6·90
Average receipt per ton per mile	... Pies	9·02	8·76

The receipts show a decrease over the preceding year owing to the reduction of rates for certain goods during the year under review, but the tonnage shows an increase. There was no harbour traffic during the year.

The average lead of ordinary goods in the last two years, 1882 and 1883, was 161 and 151 miles, and the average receipt per ton per mile 9·02 and 8·76 pies, respectively.

Cotton traffic.—The following table shows the number of tons of cotton carried, the total receipts, and the average receipts per ton during the last five years:—

	Total.		Average receipts per ton.
	Tons.	Rs.	Rs.
1879 ...	16,176	2,29,115	14·16
1880 ...	15,761	2,30,439	14·62
1881 ...	15,080	2,22,847	14·78
1882 ...	21,100	2,97,800	14·11
1883 ...	23,019	2,99,814	13·02

The quantity exported from Madras was 8,525 tons.

Grain traffic.—The total quantity of food grain carried during the calendar year was 116,030 tons, yielding Rs. 4,90,871, as compared with 124,169, yielding Rs. 6,44,324, in the previous year; the falling off in receipts being probably partly due to the reduction of certain rates and shorter leads. North Arcot was the principal contributor, and Malabar the principal consumer. The falling off in tonnage was also due to smaller imports at Bellary from the Great Indian Peninsula Railway, and at Madras from Mysore.

The following table shows the tonnage of grain brought into Madras during the calendar year 1883 by the several routes :—

						Tons.
Sea	...	...	...	...	...	49,247
Buckingham Canal	...	...	...	...	...	15,004
Madras Railway	...	...	...	...	...	28,532
Carts	...	...	...	...	...	12,203
Total						104,986

Salt traffic.—The quantity of salt carried over the whole system was 55,589 tons, yielding a revenue of Rs. 4,06,555, as compared with 51,506 tons, yielding Rs. 3,73,071, in the previous year.

Traffic with foreign lines.—The traffic interchanged with the Great Indian Peninsula Railway is shown in the following table :—

Year.	PASSENGERS.		GOODS.	
	Number.	Receipts.	Tons.	Receipts.
		Rs.		Rs.
1879	19,441	1,46,697	63,734	6,52,230
1880	18,064	1,34,511	36,355	4,19,393
1881	22,793	1,25,356	43,786	5,08,931
1882	38,554	1,67,842	54,601	6,38,564
1883	37,414	1,57,487	39,757	4,84,599

Comparison of unit mileages.—The work done in coaching and goods transport is shown in the following table :—

Year.	PASSENGERS.				GOODS.			
	Number of passengers.	Average mileage.	Total unit mileage.	Passenger miles per mean mile worked.	Tonnage of goods.	Average mileage.	Total ton mileage.	Goods ton miles per mean mile worked.
1879	3,344,857	47.3	158,398,392	184,829	647,408	118.1	76,461,018	89,219
1880	4,010,552	45.9	184,052,220	214,763	610,212	108.1	65,990,330	77,002
1881	4,277,444	45.9	196,533,622	229,060	693,613	102.7	71,222,597	83,010
1882	4,352,726	47.4	206,613,284	240,388	710,067	116.7	82,883,914	96,433
1883	4,447,533	46.3	205,801,337	239,026	708,310	115.4	81,713,074	94,905

Working expenses.—The maintenance and locomotive charges compare as follows with previous years :—

Year.	EXPENSES.					
	MAINTENANCE OF WAY, WORKS, AND STATIONS.			LOCOMOTIVE.		
	Amount.	Mean miles maintained from Revenue funds.	Per mean mile main-tained.	Amount.	Per traffic train mile.	Per engine mile.
1879	Rs. 13,13,030	Miles. 857	Rs. 1,532	Rs. 15,96,837	As. 12-322	As. 8-602
1880	12,42,825	857	1,450	13,99,791	11-955	9-886
1881	12,54,297	858	1,462	13,25,842	11-038	9-589
1882	12,70,847	859½	1,478	13,56,841	11-058	9-575
1883	10,50,719	861	1,226	13,07,503	11-123	9-633

During 1883 the cost of maintenance averaged Rs. 1,054 per mile of track, including sidings, or Rs. 1,220 per mile of line.

The following items of extraordinary expenditure are included in these figures :—

Renewing with iron sleepers between Palghat and Beypore	Rs. 11,245
Fixing new girders, Cauvery bridge	3,488
Strengthening weak girders and new permanent-way over bridges	26,504

The consumption of fuel per train mile is compared in terms of coal in the following table :—

Year.	Total train miles.	Lbs. of coal per train mile.	Engine miles.	Lbs. of coal per engine mile.	Percentage of engine mileage in excess of train mileage.
1879	2,154,350	36-23	2,970,138	26-23	37-87
1880	1,951,530	33-73	2,265,426	29-05	16-08
1881	1,921,916	31-53	2,212,362	27-39	15-11
1882	1,963,280	31-96	2,265,305	27-70	15-38
1883	1,880,749	33-13	2,171,706	28-69	15-47

The consumption of patent fuel was 26-18 lb., and of wood 80-75 lb. per mile for the year under review.

No coal is burnt on the locomotives on this line. Patent fuel is used on all passenger trains running between Madras and Jalarpet and Madras and Tirupati, on all engines working on the Bellary branch, and on the shunting engines at the several engine stations. Wood is, with these exceptions, burnt on all parts of the line.

Eighty-five engines passed through the shops for repair. Six engines were sold by auction in September 1883, as they had become obsolete, and were too light for the heavy train service now running.

The expenditure in other departments is shown in the following table :—

Year.	EXPENSES.					
	Carriage and Wagon.		Traffic.		General charges.	Miscellaneous.
	Amount.	Per 1,000 vehicle miles.	Amount.	Per traffic train mile.	Amount.	Amount.
1879	Rs. 3,66,609	Rs. 10-638	Rs. 7,13,688	As. 5-507	Rs. 4,53,681	Rs. 1,07,471
1880	3,21,457	10-357	6,60,139	5-638	4,37,687	1,43,510
1881	4,84,915	13-910	6,52,798	5-434	4,50,295	67,308
1882	5,16,595	13-902	6,90,462	5-627	4,57,660	55,324
1883	5,79,786	15-594	6,81,596	5-798	4,44,463	41,288

The total number of passenger and goods vehicles of all kinds which underwent repair during the year was 3,914, as compared with 2,861 last year.

The number of vehicles renewed was 138. Of this number 40 were iron covered goods wagons sent from England, but erected in Madras.

The description of new vehicles turned out during the year is as follows:—

6 post-office vans.
44 third class carriages.
12 brake vans.
31 timber trucks.
40 iron covered goods wagons.
5 carriage trucks.
138

RATES AND FARES.

The ordinary passenger fares have remained the same throughout the year, *viz.*, 18 pies for first, 7 pies for second, and 2 pies for third class; but on the 1st October 1883 third class return-tickets at a fare and a half were introduced for all trains except the mails.

The rates for goods destined for the International Exhibition held in Calcutta during the cold season of 1883-84 were reduced to 8 pies per ton per mile.

A reduced rate of 6½ pies per ton per mile for inferior salt from Coimbatore to Tirur and Beypore, in wagon loads of not less than 8 tons, was introduced on the 1st April 1883.

The rate for kerosine oil was reduced from 10 pies per ton per mile, in consignments of 162 maunds and for distances of not less than 300 miles, to 8 pies per ton per mile, in wagon loads of 200 maunds if consigned not less than 150 miles, on the 1st May 1883.

Rates for grain and other country produce were reduced from 1st August 1883.

A reduced rate of 5 pies per ton per mile for timber consigned for distances of 300 miles and upwards, in wagon loads of not less than 8 tons, was introduced on 18th July 1883.

Loose cotton was reduced to 18 pies per ton per mile, when booked from stations north of Guntakal to Guntakal station, from 1st November 1883.

South Indian Railway.

LINES OPEN FOR TRAFFIC.

The open length of this railway is 654 miles on the metre gauge; to this length the Pondicherry Railway (from Gingee river to Pondicherry) must be added, making the total length worked 661½ miles.

The capital expenditure during the year was Rs. 2,50,748. The following credits were brought to account:—

	Rs.
Materials taken out of the line	2,426
Stores returned from construction	1,220
Loss on steam barge <i>John Chapman</i> dismantled written off to Revenue	74,140
Value of boiler and steam engine, &c., belonging to <i>John Chapman</i> , returned to stores	10,500
Value of ironwork of worn-out vehicles used for post-office vans	3,406
Cash refunds on account of sale-proceeds of stores, &c.	3,512
Total	95,234

The chief works on which outlay was incurred were :—

	Rs.
Road side station arrangements, Egmore	12,352
Flood-opening at Arkonam	7,302
Locomotive accommodation, Cuddalore, Old Town	47,533
Raising gradient at 153rd mile and building a bridge at 152/62	48,476
Permanent station at Antandavapuram	18,598
Flood-openings at 209th mile, 10 and 11 telegraph posts	9,289
Protective works, Division, II	8,029
Wire fencing, Northern Extension	16,753
Wire fencing Southern Extension	4,061
Protective Works, Tanjore Delta	3,906
Protective works, Divisions I, II and III	6,595
General offices at Trichinopoly junction	12,401
Station accommodation at Ambaturai	6,017
Locomotive plant	— 86,455
Additional accommodation, locomotive shops, Negapatam	4,967
Large bridge, Chittar	5,024
Relaying wooden sleeper road with iron pot-sleepers	10,209
Villupuram-Gingee river branch	10,157
Expenditure on rolling stock	90,273
Total	2,35,492

There are now 101 stations on the line, and no new station has been opened during the year.

The sanctioned arrangements for electrically connected clocks have not yet been given effect to. The indent for stores has, however, been sent to the Board of Directors, and it is hoped that the necessary materials will shortly be supplied.

The additional locomotive workshops, sanctioned by the Government of India in October 1881, at Cuddalore, Old Town, are nearly completed, and may be expected to be finished in the course of a few months, when the factory now at Egmore will be removed there.

A proposal is under consideration for doubling the line between Madras and Pallavaram, and it is probable, if the harbour works be re-started, that a realignment of the line at the penitentiary, the rebuilding of the Cooum bridge, and the provision of engines better calculated to work short distance traffic with stations close together, sharp curves and new turntable, will be considered advisable.

Accidents.—The following table gives the number of accidents during the last and two preceding calendar years :—

	1881.	1882.	1883.
I.—Collisions	4	4	5
II.—Derailments	19	10	8
III.—Running over cattle	170	182	222
IV.—Gates run through and obstructions on line	11	14	18
V.—Defects in rolling stock	11	7	1
VI.—Damage to lines	6	9	7
VII.—Fires in trains	7	14	27
VIII.—Miscellaneous or other causes	17	2	7
Total	245	242	295

The number of cattle run over shows a large increase over that for the preceding year. The subject has received the careful attention of the Agent, who has introduced a system of "cattle boys" on the worst parts of the line. Guards of trains have also been directed to telegraph to the nearest station when cattle are seen trespassing. Turn stiles will be added to existing gates, and arrangements are in contemplation for giving some of the gates' keys to the villagers for safe custody.

A proposal from the Agent to reduce largely the number of gates hitherto closed across the line; and to set them back, so as to close them across the road

only, has received the approval of Government, and it is hoped that this will tend to lessen the number of gates run through.

The damages to line were chiefly due to heavy local rainfall, insufficient waterway, since increased, and the bursting of a tank. In one instance through traffic was suspended for five days, trains being worked on either side to and from the breach.

PERSONS EMPLOYED.

Police.—On the South Indian Railway there is no separate police force, the duties being performed by the Government police under their own officers and paid by the State.

Volunteers.—There are no volunteers on the South Indian Railway.

Schools.—There are no railway schools, but 732 children belonging to the employés attend local schools at the principal stations.

The total number of schools attended is 277.

The number of European and Eurasian children on the rolls for the year 1883 was ...	...	...	...	...	116
The number of native children on the rolls for the year 1883 was ...					566
				Total ...	682

None of the apprentices or workmen attend schools.

The average daily attendance of the European and Eurasian children was 95·83, but sufficient information was not obtainable to ascertain the average daily attendance of native children.

The following table shows the number of employés on the open line :—

	Europeans.	East Indians.	Natives.	Total.	Number of miles open.	Number of stations.
South Indian Railway ...	76	349	6,783	7,208	662	101

Medical Department.—The South Indian Railway is, for medical purposes, divided into nine districts, each in charge of an apothecary on the Company's establishment.

The apothecaries, of whom there are ten (seven natives and three East Indians), are under the supervision of the Company's Superintending Physician, usually a Civil Surgeon residing at one of the principal stations on the line of rail, who receives from the Railway Company a monthly sum of Rs. 150 for his services.

Each apothecary is supplied with instruments and drugs, and has a small building, or a portion of it, set aside as a dispensary.

At six of the stations on the line there are Civil Surgeons whose professional aid would be sought in the event of a sufficiently serious occurrence.

The medical staff is held responsible for the sanitary arrangements at all stations. The cost of the medical establishment for the year ending December 1883 was Rs. 11,850, including medicines.

STORES.

During the calendar year, stores and materials, amounting to 1,919 tons, valued at £20,451, were shipped to India in 15 consignments; besides which 13,619 tons of coal were forwarded from England, and 7,834 tons were obtained from Australia, at an average cost at port of delivery of £1-7-5 per ton.

	Rs.
The balance of stores in hand at the end of December 1883 was	20,97,655
As against that in December 1882 ...	23,36,248
	<hr/>
Showing a decrease of ...	2,38,593
	<hr/>

This is due to issues on works and on Revenue Account having been greater than in 1882.

The following are the details of the value of stores in hand, no limit having been yet fixed by the Government of India:—

					Rs.
General stores	..	...	...	...	11,40,014
Engineering stores	...	...	...	...	37,462
Carriage and wagon stores	...	...	...	...	2,66,267
Manufactures	...	...	...	...	18,520
Permanent-way stores	...	...	...	...	3,91,111
Stores in transit	...	...	...	...	2,44,281
Total					20,97,655

The following statement shows the reduction made in stock during the past four years:—

					Rs.
In 1880	...	...	...	...	2,53,268
In 1881	...	...	...	...	6,36,206
In 1882	...	...	...	...	46,786
In 1883	...	...	...	...	2,38,593
Total decrease in four years					11,74,853

Rolling stock.—The additions to rolling stock during the year have been as follows:—

STOCK ON 1ST JANUARY 1883.			ADDITIONS OF NEW STOCK DURING YEAR 1883.			STOCK ON 1ST JANUARY 1884.			STOCK UNDER ERECTION ON 1ST JANUARY 1884.		
Locomotives.	Coaching vehicles.	Goods vehicles.	Locomotives.	Coaching vehicles.	Goods vehicles.	Locomotives.	Coaching vehicles.	Goods vehicles.	Locomotives.	Coaching vehicles.	Goods vehicles.
120	502	1,618	2	8	...	122	510	1,618	...	2	...

CAPITAL TRANSACTIONS.

The capital expenditure on the open line up to end of December 1883 was (including cost of 168 miles of broad gauge line, subsequently converted to metre-gauge) Rs. 4,32,72,177 (£4,146,917), being at the rate of Rs. 66,165 (£6,341) per mile. The value of stores in stock on 31st December 1883 was Rs. 20,97,655. The total capital expenditure, including line under construction and stores, was Rs. 4,53,69,832 (£4,347,942).

The capital expenditure during the year was Rs. 2,50,748.

REVENUE TRANSACTIONS.

The net profits of the year under review were Rs. 13,22,333 (£126,724) giving a dividend at the rate of 2·9 per cent. on the total capital expenditure. The net profits fell short of the guarantee by £77,000.

The guaranteed interest from the formation of the Company up to 31st December 1883 amounted to £3,022,742, and the net profits for the same period to £1,348,247, leaving a balance of £1,674,495 to be met from the revenues of India, in addition to the expenditure on land and control.

TRAFFIC AND WORKING.

The train service was slightly altered on 1st July 1883, and a few additional trains were run on the Arkonam, Pondicherry, and Tinnevely branches.

Comparison of earnings and working expenses.—The general results for the last five calendar years are compared in the following table:—

Year.	Gross Earnings.	Expenditure.	Net Revenue.	Percentage of Expenses to Receipts.	Receipts per open mile per week.
	Rs.	Rs.	Rs.		Rs.
1879	33,62,067	22,98,815	10,63,252	68·87	104·8
1880	35,59,594	26,29,576	9,30,018	73·87	105·8
1881	37,55,688	25,17,962	12,37,726	67·04	109·9
1882	37,58,714	23,56,386	14,02,328	62·69	110·0
1883	38,69,668	25,47,335	13,22,333	65·83	113·8

The earnings for the year under review show an increase over all the preceding years, and the result would have been still more satisfactory had the expenditure not contained the following abnormal items:—

Repairing flood-damages	...	...	...	Rs. 1,155
Reconstruction of damaged waterways, Division II	...	...	...	Rs. 3,959
Renewing and re-erecting passenger platform, Egmore	...	...	...	Rs. 1,574
Loss on steam barge <i>John Chapman</i> dismantled	...	...	...	Rs. 74,140

The earnings under Coaching and Goods were as follow:—

Year.	COACHING.		GOODS.		Total.
	Amount.	Per open mile per week.	Amount.	Per open mile per week.	
	Rs.	Rs.	Rs.	Rs.	Rs.
1879	20,03,022	62·46	13,09,593	40·84	33,12,615
1880	20,62,513	61·30	14,45,911	42·98	35,08,424
1881	21,06,450	61·68	15,41,534	45·14	36,47,984
1882	21,14,967	61·92	15,94,462	46·69	37,09,429
1883	20,68,188	60·56	17,47,591	51·17	38,15,779

The earnings from coaching are less than those of the preceding year, which is due, in great measure, to the decrease in receipts from passenger traffic, owing to the reduction of fares in all the three classes from 1st January 1883. The goods traffic, on the other hand, shows an increase over all the preceding years on record, due partly to the revision of goods rates from 1st July 1883 and partly to the increased ton mileage.

The train mileage and earnings per mile compare as follow:—

Year.	Mean mileage worked..	Traffic train mileage.	Average number of trains each way per diem over the whole line.	PER TRAFFIC TRAIN MILE.		
				Gross earnings.	Expenditure.	Profits.
	Miles.	Miles.	No.	Rs.	Rs.	Rs.
1879	615	1,161,153	2·586	2·895	1·980	0·915
1880	639	1,190,018	2·526	2·991	2·210	0·781
1881	655	1,219,477	2·638	2·977	1·996	0·981
1882	655	1,419,882	2·969	2·647	1·660	0·987
1883	655	1,591,165	3·328	2·432	1·601	0·831

The train mileage has increased during the year under review by 171,283, or 12 per cent. in consequence of the increased number of passenger trains on the Arkonam, Pondicherry, and Tinnevely branches. The receipts per train mile do not show an improvement over the preceding years.

Passenger traffic.—The number of passengers (exclusive of troops and police) carried in each class was as follows:—

Year.	First class.	Second class.	Third class.	Total.
	No.	No.	No.	No.
1879	17,071	106,859	5,056,933	5,180,863
1880	7,709	40,853	4,402,908	4,451,470
1881	7,559	36,036	4,259,391	4,302,986
1882	7,437	37,233	3,750,516	3,795,186
1883	10,330	56,098	5,079,430	5,145,858

The receipts from each class were:—

Year.	First class.	Second class.	Third class.	Total.
	Rs.	Rs.	Rs.	Rs.
1879	33,760	64,404	17,38,485	18,86,649
1880	43,767	54,175	18,58,437	19,56,379
1881	44,815	49,071	18,92,848	19,86,734
1882	46,659	51,581	18,76,002	19,74,242
1883	42,073	50,891	18,54,966	19,47,930

The percentage of numbers and receipts work out thus:—

Year.	NUMBERS.			RECEIPTS.		
	First.	Second.	Third.	First.	Second.	Third.
1879	0·33	2·06	97·61	1·79	3·41	94·80
1880	0·17	0·92	98·91	2·24	2·77	94·99
1881	0·17	0·84	98·99	2·26	2·47	95·27
1882	0·20	0·98	98·82	2·36	2·61	95·03
1883	0·20	1·09	98·71	2·16	2·61	95·23

The number of passengers in all the classes is larger when compared with the three preceding years; but the receipts show a falling off, probably in part owing to the reduction of fares on 1st January 1883.

Goods traffic.—The receipts from merchandize, the tonnage of merchandize, and the average receipts per ton for the last five years have been as follows:—

Year.				Receipts.	Tonnage.	Average receipts per ton per mile.
				Rs.		Pies.
1879	...	...	...	12,74,566	440,463	8·542
1880	...	...	...	13,65,810	513,266	8·063
1881	...	...	...	13,73,528	449,478	7·796
1882	...	...	...	14,40,555	415,403	8·363
1883	...	...	...	16,07,125	434,834	8·426

The following table shows the tonnage and receipts from ordinary goods, and from harbour materials:—

Year.		ORDINARY GOODS.		HARBOUR MATERIALS.	
		Tonnage.	Receipts.	Tonnage.	Receipts.
			Rs.		Rs.
1880	...	300,511	12,60,785	212,755	1,05,024
1881	...	345,377	13,21,524	104,207	55,073
1882	...	339,204	13,99,647	76,199	40,908
1883	...	429,953	16,04,524	4,881	2,601

The figures for ordinary goods are satisfactory considering the reduction of the rates since 1st July 1883.

The average lead of ordinary goods in the year under review was 85 miles as compared with 95 in the corresponding period of the previous year.

Comparison of unit mileage.—The work done in transporting passengers and goods is shown in the following table:—

Year.	PASSENGERS.				GOODS.				
	Number of passengers.	Average mileage.	Total unit mileage.	Passenger miles per mean mile worked.	Tonnage of goods.	Average mileage.	Total ton mileage.	Goods ton miles per mean mile worked.	
1879	...	5,215,043	34·41	179,441,151	291,774	455,209	65·34	29,743,487	48,363
1880	...	4,477,895	33·30	149,111,679	233,351	526,379	63·94	33,657,752	52,672
1881	...	4,333,882	34·54	149,684,169	228,525	927,732	43·82	40,656,602	62,071
1882	...	3,843,046	38·84	149,246,844	227,858	921,542	42·76	39,409,908	60,168
1883	...	5,197,236	35·37	183,851,929	280,690	827,518	61·07	42,258,260	64,516

Working expenses.—The maintenance and locomotive charges compare as follows with previous years:—

Year.	MAINTENANCE OF WAY, WORKS, AND STATIONS.			LOCOMOTIVE EXPENSES.	
	Amount.	Mean miles maintained from Revenue funds.	Cost per mean mile maintained from Revenue funds.	Amount.	Per traffic train mile.
	Rs.	Miles.	Rs.	Rs.	As.
1879 ...	5,25,825	580	907	7,85,944	10-830
1880 ...	5,72,197	607	943	10,67,851	14-358
1881 ...	7,11,017	630	1,129	8,86,611	11-182
1882 ...	6,56,556	647	1,015	8,02,737	9-045
1883 ...	6,59,543*	655	1,007	8,39,555*	8-442

There is a decrease under "General Superintendence" but an increase is shown under Bridges and Tunnels, owing to the construction of certain new bridges.

The cost of maintenance averages Rs. 504 per mile.

The consumption of coal per train mile is compared in the following statement:—

Year.	Total train miles.	Lbs. of coal per train mile.	Engine miles.	Lbs. of coal per engine mile.	Percentage of engine mileage in excess of train mileage.
1879 ...	1,250,561	31-62	1,713,171	25-27	36-99
1880 ...	1,297,067	32-06	1,624,606	25-60	25-25
1881 ...	1,261,507	29-72	1,576,156	23-78	23-78
1882 ...	1,425,782	27-00	1,726,573	22-17	21-82
1883 ...	1,591,165	26-55	1,877,993	22-49	18-03

These figures show a satisfactory decrease in the consumption of fuel.

During the year the amount of wood burnt was 5,260 tons, at an average cost of Rs. 4-3-11 per ton, and the amount of coal consumed was 17,104 tons, at an average cost of Rs. 15-7-4 per ton. Coal and wood are burnt on the southern extension south of Trichinopoly, and on the Tinnevely and Erode branches; on all other parts of the line coal alone is used.

The expenditure in other departments is compared in the following table:—

Year.	CARRIAGE AND WAGON EXPENSES.		TRAFFIC EXPENSES.		GENERAL CHARGES.	SPECIAL AND MISCELLANEOUS EXPENDITURE.
	Amount.	Per 1,000 vehicle miles.	Amount.	Per traffic train mile.	Amount.	Amount.
	Rs.	Rs.	Rs.	As.	Rs.	Rs.
1879 ...	3,68,143	15-920	3,10,735	4-282	2,48,016	60,152
1880 ...	3,56,492	15-342	3,40,692	4-581	2,75,844	16,500
1881 ...	2,36,291	9-447	3,41,059	4-318	3,21,390	21,594
1882 ...	2,38,748	9-723	3,38,582	3-815	3,06,182	13,281
1883 ...	2,85,029	10-207	3,48,692	3-506	3,25,420	89,096

* Includes the working expenses of the Pondicherry Railway.

The increase under Carriage and Wagon is due chiefly to the construction of new vehicles.

The different descriptions of rolling stock repaired during the year 1883 were—

Engines	...	...	...	...	...	...	...	...	413
Coaching vehicles	...	...	...	...	...	...	...	...	614
Goods vehicles	...	...	...	...	...	...	...	...	1,575

The vehicles undergoing repairs at the last day of the year 1883 were—

Engines	...	...	...	...	...	...	...	...	27
Coaching vehicles	...	...	...	...	...	...	...	...	29
Goods vehicles	...	...	...	...	...	...	...	...	215

The average number undergoing repairs and renewals at any one time during the year were—

Engines	..	...	...	...	...	...	...	...	22.1
Coaching vehicles	...	...	...	...	...	...	...	...	24.0
Goods vehicles	...	...	...	...	...	...	...	...	60.5

The amount received for working the Pondicherry Railway was Rs. 17,280.

RATES AND FARES.

There has been no alteration in the passenger fares since 1st January 1883, when they were reduced as follows:—

- 12 pies for first class.
- 4 pies for second, and
- 2 pies for third class.

On the 1st of July 1883, the goods tariff was revised, and the charges for the conveyance of the undermentioned goods were fixed at one-third of a pie per maund per mile, subject to the undermentioned condition:—

Asphalt.	Lime and limestone.
Ballast.	Metals unmanufactured.
Bricks and tiles.	Nuts.
Chunam and chunam shells.	Oil, vegetable.
Cocconuts.	Ores.
Fuel.	Plantains,
Grain.	Salt.
Hides and skins (not fancy).	Seeds.
Jaggery sugar unrefined, molasses,	Soap, sand.
treacle country.	Stone, common.
	Timber, unwrought.

If any of the above goods, the *bond fide* property of one merchant, are conveyed in large quantities, owner undertaking risk and performing loading and unloading, the freight charge will be reduced to a mileage rate of three annas per truck or portion of each truck used.

All other goods, explosive articles excepted, will be conveyed at a rate of half a pie per maund (or 4 cubic feet) per mile. When the charge by measurement exceeds the charge by weight, the former will be levied.

Explosive or combustible articles, such as acids, ammunition, fireworks, matches, petroleum, vitriol, &c., will be charged two pies per maund per mile.

CHAPTER IV.

RAILWAYS UNDER THE CONTROL OF THE GOVERNMENT OF BOMBAY.

The following statement shows the length of lines, Companies' and State, under survey or construction or open for traffic, under the control of the Bombay Government during the year 1883-84 :—

Gauge.	Railway.	Open for traffic for any part of the year.	Under construction.	Under survey.	Remarks.
		Miles.	Miles.	Miles.	
5' 6"	G. I. P. Railway	1,288	...	...	Company's.
	Dhond and Manmad Railway	145½	...	...
	Khamgaon Branch	8	...	...
	Amraoti do.	6	...	...	State, Imperial.
	Bhopal Railway	11½	...	...
	Dhulia Branch ... ..	...	...	34	
	Barsi do. ... ..	...	...	20½	State, Provincial.
Metre ...	Southern Mahratta Railway	40½	579½	111½	Companies'.
	B. B. & C. I. Railway	439½	...	...
5' 6"	Patri Branch	22½	...	...	State, Imperial.
	Rutlam Extension ... ..	...	...	112	
	Vihara Branch ... ..	...	...	38	State, Provincial.
	Broach-Jambusar Line ... ..	...	...	81	
2' 6"	His Highness the Gaekwar's Railway	60½	...	...	Native State.
	Anand viz Pitlad to Piplee ... ..	...	...	22½	
Metre ...	Bhavnagar-Gondal Railway	193	...	...
		1,767	579½	111½	Companies'.
		193½	...	112	State, Imperial.
		253½	...	22½	Native State.
		...	...	123½	State Provincial.
	Total ...	2,214	579½	369½	
	Grand Total ...	2,214	579½	369½	

WORKS IN PROGRESS.

GREAT INDIAN PENINSULA RAILWAY.

Bombay terminus and general offices.—The main building is well advanced. The probable date of completion is now stated as December 1885. The booking offices on the ground floor may be ready for use by the end of the current year.

Carriage sheds, goods terminus, &c.—Plan showing the general arrangements was submitted in May 1883, with an abstract estimate amounting to about 8½ lakhs, which included the cost of goods shed, carriage sheds, and staff quarters. In the absence of detailed estimate and drawings, sanction was obtained to part of this estimate only for levelling, ballasting, drainage, and fencing of the new yard. This work is still going on.

Goods terminus, Wadi Bandar.—The works sanctioned are approaching completion.

Parel stores depôt.—Finished, with the exception of some of the filling in of the yard and certain minor additions in progress. The transfer of the stores from Byculla and Wadi Bandar is still incomplete.

Quadrupling line.—This work is still delayed, as the Municipality has not yet agreed to the proposals of the Railway Company in respect to the Byculla overbridge. These are under discussion.

Locomotive depôt and marshalling sidings at Parel.—The Railway Company will shortly submit proposals in regard to these. A plan is being prepared after preliminary discussion.

District Engineer's workshops, Byculla.—The removal of the workshops to Parel has been delayed owing to the difficulty of finding a suitable site.

The following were the principal works in progress on the open line during the quarter ending 30th March 1884.

Dadar.—Covered way between the G. I. P. and B. B. & C. I. Railway stations.

Bhusaval.—Interlocking arrangements. Additions in running shed. Extension of cemetery. Staff quarters.

Khandra junction.—Construction of Post Office. Completion of trans-ship station.

Nagpur.—Waiting sheds on passenger platform.

Lonavla.—School-house; sidings; reading room and billiard room.

Re-building Bukri and Ajanta bridges.—These bridges were carried away by floods in July 1883. They are being re-built on improved designs. It was hoped that both would be opened for traffic before the monsoon of 1884, but much difficulty has been encountered with foundations, and the Bukri bridge will not be finished so soon. The traffic was meanwhile being passed over temporary bridges. The Ajanta permanent bridge was opened for traffic in July 1884.

Extra sleepers.—The work of putting an eighth sleeper under each 24-feet rail is still in progress on the Nagpur branch.

Additional engine stock.—12 new engines were added during the year. 110 more are under supply on capital account.

Additional coaching and goods stock.—Of 100 brake vans sanctioned, 80 had been turned out at the end of the year; and out of 1,000 open wagons under renewal as covered wagons, 622 were finished.

Vacuum brake fittings are being applied experimentally to a local train.

SOUTHERN MAHRATTA RAILWAY.

Hotgi to Gadag 173½ miles.—Progress under departmental system highly satisfactory. At the close of the official year the rail head had reached the 156th mile from Hotgi. The masonry of the large bridges over the Bhíma, Don, Krishna, and Malprabha, was finished, and the erection of the girders well advanced. This section was opened for goods traffic in August 1884.

The joint station and trans-shipment yard at Hotgi is being carried out by the G. I. P. Railway Company.

The temporary workshops and other sanctioned buildings at Hotgi are well advanced.

The Secretary of State having intimated that he is not yet satisfied that the Southern Mahratta line should not be carried into Sholapur, instructions have been given to restrict expenditure at Hotgi to what is absolutely necessary for immediate requirements.

Hospet to Portuguese frontier, 163½ miles—Progress not satisfactory. The construction of the Tungbhadra bridge was by mutual agreement taken out of the hands of the contractors, Messrs. Redmond and Stephens, in November 1883. The work has since been carried out departmentally, and fair progress has been made.

The Company's Agent, on the recommendation of the Chief Engineer, and with the sanction of the Home Board, terminated, during the month of March 1883, the contract with Messrs. Redmond and Stephens for the sections between the west bank of the Tungbhadra and Gadag and between Gadag and Hubli, in consequence of the contractors having failed to give satisfaction in the execution of the work. The whole of the work included in the contract is now being carried on departmentally. The earthwork is well advanced, but the masonry is very backward.

The section from Hubli to the Portuguese frontier is being carried out by contract by Messrs. Thompson, Bayley, Bulkley & Co. Complaints are made of slow progress, more especially in the Ghât section at the western end. Here, again, the earthwork is pretty forward, but masonry in bridges and retaining walls and also the tunnelling on the Ghât is very backward. The contractors have handed over the work at two stations, Hubli and Dharwar, for completion by the Company.

The line between Bellary and Hospet, 40½ miles in length, was opened for traffic on the 24th March 1884.

Poona to Belgaum, 242½ miles.—Work was started at the Poona end in January 1884; the progress since made has been satisfactory. A good start has been made with the earthwork on the Little Bhur Ghât. Magazines have been built for powder and dynamite, and the Assistant Engineer's bungalow at Waghapur is well forward. Service roads have been formed, and jungle cleared for 40 miles. A start will be made immediately at the Salpi Ghât.

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

Passenger station, Colaba.—The plan of the proposed extension is still under consideration. Certain additions and alterations, including the transfer of the engine turn-table from its present site in the goods yard to a site near the passenger station, will be proposed for the sanction of Government; but delay has occurred in obtaining the necessary land, and a proposal has recently been made which will involve some alterations in the original plan.

Goods terminus, Mody Bay.—The works were sufficiently forward to admit of the transfer of the goods business from the sidings leased from the Port Trust near Carnac bridge to the new station before the monsoon of 1883, temporary sheds being provided for the protection of goods. The main goods shed is well advanced, and will, it is hoped, be roofed in before next rains. Additional sheds for grain traffic are in hand. Quarters for police are being built.

Parel locomotive shops.—Extension of sidings and erection of copper-smith's shop in progress. Also additions to smithy and foundry, and provision of additional steam hammers lately sanctioned.

Wadhwan.—Improvements at station partly chargeable to joint account and partly to Bhavnagar-Gondal Railway in hand.

Doubling main line, Andheri to Virar.—Much still remains to be done, but the work is in progress.

Strengthening 17 iron bridges in divisions 1 and 2.—Work in hand.

Restoration of line and reconstruction of North and South Purna bridges.—Work required to repair damages by mousoon floods in 1882 well advanced towards completion. New bridges opened for traffic at Purna before the monsoon of 1883. Other works nearly completed.

Strengthening Tapti bridge.—Expected to be completed by the end of June next.

Permanent restoration of the line at Kankra Khadi and Sayan well in hand; date of completion fixed for 31st December 1884. The Sayan bridge was opened for traffic in July 1884.

Additional locomotives.—No progress has been made with the 10 additional goods engines sanctioned in March 1883.

Additional rolling stock.—Sixty-seven covered goods wagons were added, and some progress was made in the conversion of flat iron cotton wagons into 10-ton low-sided wagons.

Sanction was accorded to a considerable increase of the smithy at the Parel shops.

Uru salt sidings' and Kharaghora storage platforms.—Cost of work defrayed by Government. Completed.

BHAVNAGAR-GONDAL RAILWAY.

Bridge over Bajawa river at Wadhwan.—Nine spans of 100 feet completed.

Construction of permanent booking offices completed at 14 stations and in hand at Kunkavav. There are now only four stations with temporary buildings.

Goods platforms completed at nine stations, and two platforms at six others lengthened.

Latrines constructed at Songad, Botad, Chuda, and Chital, and commenced at the other stations.

Staff quarters completed at 13 stations and commenced at Kunkavav.

Tank house and ashpit built at Songad, Botad, and Chuda, and in progress at Chital and Kunkavav.

LINES UNDER SURVEY OR PROJECTED.

GREAT INDIAN PENINSULA RAILWAY.

Dhulia Branch.—The survey of a branch from Chalisgaon to Dhulia has just been commenced as a Provincial work. An alternative line has been proposed from Manmad to Dhulia *via* Malegaon, but the local authorities are unanimous in preferring the Chalisgaon line.

Barsi Branch.—The survey of a line from Barsi road station to Barsi was made in 1882, and a project submitted for utilizing the present cart road. Since then the question of the agency to be employed in construction has been under discussion. Proposals for working the branch have lately been made by the G. I. P. Railway Company, who are also prepared to construct the line at the expense of Government. The line will possibly be taken in hand on the Provincial responsibility of the Bombay Government when terms have been arranged with the Company or during 1884-85. The work can be carried out in one working season.

SOUTHERN MAHRATTA RAILWAY.

Hubli to Hurrayhur.—The survey of this branch, which is included in the Company's undertaking, and will eventually connect the Southern Mahratta

with the Mysore system, is in progress. Favourable reports have been received of the description of country traversed. It is richly cultivated, and easy from an engineering point of view.

Londa to Belgaum.—The survey of this branch, which will eventually form part of the West Deccan Railway, was carried out by Government at the expense of the Company in the year 1883. The project has been made over to the Company for completion, and work will be started in 1884-85.

BOMBAY, BARODA & CENTRAL INDIA RAILWAY.

Godhra to Rullam.—The survey was commenced by the Company at the cost of Government in April 1883. The progress of the work has been somewhat slow, but the project is now in hand.

Vihara Branch.—This branch will run from Surat *viâ* Bardoli. It was surveyed by the Company's Engineers at the joint expense of Government and the Baroda State in 1881-82. The survey was carried as far as Nandurbar above the Western Ghâts, but the prospects of a paying traffic from Khandesh not being considered promising, it was determined not to carry the line at present beyond Vihara, distant about 38 miles from Surat. Statistics of traffic are being collected. Should the results be favourable, the line may eventually be carried out as part of the Company's undertaking.

Broach-Jambusar Line.—The survey for a line from Broach to Jambusar along the existing cart road was made by the Company's Engineers at the cost of Government in 1882. A project was submitted for carrying out a line on the 2' 6" gauge as a Provincial work, but the prospects of traffic did not appear to be such as would ensure its success. Recently the proposal has been revived by the Board of Directors of the B. B. & C. I. Railway Company, and the subject will be again considered.

Connection between the Rajputana-Malwa Railway and the Bhavnagar-Gondal Railway at Wadhwan.—It has been proposed to make a line on the metre gauge from Mehsana on the Rajputana Railway to Viramgam on the B. B. & C. I. Railway, and lay a third rail along the Company's main line from Viramgam to Wadhwan. An alternative proposal is to make a line from Sidhpur on the Rajputana Railway direct to Wadhwan. The Bhavnagar State is much interested in the question, believing that either line, if made, would restore the old trade between Rajputana and Kathiawar. The survey party for Provincial lines recently organized in Bombay, now engaged on the Dhulia Survey, will be available next season, and it is proposed to employ it in surveying the Mehsana and examining the alternative proposal, also in collecting traffic statistics, &c. The B. B. & C. I. Railway Company have intimated that they will be prepared to facilitate the connection between Viramgam and Mehsana, should that route be adopted.

BHAVNAGAR-GONDAL RAILWAY.

No surveys for branches or extensions have been made as yet. The Bhavnagar State has intimated that its future action will greatly depend on whether the direct connection between Rajputana and Kathiawar, above referred to, is to be carried out or not. The Manager of the Railway has, however, examined and reported on a proposed line from near Dhola to Kathiwadar Bandar, near Pipalwao, where, it is believed, a port suitable for the accommodation of sea-going vessels may be formed without much difficulty. A branch from Sihor to Palitana has also been discussed, and the Junagad State has revived a project entertained some years ago for connecting Dhoraji or Jetpur by Railway with Junagad and Veraval. If difficulties attendant on arrangements for joint management can be successfully overcome, it is hoped that the survey of the last named line will shortly be taken in hand.

No other railway projects in the Province of Kathiawar can be said to have yet been seriously taken up. A rough sketch map, showing how the Province might be opened up by railways, was prepared by the Consulting

Engineer for Railways about a year ago, and sent to the Political Agent for consideration; but it is believed that, with the exception of Bhavnagar-Gondal and Junagad none of the States have sufficient funds available to enable them to contribute towards railway extension on a large scale.

The Thakor of Morvi, however, during his recent visit to Europe purchased the materials requisite for laying down 70 miles of tramway, together with 3 locomotives and 7 carriages and 16 wagons, with the object of connecting Wadhwan with Rajkot. It is proposed that the tramway, the gauge of which is 2' 6", and which consists of steel rails, 19 lbs. to the yard, should be laid along the existing cart road. The materials are arriving, but the commencement of the work has been delayed in consequence of no Engineer having been as yet available to carry out the necessary survey, and complete the project. The road is the joint property of several States by which the funds for its construction were supplied, but no serious opposition is expected on their part to its being utilized as proposed, though it may be a question whether the tramway would not be more useful if laid down on a new line. The enterprise deserves to succeed, and the public spirit shown by the Thakor of Morvi is fully appreciated by Government.

MINERAL RESOURCES.

Mohpani Coal Mine.—The deliveries to the G. I. P. Railway during the year 1883-84 from the mine amounted to about 21,634 tons, at Rs. 9 per ton.

An extension of the railway sidings to the 'Helen' pit has been proposed, and it has been suggested that the G. I. P. Railway Company might with advantage make this extension on the understanding that the price of coal supplied to them should be reduced from Rs. 9 to Rs. 8 per ton.

Warora Coal Mine.—The deliveries to the G. I. P. Railway during the year from this mine amounted to about 51,909 tons.

The cost of this coal has been reduced from Rs. 5 to Rs. 4½ at the pit's mouth, and negotiations are in progress for reduction in the cost of carriage over the G. I. P. line to 4½ pies per ton per mile.

Bengal Coal.—No Bengal coal was taken by the G. I. P. Railway.

Except at Mohpani and Warora, no coal mines have yet been opened near the G. I. P. Railway. The area of profitable working is supposed to be limited at Mohpani, and the quality of the coal is inferior to that obtained from Raneegunge. When the Umaria coal field is opened out, and the railway made from it to Kutni, the North-East Line of the G. I. P. Railway and all lines connected with it between Jabalpur and Khandwa will, in all probability, draw their chief supplies from this field, unless the extensive coal field which is known to exist in the Pench valley between Itarsi and Chindwarra should hereafter be worked and come into competition—a contingency dependent on the comparative cost and quality of the yield. The construction of a line from Itarsi *via* Chindwarra to Nagpur is not one of the projects included in the present railway scheme of the Government of India, but it is a line which is likely to be made some day notwithstanding the rugged nature of the country it would traverse.

Coal has been found in small quantities on the north side of the Satpuda range to the west of Mohpani, but the quality of the coal on this side is believed to be generally inferior to that on the south of the range, and it is not likely that it would pay to work it.

No coal measures exist, as far as is known, in any part of the Bombay Presidency. The construction of the railway lately commenced from Hyderabad to the eastward, and the opening out of the Singareni coal field in the eastern part of the Nizam's dominions will, as pointed out in the administration report of the Director General of Railways for 1881-82, lead to the introduction of that coal on the South-East Line of the G. I. P. Railway; while the Southern Mahratta Railway will draw supplies of coal from the same source or from Bezvada by the railway now under construction from Guntacal (the junction for Bellary) to the Kistna Delta. Meanwhile the former railway will depend on English coal, and the latter partly on English coal and partly on wood fuel from the Kanara forests.

The description, source, cost, and consumption of fuel used during the year 1883 on the lines open for traffic at the close of the year is given below:—

Particulars regarding coal for the calendar year 1883.

Railway.	Description and source.	CONSUMPTION.						
		Quantity.	Cost.	Average per ton.	Per train mile.		Per engine mile.	
					Quantity.	Cost.	Quantity.	Cost.
		Tons.	Rs.	Rs.	lbs.	As.	lbs.	As.
G. I. P.	English ...	100,940	16,02,104	15-87	47-97	4-31	44-13	3-97
	Warora ...	50,682						
	Bengal ...	7,012		8-17				
	Mohpani ...	17,522						
	Total ...	176,186	22,16,840	12-59	47-97	4-31	44-13	3-97
B. B. & C. I. ...	English ...	40,087	6,40,945	15-99	45-07	5-15	40-63	4-64
Bhavnagar-Gondal ...	Do. ...	2623-09	49,048	18-63	23-005	3-06	22-37	2-98
Gaekwar ...	Do. ...	535	14,008	24-31	19-69	3-68	19-54	3-65

The prospects of any development of iron manufacture in India affecting the Railways under the control of the Bombay Government are remote. Operations up to this time have been restricted to the Bengal Presidency.

LINES OPEN FOR TRAFFIC.

The works in progress on lines open for traffic have been already described in pages 59 to 62.

ACCIDENTS.

The following were some of the more serious accidents that occurred during the year:—

GREAT INDIAN PENINSULA RAILWAY.

On the 15th March 1883 a goods train on arriving at Chhindvada station, mileage 582½, North-East Line; where it was to stop, entered the siding at such speed that the engine and 7 wagons ran through the buffer stop at the end of the siding, and so off the line. The engine and tender and 6 wagons were damaged.

A collision took place at Kurla station, mileage 9¼, on the morning of the 10th April, 1883, between No. 88 Up Goods and No. 5 Down Goods Trains, the consequence being that 8 wagons were derailed and rolling stock was damaged to the extent of Rs. 675.

A collision took place between No. 11 Down Goods and No. 2 Up Special Goods Trains at Murtajapur, mileage 386, Nagpur Branch, on the night of the 8th May 1883, resulting in serious damage to rolling stock and permanent way.

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

A collision occurred near the Parel running shed on the night of Friday, 23rd February 1883, between shunting engine No. 40 and an accident train returning from Colaba, resulting in the death of a lifter by name Ghulam Rusul, and damage to rolling stock to the amount of Rs. 1,000. An inquest was held, and the verdict given was "accidental death."

A collision occurred at the Pardi station, mileage 118, on the 3rd March 1883, between No. 19 Down Goods Train and the Up Mixed, in which both engines and 11 wagons were damaged, but no one was hurt.

A collision occurred at about 3-45 P.M. on the 26th June 1883 at Bandra station, mileage 10½, between No. 75 Down Local Train and a shunting train, by which 2 third class passengers were slightly hurt, the 2 engines damaged, 2 box wagons smashed, and 2 wagons derailed.

At 3-15 A.M. on the morning of 23rd December 1883 a collision occurred between No. 11 Down Goods and No. 26 Up Goods Trains at mileage 161¾, or 5½ miles south of Surat, causing the death of one of the drivers, severe injury to one of the firemen, and slight injuries to the other driver, 2 firemen, and guards, and considerable damage to stock. The matter formed the subject of a magisterial enquiry, which resulted in the station master being sentenced to six months' simple imprisonment.

BHAVNAGAR-GONDAL RAILWAY.

On the 7th June the coaching vehicles of a mixed train standing at rest on a perfectly straight level siding at Dhasa station were overturned by a very violent wind. There were a few passengers in the carriages, but fortunately none of them received injuries of any moment.

FLOOD DAMAGES.

In July the G. I. P. and the B. B. and C. I. Railways both suffered severely from an exceedingly heavy fall of rain over the Tapti valley.

On the G. I. P. North-East Line two girder bridges over the Ajanta and Bukri rivers, each of seven 30-foot spans, were destroyed, and the banks in the neighbourhood were much damaged. Temporary bridges were constructed over both rivers, and through communication was restored just one month after the loss of the bridges. The work of temporary restoration was much retarded by freshets in the rivers.

On the B. B. & C. I. Railway the Kankra Khadi bridge of two spans of sixty feet girders was destroyed, and a gap, 1,200 feet long and several feet deep, was made in the embankment. Further up the line north of Surat a very serious wash-away occurred, upwards of a mile of the bank being more or less cut to pieces. Through booking was in this case also resumed after one month.

Some damage was also caused to the Gaekwar's line by heavy rain.

MISCELLANEOUS.

The following sections of lines were inspected during the year by the Consulting Engineer's Department at Bombay prior to opening for public traffic:—

1. Ujjain Branch of the Rajputana-Malwa Railway, about 2½ miles in length, with a temporary diversion across the Sipra river.
2. Bellary-Hospet section of the South Deccan Line, Southern Mahratta Railway, about 40½ miles in length.

The inauguration ceremony in connection with the commencement of work on the West Deccan Line, Southern Mahratta Railway, was held at Poona on the 13th February 1884, His Excellency the Governor of Bombay being present.

The draft of an agreement (appendix—) with the G. I. P. Railway Company for the working of the Bhopal State Railway was prepared and submitted towards the close of the year for the approval of the Government of India.

X415-27
8.2.2
15955

A working agreement (appendix—) was settled between the G. I. P. and the Southern Mahratta Railway Companies for the Hotgi junction station, and the plan of the tranship yard agreed to.

The arrangements for the transshipment of passengers and goods at the Poona junction of the West Deccan Line are still under discussion.

The final arrangements for working at Bellary await a decision on the proposal to connect the Southern Mahratta Railway system with the Bellary-Kistna Railway at Guntacal.

PERSONS EMPLOYED.

POLICE.

The annual review of the working of the police on the G. I. P. and the B. B. & C. I. Railways for the year 1883 has not yet come to hand, but no change is contemplated in present arrangements.

The following clause relating to police is entered in the contract with the Southern Mahratta Railway Company:—

“The Secretary of State shall provide and maintain, for the purposes of so much of the projected railway as shall for the time being have been opened for public traffic, such a force of police as the Company with the approval of the Secretary of State shall from time to time require, with the qualification that, in case of difference between the Secretary of State and the Company as to the force of police required for the preservation of law and order, the determination of the question shall rest with the Secretary of State. The cost of providing and maintaining the force of police provided and maintained under this section shall as to three-tenths be borne by the Secretary of State as part of the general expenditure of the Government of India, and as to the remaining seven-tenths be treated as part of the working expenses of the projected railway, or of the part or parts thereof for the time being opened for public traffic.”

The Agent has submitted proposals which are under consideration for the lines likely to be soon opened for traffic.

The administration of the police of the Bhavnagar-Gondal Railway has been efficient, and it has worked smoothly with the other departments.

The only question of importance regarding it, or perhaps more directly regarding the railway Magistrate, has been the desire of departments to have cases tried where they originate, and so save the expense and inconvenience of relieving the railway staff and sending them to Court. The Railway Magistrate's duty is solely that of trying cases originating on the railway, and the number of them is but small. The Political Agent, Kathiawar, under whom that officer is directly placed, has desired him to give effect to the Railway officers' wishes on the subject as far as possible, and it is hoped that he will follow these instructions in a liberal spirit.

Three cases of theft of articles, while in the custody of the police, occurred during the year, and the Chief Inspector of Railway Police having brought to notice that section 26 of the Bombay District Police Act was not applicable to the Bhavnagar-Gondal Railway Police, and hence he had no powers, except of dismissal, to deal with such cases, the matter was referred to Government and it is understood that the necessary orders will shortly be issued.

The total number of offences reported to the police were 132, of which 101 were cognizable and 31 non-cognizable. Conviction was obtained in 53 cases in all. The number of persons arrested during the year was 119, of whom 73 were convicted and 46 acquitted or discharged. The value of property stolen was Rs. 1,362, and the amount recovered Rs. 640.

The only cases of interest were two of opium-smuggling. In one the opium was detected rolled up in the ball of string usually carried by natives for drawing water with their lotas from wells. In the other the opium was consigned in the centre of oil-cakes, and, on the detection of this, it was discovered that a previous consignment had been smuggled in bags of Multani clay.

SCHOOLS.

Proposals were submitted, towards the close of the year by the Agent, B. B. & C. I. Railway Company, and the Manager, Rájputána-Malwa State Railway, for the establishment of a railway boarding school at Mount Abu. The matter is under the consideration of Government and the Directors of the B. B. & C. I. Railway Company.

During the year reports were received of the G. I. P. Railway schools at Sholapur and Lonavla, which were, on the whole, satisfactory.

The sanction of the Government of India was applied for to an estimate, amounting to Rs. 18,466, for the construction of a new school-house at Igatpuri to be defrayed partly from capital and partly from the fine fund of the Company.

A satisfactory report was also made of the examination of the Parel Railway School of the B. B. & C. I. Railway, which was re-arranged during the year, provision being made for the children of residents in the neighbourhood, of the same class as the Company's European and Eurasian employés, to attend on payment of double fees.

CHURCHES.

An estimate, amounting to Rs. 32,259, for the church at Parel and for filling in the site was sanctioned. The church is being built at the joint expense of Government and the two Railway Companies, supplemented by funds subscribed by the public. The total estimate amounts to Rs. 37,483. The contributions paid by the G. I. P. and B. B. & C. I. Railway Companies amount to Rs. 10,800, or Rs. 5,400 each; the Government grant-in-aid to Rs. 7,000; and the amount paid by the Manager of the Church Building Fund stood at the end of November 1883 at Rs. 8,000. The ceremony of laying the foundation stone was performed by His Excellency the Governor on the 12th January 1884.

It is proposed to build a new church at Igatpuri at an estimated cost of Rs. 39,976. The sanction of the Home Board to the estimate and to the proposal that the cost of the new building should be partly defrayed from the fine fund is, however, awaited.

VOLUNTEER FORCE.

The total strength of the G. I. P. Railway Volunteer Corps on the 31st December 1883 was 947 of all ranks. During the year the regiment attended a camp of exercise held at Poona, and paraded, 200 strong, for lining the streets on the occasion of the landing of Their Royal Highnesses the Duke and Duchess of Connaught.

In April a disturbance took place at Bhusaval between two bodies of Beluchis, in which the services of part of the Corps under Captain Trevitheck were called into requisition by the Civil authorities, and for which the Volunteers received the thanks of Government. Lieutenant-Colonel S. Jackson, Commandant of the Corps, was nominated in the *Government Gazette* of the 25th May a Companion of the Order of the Indian Empire.

The Capitation Fund shows a balance, on the 31st December 1883, of Rs. 30,856.

The enrolled strength of the B. B. & C. I. Railway Volunteer Corps in 1883-84 was 253, of whom 218 earned capitation grants.

The year ending 31st March last was the first in which the experiment of having the Corps inspected at the various Company head-quarters was tried, and the result proved highly satisfactory.

The aggregate attendance on the inspection days was 131 as against 87 in 1882-83, or an increase of 44 of all ranks, army staff excepted.

The capitation grant earned amounts to Rs. 6,450, not including special grants for officers and serjeants.

During the year a rifle range, up to 800 yards, was established by the Corps near Bāndra.

The Corps supports a band composed of 22 men. It was raised in 1882, and has steadily improved since.

MEDICAL ARRANGEMENTS.

The rules in force on the G. I. P. Railway were adopted on the B. B. & C. I. Railway.

The medical arrangements on the Bhavnagar-Gondal Railway have worked satisfactorily. The health of the staff has been fairly good, no serious epidemic having occurred. The number of patients treated was 3,651. The prevailing disease was malarial fever, which gave a percentage of 34.56, but during the hot season the native staff suffered a good deal from scurvy and ulcers, probably owing to an insufficient supply of vegetable food. Only 6 cases of cholera occurred, and these not actually on the railway premises, but in a native serai near Dhola station, the disease being imported by a passenger from Ahmadabad. This serai, a collection of kutchha houses, has sprung up close to the railway land at Dhola, but it is hoped that, with the permanent changes about to be made at Dhola, it will disappear, and its re-erection so close be disallowed.

The conservancy arrangements are not as satisfactory as might be desired, but, with the commencement of the permanent buildings at Ghadechi, they will be put on an improved footing. The Surgeon has the matter in hand. A proposal was made last year to invest the Railway Surgeon with limited magisterial powers within the railway limits at Ghadechi, but it did not meet with the approval of the Bhavnagar Darbar: it appears very necessary that some one on the spot should have legal powers to fine or punish the servants and railway employés disregarding sanitary rules.

STORES.

GREAT INDIAN PENINSULA RAILWAY.

The result of the stores operations during the calendar year 1883 was an increase in the amount of capital locked up in stores, of Rs. 20,07,544, the aggregate values of the receipts and issues being respectively Rs. 95,38,699 and Rs. 75,31,155. The purchases in England amounted to Rs. 60,60,346, and consisted chiefly of coal and coke, locomotive engines, steel tyres, steel rails, wooden and pot sleepers, and ironwork for the Wadi Bandar goods station. The purchases in India amounted to Rs. 34,78,353, and comprised country coal, timber, oils and tallow, and various departmental stores. The increase in the stores balance is due generally to larger shipments of English material during the year, and particularly towards its close, the value of stores in transit at 31st December 1883 being Rs. 13,72,851, or Rs. 7½ lakhs more than on the same day of the previous year.

The issues may be summarised as follows:—

				Rs.
For Capital works	...	...	...	4,95,964
„ Revenue purposes	...	...	...	67,89,053
„ sales, &c.	...	...	...	2,46,138
			Total	75,31,155

The Wadi Bandar goods terminus and the erection of additional rolling stock were the principal capital works on which the stores were utilized. The engineering, locomotive, and carriage and wagon departments respectively appropriated 23, 46, and 22 per cent. of the stores issued for revenue purposes; while the principal transactions coming under the last-mentioned head were the sales of old iron at prices varying from Rs. 30 to Rs. 35 per ton, realizing in all about Rs. 1,75,000.

In this connection it should be mentioned that the transfer of the Company's stores depôt from Byculla to their new premises at Parel has been in progress during the year, and the opportunity was taken to separate from stock all material that has become unserviceable or obsolete, or that for any reason is not likely to be issued within a reasonable time. A Committee of the Company's officers, with a Deputy Consulting Engineer, appointed with the approval of Government, has examined these stores, amounting in value to about Rs. 2½ lakhs, with a view to determine the manner in which their disposal by sale or otherwise can best be effected. The Committee's recommendations have been partially adopted, and the material in question, so far as it is useless is being and will be sold by public auction; while certain articles, for which, though serviceable, there is said to be no demand at present, will be separately stored, and sold hereafter as favourable opportunities offer. These measures will, it is hoped, facilitate the complete count, classification, and revaluation of the entire stock, the necessity of which has been pressed upon the Company's Agent, thereby putting the stores on a sound footing, effacing the credit balances of suspense account so long standing in the Company's books, and ensuring for the future a proper agreement between the actual and book quantities and values. The stores balance on 31st December last, exclusive of unlanded shipment, amounted in value to Rs. 62,17,598, *viz.* :—

	Rs.
In hands of General Storekeeper	44,20,193
In hands of Locomotive Department	17,29,506
In hands of Engineer's Department	67,899

The Company's rolling stock at the close of the year consisted of 455 engines, 1,399 coaching and 7,855 goods vehicles. The authorized additions to existing stock during the year were 12 locomotive engines and 40 brake vans. An increase of the engine stock had been under consideration for some time, but the matter was finally referred for the opinion of the Company's Home Board as to the actual number deemed necessary to meet the probable requirements of the line. Subsequently 110 engines have been authorized as additions to the stock. A matter of hardly less importance to the efficient working of the line has been the need of additional brake vans. Sanction was accorded in 1878 to the construction of 100 brake vans in addition to the stock then existing of 381, exclusive of Ghât brakes. The work was not begun till 1881, and the progress since then has not been satisfactory in view of the reported difficulty that was experienced in working the goods traffic of the last busy season for want of sufficient brake power. Thirty-nine were completed in 1881 and added to the stock list; only one more was added thereto in 1882, and 40 more during the year under report, leaving a balance of 20 still to be outturned. Of the engine stock an average of 74 per cent. was always in running order. Similarly, the percentage of carriages and wagons in good running condition was 90 and 93 respectively. The vehicle stock may be briefly summarized as under :—

Carriages, 1st class	83
Carriages, 2nd class	150
Carriages, composite	73
Carriages, 3rd and 4th class	453
Carriages, miscellaneous	179
Brake vans	461
	— 1,399
Goods wagons	7,248
Cattle trucks	54
Ballast, rail, and timber trucks	421
Brake vans (Incline)	37
Miscellaneous	95
	— 7,855

DHOND AND MANMAD STATE RAILWAY.

The sum of Rs. 19,295, which is debited to Suspense Account, represents the value of fencing material at site received from England and handed over to the G. I. P. Railway Company. The material will, it is expected, be shortly utilized.

SOUTHERN MAHRATTA RAILWAY.

The stores in hand at end of 1883 on these lines consist of permanent-way material to the value of Rs. 8,426 and Rs. 10,194, respectively, on the Khamgaon and Amraoti State Railways.

BERAR STATE RAILWAYS.

The store balance on the 31st December last, excluding stores in transit, was Rs. 13,75,377, which shows an increase of Rs. 4,46,979 over the figures for the previous year.

The issues during the year amounted to Rs. 19,95,582, all on Capital Account.

At the close of the year the Company's stock erected consisted of—

Engines	6
Carriage	1
Wagons ... ..	...
Miscellaneous vehicles, such as ballast wagons, &c. ...	60
	—
	67
	—

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

The value of stores in hand and in transit at the close of year was Rs. 32,79,399, being still considerably above the limit of Rs. 21½ lakhs provisionally assigned for this purpose. The aggregate receipts and issues, were Rs. 30,64,749 and Rs. 32,00,826. Of the former Rs. 15,47,823 represents the value of stores purchased in England, and consisting chiefly of coal, creosoted sleepers, rails, iron hardware, and locomotive boilers. The local purchases, including the balance of freight payable in India, amounted to Rs. 15,16,921, and were principally timber, oil, and the miscellaneous stores required for the several departments. Of the issues, Rs. 7½ lakhs were for capital works, the most important of which were strengthening the Bassein and other bridges, and doubling the line from Andheri to Virar. Rs. 21 lakhs were consumed for revenue purposes, and the balance, Rs. 3½ lakhs, represents sales and miscellaneous issues. Besides several sales of old rails from time to time during the year, the Company sold by auction at its close a large quantity of material consisting of miscellaneous iron and steel ware, tyres, fish-plates and sleepers, valued originally at Rs. 1,22,758, which on examination it was considered desirable to dispose of, in order to clear the Company's books of useless material. The sale proceeds amounted to Rs. 68,600, or a loss of about 44 per cent., which was adjusted by charges to revenue and to the Company's profit and loss account. The balance of stock on hand at 31st December 1883 comprised—

	Rs.
Stores in hands of Storekeeper	23,23,683
Ditto Locomotive Department ..	3,95,369
Ditto Engineering do. ...	27,129
Ditto Traffic do. ...	13,424
	—
	30,59,605
	—

The Company's rolling stock was increased during the year by the addition of 67 new goods vehicles. The strength of the entire stock on the line at 31st December 1883 was as under:—

Engines	...	...	...	...	99	
					—	99
Coaching vehicles—						
1st class carriages	...	...	...	...	22	
2nd class carriages	...	...	...	...	42	
Composite carriages	...	...	...	...	18	
3rd class carriages	...	...	...	...	240	
Miscellaneous	...	...	...	...	34	
Brake vans	...	...	...	...	18	
					—	374
Goods vehicles—						
Goods wagons	...	...	...	...	2,724	
Ballast and timber wagons	...	...	...	...	210	
Miscellaneous wagons	...	...	...	...	24	
Brake vans	...	...	...	...	45	
					—	3,003

One of the engines shown above as effective was condemned and replaced, but continued to be used to meet the exigencies of traffic. Sanction, however, has been accorded to the addition of 10 engines to the authorized list of stock, and these are under supply; while, as regards the vehicle stock, indents for 300 sets of wagon work have been sanctioned and are under compliance, in order to meet the increasing demands of a rapidly improving traffic. The average number of engines and vehicles in running order at any time during the year was respectively 82 and 91 per cent. of the entire stock.

BHAVNAGAR-GONDAL RAILWAY.

The balance of stores in the magazine on the 31st December 1883 was Rs. 2,61,881, made up of—

					Rs.
New	...	...	...	...	1,98,033
Second-hand depreciated	...	...	...	...	49,777
Locomotive stores, metals, timber, fuel, &c.	...	...	...	...	14,066
					—
				Total	2,61,881

During 1883 the whole of the stock was verified, and the rates adjusted as near as possible to current market rates. The money adjustment due to this work was as follows:—

					Rs.
Value of stores found in excess	...	...	...	...	4,263
Value of stores found deficient	...	...	...	...	2,378
					—
Net value of excess	...	...	...	...	1,885
Write off due to reduction in prices...	...	...	...	...	15,857
					—
Net Debit	...	...	...	...	13,972

Of this Rs. 5,924 was written off to revenue in 1883, and the balance debited against capital, being chiefly due to reductions of excessive rates allowed on plant returned from works.

The system followed as closely as possible on this railway is to have a local contractor for all ordinary supplies, who is drawn on as requirements arise, and the actual stock in magazine is kept as low as possible.

The stores in the magazine at present are largely represented by engineering plant, bridge material, and locomotive duplicate gear. The engineering plant, &c., is retained in the belief that it will shortly be required for new extensions; otherwise a considerable clearance might be made.

CAPITAL TRANSACTIONS.

GREAT INDIAN PENINSULA RAILWAY.

The Company's capital at the close of 1883 stood as under:—

	£	Rs.
Capital authorized	26,666,666	29,09,00,084
Capital subscribed	23,711,121	25,86,66,769
Capital expended—		
<i>a</i> Final heads	23,236,877	25,34,93,202
<i>b</i> Suspense	695,935	75,92,018
Balance available of—		
Capital authorized	2,733,854	2,98,23,864
Capital subscribed	—221,691	—24,18,451
Amount expended on way and works	19,797,327	21,59,70,836
Do. rolling stock	3,439,550	3,75,22,366
Cost of way and works per mile*	15,367	1,67,646
Do. rolling stock do.*	2,670	29,126

The amount of subscribed capital was increased during the year by the issue of £1,100 debentures bearing interest at $3\frac{1}{2}$ per cent., but the payment into the London Treasury was made on the last day of the year, and therefore did not affect the sum of interest payable by Government under the guarantee for the period under report, which amounted, as previously, to Rs. 1,24,93,200. The balance of capital in hands of Government was overdrawn during the year to the extent of £191,761—equivalent at the contract rate of exchange to Rs. 20,91,938, the interest on which amounted to Rs. 19,625; but no recovery could be effected, as the period in which the overdrafts occurred proved to be a nonsurplus one. The bulk of the capital outlay was incurred on the Mody Bay goods terminus, the General Offices Bori Bandar, the New Stores Depôt at Parel, and the construction of 100 brake vans.

DHOND AND MANMAD STATE RAILWAY.

The total expenditure, English and Indian, during the calendar year 1883, on capital account, amounted to Rs. 1,39,341, the Indian portion being Rs. 1,20,325, which was incurred by the Great Indian Peninsula Railway Company, by whose agency the works are executed.

BERAR STATE RAILWAYS.

No capital works were executed during the year.

The total capital cost of these lines on 31st December 1883 stood at Rs. 4,90,996 for the Khamgaon State Railway, and Rs. 4,44,860 for the Amraoti line.

SOUTHERN MAHRATTA RAILWAY.

At the close of 1883 the Company's capital stood as under:—

	£	Rs.
Capital authorized	3,000,000	= 3,60,00,000
Subscribed	1,726,800	= 2,07,21,600
Expended	1,119,549	= 1,34,34,593
Balances—		
Authorized	1,880,451	= 2,25,65,407
Subscribed	607,251	= 72,87,007
Amount expended—		
On way and works	1,100,333	= 1,32,03,991
On rolling stock	19,217	= 2,30,602

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

The capital account of this Company likewise stood overdrawn on 31st December 1883 in the sum of £100,543, or Rs. 10,96,837. The interest due to Government on the overdrafts was adjusted by the recovery of Rs. 18,025 from surplus profits, as shown in the two half-yearly accounts. There

*Exclusive of State lines.

was no change in the subscribed capital, though the Company possesses authority to issue £100,000 in 3½ per cent. debentures. It doubtless proves to be more advantageous to allow interest on actual overdrafts than to bear interest on capital raised in excess of immediate requirements. The capital account on 31st December 1883 is summarized below:—

	£	Rs.
Capital authorized	8,875,000	9,68,18,182
Capital subscribed	8,058,999	8,78,94,540
Capital expended—		
<i>a</i> Final heads	7,882,596	8,59,91,957
<i>b</i> Suspense	287,070	31,31,677
Balance available of—		
Capital authorized	705,334	76,94,548
Capital subscribed	—112,667	—12,29,094
Amount expended on way and works	6,681,856	7,28,92,974
Do. rolling stock	1,200,740	1,30,98,983
Cost of way and works per mile	15,228	1,66,127
Do. rolling stock do.	2,770	29,853

The capital outlay during the year amounted to Rs. 12,60,055, and was incurred principally on reconstructing the north and south Purna bridges which had failed during the previous year, doubling the line from Andheri to Virar, strengthening the Tapti and Bassein bridges, and the works connected with the Mody Bay goods terminus. The guaranteed interest for the year, paid by Government, was Rs. 43,20,164, of which Rs. 43,16,905 was paid in England and Rs. 3,259 in India, the average rate being 4·93 per cent. per annum.

BHAVNAGAR-GONDAL RAILWAY.

The total capital outlay, including Suspense, on the Bhavnagar-Gondal Railway to the 31st December 1883 amounted to Rs. 90,49,232.

The total capital expended on open line, excluding Suspense, was Rs. 87,82,250, giving an average cost per open mile of Rs. 45,454.

The capital grant for 1883-84, as passed in budget orders, was Rs. 3,00,000, and subsequent additions of Rs. 70,224 were sanctioned, the final allotment as passed being Rs. 3,70,224. It is regretted that this will not be worked up to, and that the expenditure against the grant to March 1884 will not probably exceed Rs. 3,07,500. This has been partly due to the suspension of several heavy engineering works owing to projected changes, but mainly to an over-sanguine estimate of what could be efficiently carried out in the time.

The capital grant as passed in the budget for 1884-85 is Rs. 3,00,000, and a programme of works, working up to that sum, has been approved.

REVENUE TRANSACTIONS.

GREAT INDIAN PENINSULA RAILWAY.

The result of the past year's working as compared with that of 1882 was a decrease of Rs. 4,90,180 in the net earnings of the Company, due in equal measure to a falling off in the receipts and an increase in the working expenses, as shown in the following table:—

	1883.	1882.	Increase in 1883.	Decrease in 1883.
	Rs.	Rs.	Rs.	Rs.
Gross earnings	3,51,14,364	3,53,63,201	...	2,48,837
Gross expenses	1,74,54,711	1,72,13,368	2,41,343	...
Net earnings	1,76,59,653	1,81,49,833	...	4,90,180

During the early part of the year business showed a decidedly downward tendency as compared with 1882, but recovered from the depression, and at the close of the first half of the year yielded an increase of Rs. 4,85,818 over the realizations for the previous corresponding period. A varying business was done during the next three months, and the advance that had been made was just maintained, and no more, until the last quarter of the year, when a declension set in, which, with a few occasional exceptions, marked the traffic returns of every week, till at the close of the year the total decrease in the gross receipts stood as above indicated. The various causes that operated to produce the net effect as exhibited in the foregoing table will be considered further on, but the general results of the year may be further indicated as under:—

	1883.	1882.	Increase in 1883.	Decrease in 1883.
Percentage of expenses to earnings ...	49.7	48.6	1.1	...
Tonnage of goods hauled (paying weight).	1,735,195	1,684,283	50,912	...
Number of passengers carried ...	6,912,999	6,171,046	741,953	...
Train mileage worked (excluding light running).	7,923,012	7,809,240	113,772	...
	Rs.	Rs.	Rs.	Rs.
Net earnings per train mile ...	2.23	2.32	...	0.09
Net earnings per mile open ...	13,708	14,101	...	393

The financial result of the year's operations was a surplus of net earnings over guaranteed interest of Rs. 51,66,453. In the first half of the year the realisations, after meeting working expenses and guaranteed interest, yielded a surplus of Rs. 67,76,042, divisible between Government and the Company, subject to the recovery of outstandings. From this sum a contribution of Rs. 1,23,647 to the Employés' Provident Fund was, under existing rules, claimed and paid. In the second half of the year the net earnings fell short of the interest by Rs. 16,09,589 which, under the contract, was made good by Government. The net return to the State in virtue of the guarantee was Rs. 17,16,608, and the total amount paid and payable to shareholders was Rs. 1,58,19,397, equivalent to a return of 6.14 per cent. per annum on the interest-bearing capital. The working expenses, as already shown, exceeded those for the previous year by Rs. 2,41,343.

The net result of the variations is tabulated below:—

	1ST HALF.		2ND HALF.		TOTAL.	
	Increase in 1883.	Decrease in 1883.	Increase in 1883.	Decrease in 1883.	Increase in 1883.	Decrease in 1883.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Maintenance of way, works, &c. ...	...	7,375	59,473	...	52,098	...
Locomotive expenses ...	82,052	...	3,22,012	...	4,04,064	...
Carriage and wagon expenses ...	12,318	...	...	2,55,483	...	2,43,165
Traffic expenses ...	48,421	...	...	18,799	29,622	...
General charges ...	1,987	...	5,378	...	7,365	...
Special and miscellaneous expenses	41,720	...	...	50,361	...	8,641
	1,86,498	7,375	3,86,863	3,24,643	4,93,149	2,51,806
	Net Increase in 1883 ...				2,41,343	...

The *Maintenance expenses* were returned at Rs. 42,96,612, distributed evenly over the two half-years, and absorb 25 per cent. of the total cost of working. The supervision charges showed a slight increase owing to the absence, on

leave in 1882, of the Chief Engineer and other members of the Engineering Staff, and to the appointment, during the year, of a chief accounts clerk to the vacancy which had existed in the previous year. The expenditure on maintenance and renewal of permanent way decreased, owing to the special outlay on renewing sleepers incurred in the previous year. The working gangs were maintained at the usual strength, and the wages expenditure for the two years closely correspond. The estimate of renewals sanctioned for each half-year was duly worked up to. The only other item of importance in the figures under this head was the heavy outlay in repair of damages caused by monsoon floods during the past year which swelled the charges recorded against "Repairs of bridges, &c."

The *Locomotive expenses* were returned at Rs. 64,65,105, being 37 per cent. of the total working cost for the year. From the foregoing table it will be seen that the bulk of the increase under this head occurred in the second half of the year. This was caused principally by the renewal in that period of three engines, whereas no such work was done in the corresponding half-year of 1882, and by the repair of 10 more engines. Besides this, however, increased expenditure appeared under most of the other heads. Though the engine mileage was not quite as great as in the latter half of 1882, the ton and vehicle mileage was greater, and may perhaps explain to some extent the heavier charges. The total quantity of coal consumed during the past year was 176,186 tons at a total cost of Rs. 22,16,840 as compared with 162,376 tons and Rs. 21,14,426, respectively, in 1882. The average price was Rs. 12·6 per ton, and the average consumption per engine mile 44·1 lbs., while the corresponding figures for 1882 were Rs. 13·0 and lbs. 41·8.

The *Carriage and Wagon expenses* were recorded at Rs. 24,88,568, or 14 per cent. of the gross expenditure. As compared with the previous year the decrease under this head was due to less work having been done during the past year in the shape of renewals of stock. The number of carriages and wagons rebuilt at the cost of revenue during the past two years were:—

	1882.	1883.
Coaching vehicles	101	149
Goods vehicles	683	392
	784	541
Or a total of	...	784 and 541

respectively, giving a difference of 243 in favor of the earlier period; but it may be mentioned that the programme of work carried out during the past year had been duly agreed to by the responsible officers of Government.

The *Traffic expenses* were returned at Rs. 23,75,762, equal to 14 per cent. of the year's working cost. The increase under this head is a little over 1 per cent., and may be regarded as the result of the heavier traffic handled. For, though the realizations fell short of those recorded in 1882, the tonnage lifted and the number of passengers carried during the past year were greater than in the year preceding. Several local and other new stations were opened during the year, which, with the working of the new hydraulic machinery erected at the Wádi Bandar goods terminus, tended to increase the traffic expenses.

The *general charges* for the year amounted to Rs. 11,25,903, and were 6 per cent. of the revenue expenditure. The variations were mostly unimportant, the principal difference being in the home management.

The *special and miscellaneous expenditure* was represented at Rs. 7,02,760, equivalent to 4 per cent. of the total working expenses; but this amount includes a sum of Rs. 2,68,379 for "rent of leased lines," which under recent orders will not be shown in future as part of the Company's expenditure for the year, but as the share of net earnings appertaining to the lines worked on behalf of Government. The gross earnings realized by the State lines under the Company's management were Rs. 9,80,478, while the amount assumed as the cost of working them was, according to agreement, Rs. 7,12,099, the difference being the above-mentioned sum of Rs. 2,68,379, or 27 per cent. of the years' realizations.

The variations in the special and miscellaneous expenditure are due, among other causes, to a contribution of Rs. 18,581 to the Fire Insurance Fund during the first or surplus half of the year. This fund had at the close of 1882 been nearly exhausted, and its reconstitution was mutually agreed to by Government and the Company by grants from the revenue of surplus periods, subject to a maximum of £3,000 per annum. A contribution of Rs. 5,100 was also made towards the erection of a Protestant church at Parel to accommodate a large number of the Company's resident employes.

The following table, showing the variations in the receipts from the principal sources of income, is similar to the one above given for the working expenses :—

	1ST HALF.		2ND HALF.		TOTAL.	
	Increase in 1883.	Decrease in 1883.	Increase in 1883.	Decrease in 1883.	Increase in 1883.	Decrease in 1883.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Coaching traffic ...	1,34,020	...	...	3,61,690	...	2,27,670
Goods traffic ...	3,56,950	...	...	3,21,824	35,126	...
Electric telegraph earnings	1,362	...	984	...	2,346	...
Sundries ...	...	6,484	...	52,155	...	58,639
	4,92,332	6,484	984	7,35,669	37,472	2,86,309
	Net decrease in 1883 ...					2,48,837

The coaching traffic receipts for the past year aggregated Rs. 70,90,634, and constituted 20 per cent. of the gross income. The falling off in the receipts was due entirely to the smaller movement of troops during the past year than in 1882, when the Indian Contingent was despatched to Egypt. Excluding "Troops and police," the combined receipts from which declined to the extent of Rs. 7,57,295, the ordinary passenger traffic showed an improvement which was represented by 580,032 more passengers carried, and an increase of Rs. 2,10,136 in the receipts realized therefrom. Besides the above there has been a considerable increase in the local and suburban traffic. This train service was rearranged and extended during the latter half of the year, in consequence of which the number of season tickets issued increased to 3,482 from 616 in the previous corresponding half-year, being equivalent to an increase of 138,600 nominal fares.

The only other important variation in the coaching traffic occurred under "Parcels," from which Rs. 2,78,645 more were realized in the past year than in 1882. This traffic nearly doubled itself.

The goods traffic showed but a slight falling off in receipts as compared with the year 1882. The total earnings from this source in the past year were Rs. 2,76,13,379, and contributed 78 per cent. of the gross income. The principal business was done in the following commodities, viz. :—

Cotton,	Piece goods,
Food grain,	Salt,
Linseed,	Tilseed, and
	Wheat,

the combined earnings from which amounted to over Rs. 192 lakhs, and constituted 74 per cent. of the entire realizations from general merchandise. The variations in the traffic in these and some other articles are noticed under the succeeding head of the report. The nominal credits for carriage of revenue stores aggregated Rs 10,23,770, and were offset by similar debits to the various departments for which the stores were carried.

The electric telegraph earnings and sundry receipts of the Company during the past year were, respectively, Rs. 52,111 and Rs. 3,58,210, and together comprised the remaining 2 per cent. of the year's gross income. The number of paid messages sent over the Company's line were 63,989, giving an average receipt per message of 13 annas as compared with 14.4 annas in 1882. The number of service messages transmitted during the two years under comparison were 1,557,333 in 1882 and 1,141,252 in 1883, excluding line-clear reports. The decrease in the sundry earnings is apparent rather than real, arising, as it does, from the omission therefrom, in the second half of the year, of "mileage and demurrage receipts" and "rents of stations jointly occupied," which are now deducted from the charges paid by the Company on these two accounts.

DHOND AND MANMAD STATE RAILWAY.

In consequence of the line being worked by the G. I. P. Railway Company as a part of their own undertaking it is not possible to give detailed particulars, but some general remarks on the year's working are offered.

The result of the year's working under the Company's management shows an improvement of Rs. 32,947 in the net earnings compared with the results of 1882 as worked out below. The net increase is equivalent to 20.70 per cent. The net profits of the year yield a return of 1.91 per cent. per annum on the total capital cost of the line to end of December 1883:—

Particulars.	1883.	1882.	Increase.	Decrease.
	Rs.	Rs.	Rs.	
Gross earnings ...	8,22,833	7,39,558	83,275	...
Working expenses ...	6,30,694	5,80,366	50,328	...
Net earnings ...	1,92,139	1,59,192	32,947	...

The working expenses for the year 1883 shown above are not susceptible of any detailed particulars, as they are arrived at from a sliding scale of percentages on gross earnings according to the working agreement. It may, however, be mentioned that this amount includes a sum of Rs. 6,232 paid to the Government Telegraph Department on account of rent, &c., of the telegraph line on the Dhond and Manmad State Railway.

The increase of Rs. 50,328 over the working expenses of the year 1882 is due to the increased earnings of the State line upon which the payment to the Company is based.

BERAR STATE RAILWAYS.

These lines are also worked by the G. I. P. Railway Company as part of their own system. The results of the year's working are exhibited in the following table:—

Railway.	Gross Earnings.	Working Expenses.	Net Earnings.
	Rs.	Rs.	Rs.
Khamgaon	62,657	40,188	22,469
Amraoti	96,160	51,773	44,387

The net earnings are equivalent to a return of 4.57 and 9.98 per cent. per annum on the capital cost of Rs. 4,90,966 and Rs. 4,44,860 respectively for the Khamgaon and Amraoti State Railways.

The income of the year was obtained from the sources shown in the sub-joined tables:—

Particulars.	KHAMGAON.		AMRAOTI.	
	Amount.	Per cent. of each to total.	Amount.	Per cent. of each to total.
	Rs.	Rs.	Rs.	Rs.
Coaching traffic	7,153	11.42	13,962	14.52
Goods traffic	55,084	87.91	81,939	85.21
Electric telegraph	201	.32	232	.24
Sundries	219	.35	27	.03
Total	62,657	100.00	96,160	100.00

The above figures are compared with the record for 1882 in the following table:—

Heads.	KHAMGAON.		AMRAOTI.	
	1883.	1882.	1883.	1882.
	Rs.	Rs.	Rs.	Rs.
Coaching traffic	7,153	6,948	13,962	11,337
Goods traffic	55,084	68,611	81,939	73,354
Electric telegraph	201	237	232	335
Sundries	219	170	27	122
Total	62,657	75,966	96,160	85,148

The falling off on the Khamgaon line and the improvement on the Amraoti State Railway are equal to 17.52 and 11.45 per cent. respectively.

The working expenses of the year under review on these lines are as under:—

	Rs.
Khamgaon	40,188
Amraoti	51,773

which being based on the train mile rate of the Company's own working do not admit of any further explanation. The expenses of the Khamgaon line include a sum of Rs. 2,274 on account of certain alterations to the Khamgaon station and those of the Amraoti Rs. 2,051 for constructing a fourth class waiting-room at Amraoti.

The *Southern Mahratta Railway* was only opened for traffic from Bellary to Hospet, 40½ miles, on the 24th March 1884.

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

The result of the financial operations of the past year was a surplus of net earnings over guaranteed interest of Rs. 24,63,779, the net earnings being equivalent to a return of 7.75 per cent. per annum on the guaranteed capital, while the average rate of interest paid to the shareholders was 4.93 per cent. The above surplus, divisible between Government and the Company, was, however, subject to a deduction of Rs. 18,025, interest on capital over-drafts during

the year; of Rs. 67,839, the contribution to the Employés Provident Fund; and of Rs. 93,719 in adjustment of claims pertaining to previous periods. The moiety paid and payable to the shareholders for the past year amounted to Rs. 11,42,097, and with the sum of interest equalled a return of 6.28 per cent. per annum on the interest-bearing capital. The net profit to the State in virtue of the guarantee was Rs. 11,42,097.

The gross income of the past year and the total cost of working compare as follows with the record for 1882:—

	1883.	1882.	Increase in 1883.	Decrease in 1883.
	Rs.	Rs.	Rs.	Rs.
Gross earnings ...	1,19,22,209	1,01,76,189	17,46,020	...
Gross expenses ...	51,38,303	51,65,317	...	27,014
Net earnings ...	67,83,906	50,10,872	17,73,034	...

The improvement in the past year is due to the better business done, especially in the second half of the year, when for the first time in the history of the line the net earnings during that period were more than sufficient to cover the guaranteed interest. The reduction in working expenses, though only a little over $\frac{1}{2}$ per cent., is important in view of the heavier traffic handled during the year. It is the net result of the variations shown in the following table:—

	1ST HALF.		2ND HALF.		TOTAL.	
	Increase in 1883.	Decrease in 1883.	Increase in 1883.	Decrease in 1883.	Increase in 1883.	Decrease in 1883.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Maintenance of way, &c. ...	1,12,097	...	...	4,73,692	...	3,61,595
Locomotive expenses ...	1,24,832	...	...	30,885	93,947	...
Carriage and wagon expenses ...	65,985	...	1,17,458	...	1,83,443	...
Traffic expenses ...	87,367	...	31,171	...	63,538	...
General charges ...	...	15,244	...	10,313	...	25,557
Steam boat service ...	1,658	...	...	...	1,658	...
Special and miscellaneous expenses ...	1,498	...	11,054	...	12,552	...
Total ...	3,43,437	15,244	1,59,683	5,14,890	3,60,138	3,87,152
				Net decrease in 1883	...	27,014

The Maintenance expenses were returned at Rs. 14,82,613, and represented 29 per cent. of the total working cost. The increase in the first half of the year over the previous corresponding period arose from the removal of 10 miles of Adams' No. 2 rails and their replacement with ordinary material, and to the incidence of the revenue portion of the cost of erecting a new station at Dadar, and reconstructing the north and south Purna bridges, to which reference has already been made. But the decrease in the second half of the year counter-balanced the extra debits above mentioned. This reduction was greatly due to the special outlay during the second half of 1882 on the renewal of 18 miles of permanent-way in addition to heavy ordinary maintenance charges, and to expenditure in connection with the repairs of extensive flood damages in that period. The Consulting Engineer for Railways, however, expresses the opinion that "the expenditure on the maintenance of the road will have to be increased considerably" during future years. The appointment, during the year, of another

Resident Engineer and two additional Assistant Engineers, with extra permanent-way inspectors, would have shown an increase in the supervision charges, but for the inclusion, in the figures for the previous corresponding period, of Rs. 11,454, a moiety of the bonus of 2,000 guineas awarded to the Company's late Agent and Chief Engineer on his retirement from Indian service.

The Locomotive expenses were returned at Rs. 15,50,304, being equivalent to 30 per cent. of the gross revenue expenditure. The increase under this head may be ascribed, in general terms, to the requirements of a heavier traffic, represented by an increase of 243,307 in the engine mileage, which accounts for the variations in the charges directly influenced thereby, *viz.*, "Running expenses," "Fuel," "Water," and "Oil, &c." The combined increase under these heads amounts to Rs. 2,10,364, and the difference in the average obtained by dividing these charges into the total engine mileage for the two years under comparison is 3 pice per mile, Re. 0-7-2 in 1882 and Re. 0-7-5 in 1883 being the results thus obtained. The principal increase is in coal, of which 4,327 more tons were consumed in the past year than in 1882; the average consumption per engine mile for the two years was lbs. 40-73 and 40-63 respectively, whereas the average price per ton was Rs. 15-1-11 in 1882 and Rs. 15-15-9 in the past year, the former being the lowest yet recorded. The charges for maintenance and renewals of engines showed a reduction of Rs. 1,39,477, due primarily to the renewal of only two engines in the past year against 8 in 1882.

The Carriage and Wagon expenses were recorded at Rs. 7,27,086, or 14 per cent. of the gross expenditure. The additional charges under this head during the past year resulted from the heavier work done in the shape of repairs and renewals of the vehicle stock. The programme of renewals agreed upon for the first half of the year was not fully carried out; but the circumstances of the case did not, in the opinion of the Consulting Engineer for Railways, justify a reserve being made to complete the unfinished work, which was performed in the next period. The total renewals effected during the past year were 21 coaching and 214 goods vehicles as compared with 16 and 93 outturned in 1882, and 23 and 205 respectively agreed upon as the work required during the year under report to maintain the standard of efficiency.

The Traffic expenses amounted to Rs. 7,14,862, and absorbed 14 per cent. of the working cost. The increase under this head was the natural outcome of a heavier traffic. The extra business done during the past year is indicated by 224,330 more tons of paying weight handled, and an increase of 232,736 in the train mileage, while the extra charges on the heads particularly affected thereby amounted to Rs. 54,757. The increased cost of working was not, however, disproportionate to the additional traffic handled, the average charge under these heads per train mile for the year being Re. 0-4-6, and for 1882 Re. 0-4-8.

The general charges amounted to Rs. 5,27,163, being 10 per cent. of the revenue expenditure for the year. The inclusion in the figures for 1882 of the other moiety of the bonus of 2,000 guineas already mentioned, and a gratuity to the family of another officer of the Company, served to show a reduction in the general charges for the past year. The normal expenditure for the period under review was slightly in excess of the preceding year, but contains nothing specially noteworthy.

The special and miscellaneous expenditure incurred during 1883 amounted to Rs. 1,34,617, and made up the remaining 3 per cent. of the total working expenses. As in the case of the G. I. P. Railway this head includes a contribution towards the erection of the new church at Parel. The increase on the charges for 1883 is due to the above, to a larger payment for toll on the increased traffic hauled over the G. I. P. Railway line from Dadar to the B. B. & C. I. Railway goods terminus at Mody Bay, and to the enhancement, during the year, of the Bombay municipal rates and taxes.

The variations in the receipts under principal heads for the two years under comparison are given in the subjoined table, and show a net difference of Rs. 17,46,020 in favor of the past year:—

	1ST HALF.		2ND HALF.		TOTAL.	
	Increase in 1883.	Decrease in 1883.	Increase in 1883.	Decrease in 1883.	Increase in 1883.	Decrease in 1883.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Coaching traffic... ..	1,17,223	...	48,959	...	1,66,182	...
Goods traffic	9,14,244	...	6,67,717	...	15,81,961	...
Electric telegraph earnings ...	2,553	...	4,495	...	7,048	...
Sundries ... ..	...	16,358	7,187	...	...	9,171
	10,34,020	16,358	7,28,358	...	17,55,191	9,171
	Net increase in 1883 ...				17,46,020	

The improvement in the traffic indicated by the above figures occurred steadily throughout the past year, excepting when temporarily checked by the stoppage of through communication in July and September by monsoon floods.

The coaching traffic receipts amounted to Rs. 31,81,024, or 29 per cent of the total income. The improvement on the passenger traffic is not due to greater movement of troops, or any abnormal circumstance; but has occurred entirely in the regular business of the Company, the additional number of passengers carried during the past year having been 673,878 and the increased earnings resulting therefrom Rs. 1,78,387. Of this, Rs. 31,870 in earnings and 527,921 in numbers, respectively, are attributable to the local and suburban traffic, which grows apace with the rapidly increasing suburban population.

The goods traffic contributed Rs. 82,35,280, or 69 per cent. of the gross earnings for the year, and was the source from which the bulk of the improvement in earnings was realized. Analysing the traffic it is found that the principal commodities dealt with during the past year were cotton, grain, metals, piece-goods, salt, seeds, State Railway materials, and wheat, the aggregate earnings from which constituted 64 per cent. of the total realizations from general merchandise. The principal factor in the improved results attained is the increasingly large amount of business interchanged with the Rajputana-Malwa and connected systems of railway. As an indication of this it may be mentioned that the traffic in merchandise received from those lines *via* Sabarnati during the past year yielded to the Company Rs. 8,70,969 more than in 1882. The sum of Rs. 2,76,152 has been shown among the earnings, being the nominal credits for carriage of revenue stores during the year which have been charged off, on the other hand, to the several departments concerned.

The electric telegraph and sundry earnings amounted to Rs. 31,962 and Rs. 1,73,943 during the year, and together comprised the remaining 2 per cent. of the gross revenue receipts. As regards the latter, the decrease, as compared with the previous year, was due partly to the smaller interchange of traffic with the G. I. P. Railway and partly to the method introduced in the second-half of the year of deducting the receipts for mileage and demurrage from the payments made to other lines on this account.

BHAYNAGAR GONDAL RAILWAY.

The net revenue for the year 1883 amounted to Rs. 3,26,613, giving a percentage on the total capital outlay, open line, including suspense, of 3.61. The general results of the working since the opening compare as follows:—

	1881.	1882.	1883.
Miles open at end of year	192.5	193	193.21
	Rs.	Rs.	Rs.
Capital outlay at end of year	74,46,353	86,75,711	90,49,232
Cost per mile open (exclusive of amount at debit of suspense heads)	34,982	43,318	45,454
Gross earnings during the year	6,85,385	8,76,837	8,94,180
Working expenses during the year	4,83,131	5,22,189	5,67,567
Net profits of year	2,05,254	3,54,648	3,26,613
Percentage of net profits on capital cost	2.75	4.09	3.61
Gross earnings per mile per week (calculated on mean mileage worked)	76.24	87.14	89.05

The original revenue budget estimate for 1883-84 was framed for—

	Rs.
Receipts	9,50,000
Outlay	5,50,000

These were modified and accepted by Government in the revised budget estimate to—

	Rs.
Receipts	9,10,000
Outlay	5,62,000

The actual result on the closing of accounts for the financial year will probably be—

	Rs.
Receipts	9,25,900
Outlay	5,58,500

Traffic made a satisfactory improvement in the commencement of 1884, and the expenses have been kept within the estimate.

The revenue budget estimate for 1884-85 has been framed for—

	Rs.
Receipts	9,60,000
Outlay	5,70,000

The favorable estimate of receipts was based on the prospect of an exceptionally good cotton year. This exceptional cotton crop does not appear to have been realized, but the general growth of traffic will probably keep the receipts up to the estimate.

Engineering Department.—The cost per mile of line and mile of track maintained were Rs. 343.03 and Rs. 304.39 respectively. Approximately 50 per cent. goes in wages of the permanent-way maintenance gangs, and labor rates in Kathiawar rule high.

Locomotive Department.—The working of the department has not been financially as good as in 1882, as the following figures show:—

	1882.	1883.
	R	Rs.
Cost per train-mile	0.495	0.548
Cost per engine-mile	0.484	0.532
Cost per 1,000 ton-miles	3.57	3.83

Running expenses are higher, owing partly to the increase of wages due to incremental increases to the drivers, and partly to the mileage and gross tonnage being less in 1883 than in 1882, owing to the cessation of the carriage of construction materials. The gross expenditure in 1883 was below that of 1882, comparing as Rs. 1,42,630 to Rs. 1,44,804.

Coal consumption, however, is the main cause of the more expensive working. The coal in use is Cardiff, and the years 1882 and 1883 compare as under :—

Year.	Consumption per train-mile.	Cost per train mile.	Consumption per engine-mile.	Cost per engine-mile.	Consumption per gross 1,000 ton miles.	Cost per gross 1,000 ton miles.
	lbs.	Annas.	lbs.	Annas.	lbs.	Rs.
1st half, 1882 ...	20·04	2·66	19·65	2·61	141·25	1·17
2nd half, 1882 ...	18·05	2·33	17·53	2·27	136·81	1·11
1st half, 1883 ...	21·73	2·93	20·96	2·83	149·25	1·26
2nd half, 1883 ...	24·28	3·19	23·79	3·13	175·25	1·44

The quality of the supply laid in in the spring of 1883 proved inferior, and the consumption went up in June, the first month of its being taken into use from 19·55 lbs. to 21·99 lbs., this with the same men and the same engines doing the same class of work.

Trip system.—The drivers' time is taken on the trip system for all regular trains, actual time being paid for ballast, special and light engine work.

Coal premium.—Coal premia rules are in force. The men are allowed with a certain maximum to draw 25 per cent. of the value of coal saved. The coal premium paid during the year amounted to Rs. 2,488. The allowance of coal per vehicle-mile is at present 9 lb., and the maximum premium is perhaps too easily earned. With the season's coal, which so far has given favorable results, the Locomotive Superintendent hopes to reduce this allowance, putting it at a figure at which the full premia can still be well earned, but not without greater watchfulness and care on the men's part.

Water-supply.—The Bhavnagar-Gondal Railway has considerable difficulty with the water-supply, and the scanty monsoon of 1883 has shown up some of its weak points. At Ghadechi, the chief locomotive station, the one sweet-water well in the vicinity is used for the supply, which is raised by a pulsometer. The supply holds out, but is so near the minimum of what can be got on with that it naturally causes some anxiety. The tanks, &c., are iron on temporary timber standards; the permanent arrangements will be put in hand during the ensuing year, and good storage tanks built. The water-supply for Bhavnagar City is about to be laid on from the Gagga Talav in the vicinity of Ghadechi, and, if the quantity available will admit, the Darbar may consent to Ghadechi being included in the circle of supply. With that and the well which would be kept in reserve, all risk of failure would be removed.

At Dhola junction the water was failing, but deepening the well has proved more successful there than in other parts of Kathiawar, where the same simple remedy was tried. The permanent arrangements at Dhola will also be completed in 1884, as well as those at all road-side watering stations. At Wadhwan City, the locomotive terminus of the main line, no good water can be got, and the need has to be met by training it in water-tanks from Chuda, 19 miles. A high-level siding has been constructed at Wadhwan City, on to which the tank wagons are pushed so as to let them discharge direct into the storage tank. While on the subject of the working of the Locomotive Department a disadvantage that it labors under may fairly be noticed. Neither at Bhavnagar nor Wadhwan are the locomotive stations at the train terminus. At Bhavnagar all train engines have to run either from Ghadechi to Bhavnagar, or

vice versa, $1\frac{1}{2}$ miles; and at Wadhwan, from Wadhwan City to Wadhwan junction, or *vice versa*, 3 miles; no allowance for this running being made to the department, as such would be contrary to the Government rules.

Carriage and Wagon Department.—The Carriage and Wagon Department shows, like the Locomotive, an increase over the previous year, under repairs; but, in both cases, until the normal of repairs and renewals is reached, this must be expected.

The following table gives a comparison of the two years' expenditure per train-mile:—

Year.	COST PER TRAIN-MILE IN ANNAS.			
	Coaching Repairs and Renewals.	Goods Repairs and Renewals.	Cleaning and Oiling.	Total.
1st half, 1882	·31	·25	·51	1·07
2nd half, 1882	·56	·55	·68	1·79
1st half, 1883	·49	·61	·50	1·60
2nd half, 1883	·72	·36	·58	1·66

The principal items of new works done to the stock and charged to working expenses have been—

Fitting new pattern sun-shades and venetians to 11 carriages; altering 6 third class to supply purda accommodation; re-arranging 2 second class carriages to provide lavatory, &c.; altering and strengthening 15 low-sided wagons for timber traffic; and construction of an experimental 18 feet low-sided wagon.

New rolling stock.—The following new vehicles were added to the rolling stock during the year:—

- 20 third-class carriages.
- 2 horse-boxes.
- 6 cattle trucks.
- 1 experimental 18 feet low-sided wagon.

Cleaning and oiling.—Some improvement in the axle-boxes has proved an economical arrangement, and the expenditure on oil shows a satisfactory saving which the Locomotive Superintendent hopes to maintain. This department had a heavy sum to bear in 1883 on depreciation of stores, chiefly india-rubber, and other fittings.

Workshops.—During the year 11 engines underwent a thorough overhaul and repair in the Ghadechi workshops, besides slight repairs to others. The shops attract a certain amount of outside support, particularly the foundry, but nothing to compare with what they are capable of. Their distance from Bhavnagar is a heavy drawback to their general usefulness; and to meet a frequently-expressed desire of the Darbar and mercantile community, arrangements are in progress for the removal of the saw-mill machinery, and its re-erection near the Bhavnagar timber creek and new timber mart. There are fair grounds for expecting that the machinery there will be fully worked, and the railway work can be as well done there as at Ghadechi.

The value of the work done in the shops in 1883 was as follows:—

	Rs.
Locomotive and carriage and wagon, capital works ...	61,332
Do. do. revenue do. ...	30,518
Other departments of the Railway	9,814
The public	5,704
Total ...	1,07,368

Traffic Department.—The number of traffic trains run during the year 1883 was—

Passenger and mixed	...	...	...	...	...	...	...	1,670
Goods	...	...	...	...	...	...	...	758
Special passenger	...	...	...	...	...	...	...	16
Total								2,444

or a daily average of about 7. From February 1883 to June 1883 an extra mixed train was run daily on the branch line to connect with the main line down mixed, but it was abandoned after this trial, the traffic not being sufficient to warrant its continuance. With this exception, the daily service has consisted of one up and one down mixed train on both branch and main lines. For the monsoon months this accommodates the whole traffic, both coaching and goods; after that the traffic gradually rises, till in April and May four or five goods trains run each way daily; unfortunately in the busy season the traffic is almost all cotton towards Bhavnagar and the up running is mostly light. The low-sided stock, 369 vehicles, is fully occupied during these months, the engineering ballast wagons having to be pressed into the general service. With the growing traffic the number of open vehicles will have to be added to. The subject is receiving consideration, a special class of stock appearing desirable.

The main line mixed is now timed to 17·3 miles an hour between stations, 14·2 miles through. The branch line mixed to 15 miles between stations, 12·7 miles through. Goods are timed to 12 miles between stations, 10 miles through.

The traffic working expenses of 1883 amounted to Rs. 1,12,302, or 12·55 per cent. of the gross receipts; in 1882 they were Rs. 1,01,733, or 11·60 per cent. Station staff, which is over 36 per cent. of the total traffic expenditure, is an item that can be altered but little within the limits of variations of the traffic of this line; in the busy season they are fully worked, in the slack season they have not enough to employ them, but even if some further reduction might be possible in the slack season, the want of trained hands would be so much felt in the busy periods that it would not be conducive to efficient working.

Compensation claims.—The cases of compensation claims settled during 1883 were 23 in number, and aggregated in amount to Rs. 547. The most serious were three separate cases of thefts of bales of piece-goods. To none of the three robberies could any clue be obtained.

Audit and Accounts.—Since the 1st January 1884, the former system of paying all earnings into, and meeting all expenditure of the Bhavnagar-Gondal Railway from, the Bhavnagar treasury has been reverted to; the necessity for a supply of funds at the Dhoraji and Botad treasuries, which existed during the construction period, having now ceased.

TRAFFIC AND WORKING.

GREAT INDIAN PENINSULA RAILWAY

The fluctuations in the coaching traffic are brought out in the following table, which shows the number of passengers carried in each class separately for "Troops and Police" and the travelling public:—

	1ST CLASS.		2ND CLASS.		3RD CLASS.		4TH CLASS.	
	Troops and Police.	Public.	Troops and Police	Public.	Troops and Police.	Public.	Troops and Police.	Public.
1883	2,804	39,276	70,521	121,124	17,271	790,649	...	5,871,754
1882	3,353	32,924	74,419	91,563	81,942	654,437	...	5,282,407
Increase } in 1883 {	...	6,352	...	29,561	...	136,212	...	589,347
Decrease } in 1883 {	549	...	3,898	...	14,671	...	...	...

The resulting decrease in earnings from the smaller number of troops conveyed, exclusive of baggage and accessories, amounted to Rs. 2,50,643, while the increased receipts from the improved public passenger traffic as above indicated, amounted to Rs. 2,18,292, thus nearly making good the deficiency. Among the causes which have produced the improvement in the passenger traffic may be mentioned the attractions of the Calcutta Exhibition, the Myji and other religious fairs held during the year, and the general reduction in the coaching fares introduced from 1st August 1883, particulars of which are given under the succeeding head of the report. As regards the miscellaneous receipts other than from the fares of passengers, the principal variation occurred in those from "Parcels," which contributed Rs. 2,78,645 more to the annual income than in the previous year. This matter is also again referred to later on. The principal fluctuations in the goods traffic are summarised in the following table, in which only the increase or decrease in the quantities carried and the receipts earned from the more important articles of trade are shown:—

Particulars.	Increase in 1883.		Decrease in 1883.	
	Tons.	Rs.	Tons.	Rs.
Coal and coke	21,272	1,28,819	...	...
Commissariat stores ... ..	...	...	4,185	1,20,848
Cotton ... ..	...	...	26,855	6,77,294
Food grain ... ..	...	...	27,071	3,22,533
Linseed	47,743	7,35,869	...	...
Mowra flowers and seed... ..	9,018	1,50,236	...	...
Opium ... ..	...	...	1,469	91,101
Piece-goods ... ..	...	...	1,067	80,541
Railway materials	3,922	...	...	1,30,384
Salt ... ..	...	...	6,070	87,525
Spice seeds	7,848	77,398	...	...
Tilseed	10,985	2,24,506	...	...
Wheat	26,124	5,30,692	...	...

The decrease in the cotton traffic, which is such an important element in the business of this line, was occasioned by the partial damage to the last crop caused by unseasonable and heavy rain. The traffic in linseed during the past year was nearly 30 per cent. above that for 1882. The earnings from this source have risen from Rs. 13 lakhs in 1880 to Rs. 33 lakhs in 1883. The traffic in tilseed has also largely improved during that period, owing, it is said, to its growing importance as an export for the preparation of Italian Lucca Oil. The Egyptian Expedition had much to do with the increased earnings derived in 1882 from the carriage of Commissariat stores, and had possibly some connection with the declension in the receipts from food grain, large quantities of which were carried for the use of the native troops who formed the bulk of the Indian Contingent. The traffic in wheat, which next to linseed shows the largest increase, was checked by the unfavorable prices ruling at home during the latter part of the year, which prevented the profitable export of the ample reserves available in the country. The traffic in opium and piece-goods has been influenced by the reduction in the rates for parcels to which reference is hereinafter made.

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

The variations in the number of passengers carried during the past year as compared with 1882 are exhibited in the following statement, separately for each class, and for public traffic as distinguished from "Troops and police":—

	1ST CLASS.		2ND CLASS.		3RD CLASS.		4TH CLASS.	
	Troops and Police.	Public.	Troops and Police.	Public.	Troops and Police.	Public.	Troops and Police.	Public.
	No.	No.	No.	No.	No.	No.	No.	No.
1883	1,524	68,790	34,516	496,777	9,970	7,878,276	...	611,928
1882	1,758	63,847	32,781	436,947	10,792	7,488,886	...	392,892
Increase in 1883 ...	...	4,943	1,735	59,830	...	389,390	...	219,036
Decrease in 1883 ...	234	...	...	...	822	...	...	...

Seventy-eight per cent. of the increase above indicated is due to the greater number of local and suburban passengers carried during the year, which did not, of course, swell the earnings in anything like the same proportion. In the absence of any special circumstances during the year to influence the coaching traffic of this line, the improvement that has occurred must be attributed to a general expansion of business.

The fluctuations in the goods traffic appear in the subjoined statement in which only the more important variations in quantities and receipts are shown:—

	Increase in 1883.		Decrease in 1883.	
	Tons.	Rs.	Tons.	Rs.
	Cotton	25,455	3,97,718	...
Grain ... ..	...	...	29,515	3,46,328
Piece-goods	1,245	23,974	...	...
Seeds	32,299	1,88,167	...	...
Railway materials	21,544	2,39,431	...	...
Wheat	99,154	7,11,514	...	...

Most of the increase in cotton was in half-pressed bales, at least so far as the first or busy half-year was concerned, and was received at Sabarmati from the Rajputana-Malwa Railway. In the second half of the year this traffic was influenced by the alteration in the rates referred to under the next head. The apparent decrease in grain and part of the improvement in wheat is due to the traffic in the latter commodity having up to June 1882 been included with the former, thereby preventing a proper comparison. The wheat traffic was undoubtedly better in the past year, and nearly the whole of it was received at the Sabarmati junction, and mostly from Delhi and stations on the Sind, Punjab, and Delhi Railway. As regards piece-goods, the traffic in the European articles yielded an increase of Rs. 1 lakh, which was neutralized by the falling off in country manufactures. The extra business in seeds was also done with Rajputana, and serves to show the importance of this connection to the B. B. & C. I. Railway Company. The last increase remaining to be noticed resulted from the carriage of materials for the Rewari-Ferozepore State Railway.

BHAVNAGAR-GONDAL RAILWAY.

General results.—During the year 1883 there was 193·21 miles of line open and under working; 259,920 train-miles were run, earning Rs. 8,94,179

and costing Rs 5,67,566, or 63·47 per cent. of the gross receipts, leaving 36·53 per cent. of the earnings as net profits. The earnings and expenses per train-mile have been Rs. 3·44 and 2·18 respectively. Of the total earnings coaching traffic contributed 49·4 per cent., goods 48·7 per cent., and telegraph and sundries 1·9 per cent. Of the total expenses, maintenance accounted for 23·3 per cent., locomotive and carriage department for 32·1 per cent, traffic 19·8 per cent., and general administration, audit, stores, medical department, police, telegraph, and sundries, 24·8 per cent.

Coaching traffic.—The coaching traffic shows, as compared with 1882, a falling off of 1,522,993 passenger miles and Rs. 22,094 in receipts; this can only be attributed to a reduction in the pilgrim traffic, which in that year was above the normal. The average sum received for carrying a passenger unit is practically unaltered, being 2·59 pies *versus* 2·58 in 1882.

The average number of passengers in a train has fallen from 232 to 229: this fall was in the first half of the year; in the second half there was an increase, the average number, comparing with the corresponding period of 1882, as 243·74 to 210·43. The third-class traffic is in numbers over 98 per cent. of the total. The first and second classes attract little traffic, and the vehicles are hauled at a loss.

Goods traffic.—The goods traffic, compared with 1882, shows a reduction in total tonnage carried of 33,176 tons and of 1,485,809 ton-miles, but this is fully accounted for by the reduction in railway materials carried for both capital and revenue. Under these heads there were 43,165 tons less in the year under review. General merchandise shows an increase of 9,954 tons, and the receipts from goods traffic have risen from Rs. 3,99,035 to Rs. 4,35,785, an increase of Rs. 36,750. The average sum received for carrying one ton of goods one mile has risen from 10·40 to 14·28 pies. This is largely due to the reduction in the percentage which railway materials, carried at a low rate, bear to the general traffic.

The average tonnage in a train has fallen from 47·25 tons to 46·14 tons, which may fairly be accounted for by the cessation of heavily loaded construction trains and increase in the light cotton traffic.

Variations in main traffic staples.—Of the main staples the following show increases over the previous year—

	Total quantity. Tons.	Improvement. Tons.
Cotton, raw	21,398	3,494
Cotton, manufactured	1,039	269
Fruits and nuts	2,094	974
Grain and pulses	13,001	66
Metals and manufactures of	1,395	344
Seeds	5,655	944
Tobacco	619	316
Wood	8,717	2,740

Of the decreases the chief is that under the head of coal, but it is mainly due to some change in the period of supply. Sugar and spices also show a falling off, the probable reason being the cheap sea carriage of these to the various Kathiawar ports.

RATES AND FARES.

GREAT INDIAN PENINSULA RAILWAY.

An important reduction in the passenger fares of all classes was introduced during the past year from 1st August. Those for the first and second classes were reduced from 18 and 9 pies per mile to 12 and 6 pies respectively, the third class on mail trains from 4 to 3 pies, and on ordinary trains from 3 to 2½ pies per mile. The distinction of fourth class was abolished. The

reduction as affecting the first class was not approved of by the Bombay Government on the ground that the accommodation and attention ordinarily provided for and expected by this class of passengers was greatly disproportionate to the fares they then already paid. But the change was considered desirable by the Company's Board of Directors, and brought the rates into accord with those in force on the B. B. & C. I. Railway, where they have been found to work advantageously. The variations in the passenger traffic during the period covered by the reduction, as compared with the previous corresponding five months, are shown in the following table:—

				Increase in 1883.	Decrease in 1883.
				No.	
First class	...	...	...	2,510	...
Second class	...	...	...	18,938	...
Third class	...	...	...	197,853	...
			Total	219,301	...

Allowance must, however, be made for the improvement in the local season ticket traffic, the fares of which underwent no reduction. The effect of the reduced fares on the Company's income cannot, for this reason, be precisely determined, but it may be stated that the above-mentioned increase in the number of passengers was accompanied by an increase of Rs. 42,311 in the coaching receipts. The reduction in the rates for "Parcels," adopted on the proceedings of the late Railway Conference at Simla, was introduced from the commencement of the past year, and operated to increase the traffic earnings from this source to the extent of Rs. 2,78,645, or 88 per cent. of the realizations in 1882. Much of this increase, however, appears to have been at the expense of the goods traffic, since large quantities of opium, piece-goods and silk, hitherto booked as goods, have under the influence of the reduced rates been forwarded during the past year as "Parcels." This is pre-eminently true of the first-mentioned commodity which formerly was almost entirely carried as goods, and only as a matter of emergency by passenger trains; whereas now the parcel rates make the latter mode of conveyance the more economical, and while apparently swelling the Company's income merely diverts it, and makes the traffic prove less profitable than it used formerly to be.

The only alteration of any importance in the goods rates during the year was the slight reduction made in the charges for carriage of grain and seed to Bombay as follows:—

	Per Maund.	
	From	To
From Jubbulpore and all stations up to Pagal inclusive	Rs. 0 10 9	Rs. 0 9 6
From Nagpur and all stations up to Jalamb, including Khamgaon, and from Amraoti	„ 0 10 0	„ 0 9 6

These are equivalent to a reduction of 12 and 5 per cent. on the previous rates, but were only introduced from 1st November, and have not been followed by a sufficiently active traffic to indicate the influence exercised thereon by the reduction. The rates from other stations were unchanged, and from 1st December that from Jubbulpore was the same for all grain booked through from other lines *via* the E. I. Railway, while all restrictions as to quantity were abolished.

SOUTHERN MAHRATTA RAILWAY.

The following scale of rates and fares, which came into force on and from the 24th of March 1884, have been sanctioned on this line:—

BELLARY-HOSPET SECTION.

Coaching Rate List.

Miles from Bellary.	Stations.	FARES FROM BELLARY.							
		1st Class.	2nd Class.	3rd Class.	Luggage per maund.	Horses, Carriages, Palanquins, &c.			Dogs.
						One horse.	Two horses same owner.	2 or 4-wheeled carriage or palanquin.	
Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
	From Bellary—								
12½	Kudatani ...	1 4 0	0 10 0	0 2 9	0 2 2	2 8 0	2 8 0	2 8 0	0 4 0
24½	Gadiganur ...	2 6 0	1 3 0	0 5 3	0 4 2	3 2 0	4 11 0	4 11 0	0 4 0
40½	Hospet ...	3 14 0	1 15 0	0 8 6	0 6 10	5 2 0	7 11 0	7 11 0	0 4 0
	From Hospet—								
16	Gadiganur ...	1 8 0	0 12 0	0 3 3	0 2 8	2 8 0	3 0 0	3 0 0	0 4 0
28	Kudatani ...	2 10 0	1 5 0	0 5 9	0 4 8	3 8 0	5 4 0	5 4 0	0 4 0
40½	Bellary ...	3 14 0	1 15 0	0 8 6	0 6 10	5 2 0	7 11 0	7 11 0	0 4 0

Goods rates and rules in force on and from the 24th March 1884.

Miles from Bellary.	Stations.	ORDINARY.					Special.	Full-pressed Cotton.
		1st Class.	2nd Class.	3rd Class.	4th Class.	5th Class.		
		Rate per maund of 82½ lbs. per mile.	Rate for 27 maunds per mile.	Rate per maund of 82½ lbs. per mile.	Rate for 27 maunds per mile.	Rate per maund of 82½ lbs. per mile.			Rate for 27 maunds per mile.
		1	2	3	4	5	6	7
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
12½	Kudatani ...	0 0 5	0 0 7	0 0 9	0 1 1	0 1 6	0 0 4	0 0 6
24½	Gadiganur ...	0 0 9	0 1 1	0 1 5	0 2 1	0 2 10	0 0 7	0 1 0
40½	Hospet ...	0 1 2	0 1 9	0 2 4	0 3 5	0 4 7	0 0 11	0 1 7

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

The reduction in parcel rates, similar to that on the G. I. P. Railway already referred to, increased the earnings during the year by Rs. 13,862, but without affecting the goods traffic so prejudicially as in the case of the other line.

In consideration of the active competition of the sea route for the cotton traffic from Surat and Broach an arrangement was concluded with the principal cotton houses of Bombay, by which they obtained the advantage of slightly modified rates of carriage on their undertaking to send all their cotton from their up-country agencies by the railway.

BHAVNAGAR-GONDAL RAILWAY.

Alterations in rates and fares, 1883.—In 1883 the goods rates were revised to agree with the corrected mileage of the line, and at the same time the rates were worked out to actuals per maund instead of being rounded off to the nearest 3 pies. The only reductions in rates in important staples during 1883 were in kerosine-oil and three-quarter pressed cotton. The traffic in the former was suffering from water competition, and the rate was reduced from third and fourth to first and second class. There being a probability of attracting $\frac{3}{4}$ th pressed cotton to the line, its rate was altered to an equality with full-pressed. A full load of $\frac{3}{4}$ th pressed cotton can be got into the covered wagons.

Traffic working.—During 1883 enquiries were in progress on three important questions connected with the traffic working :—

- (1) The establishment of a carting agency from important villages to the nearest stations.
- (2) The performance, by the railway, of the work of loading and unloading public traffic.
- (3) The establishment of through booking with Bombay.

Carting agency.—It was desired to combine (1) and (2) in the hands of one agency, so as to concentrate the work at stations by bringing the unloading from carts and loading into the wagons into the one set of hands; but the negotiations fell through, owing to the very high terms asked by the tenderers for the work. It is still having attention, and, it is hoped, will be got in working order in time for the season of 1884-85.

Loading and unloading public Traffic.—The duty of loading and unloading the public traffic was taken over by the railway on 1st February 1884, and has since been done by a railway contractor. This is practically a reduction all round on the traffic rates. There has been some difficulty in working the business, and the contractor has not given satisfaction, but some friction with the traders' agents, who formerly did the business, was, of course, expected.

Through booking with Bombay.—Through booking from all stations on the Bhavnagar-Gondal Railway for all description of traffic to and from Bombay by sea from Bhavnagar, by both steamer and country craft, was opened on the 25th March 1884; no great results are expected by the Railway Administration this season, as the arrangements could not be completed till so late, but it was desirable to make a commencement and feel how the system worked; so, though late, it was given a trial. A good future is expected for this traffic.

Reduction in rates made in first quarter of 1884.—In the first quarter of 1884 a large reduction was made in the rates for full and $\frac{3}{4}$ th pressed cotton, the rate having been lowered to 6 pies per ton-mile. Reduced rates for large consignments of railway materials, machinery, or building stores have also been sanctioned. These will now be carried in large quantities at 6 pies per ton-mile. Coal rates have also been reduced, and this in full train loads will now be carried at 4 pies per ton-mile.

Carting competition.—Local railway carriage has severe competition in Kathiawar; the province is not large; distances are not great; and with its numerous small ports, all open during eight or nine months of the year, there are great facilities for small carriers. During the hot season, when the bullocks are not required in the fields, there is a large cart traffic, cotton being taken down to the coast, and the village supplies brought back. Time being no great object, and the journey at most only some two or three days by cart, it will be evident that a powerful competition is thus brought against the railway.

CHAPTER V.
GUARANTEED AND IMPERIAL STATE RAILWAYS UNDER THE
CONTROL OF THE GOVERNMENT OF INDIA.

EAST INDIAN RAILWAY.

GAUGE 5' 6".

CONSTRUCTION.

The following are some of the principal works of construction completed during the year:—

EAST INDIAN RAILWAY, MAIN LINE.

Construction of two large barracks, Chaplain's quarters, and billiard-room, and extension of reservoirs and engine shed at Asansol.
Branch line to Mokameh Ghât with goods shed and sidings.
Branch line to Bunka Ghât.
Overbridge, Buxar.
Doubling line between Buxar and Moghal Sarai, 58 miles.
Passing station, Karbigwan.
City branch line, Cawnpore.
Overbridge, Aligarh.
Permanent station, Markundi.
Roadway over More bridge, Sainthia.
New stations, Chattra and Bijapur.

WORKS IN PROGRESS.

The more important works in progress were—

EAST INDIAN RAILWAY, MAIN LINE.

Improvements at Howrah terminus to provide further facilities for goods traffic.
Bridge over Hooghly river, Hooghly.
Additions and alterations to curves for improvement of speed of mail trains at Mihijan, Karmatar, Gidhaur, Jamoore, and Manaupur.
Goods shed and water-supply from Ganges river for Mokameh.
Sidings in canal docks, Arrah.
Water-supply, Chunar.
Water-supply, Mirzapur, from the Ganges river.
Water-supply, Allahabad, from the Jumna river.
New crossing stations at Ekari, Chacheri, Panki, Korara, Makhanpur, Pura, Khurli, Danner, and Newar.
Water-supply, Paphund, Bhartna, Jaswantnagar, Bhadan, Shikohabad, Katni, and Sihora Road.
Reservoir, overbridge, covered way, goods shed, transfer platform and additional sidings Jubbulpore.
Enlargement of Traffic Manager's office and additions and alterations to workshops at Jamalpur.
Stone protection to river bank, Monghyr.

STATE RAILWAY BRANCHES.

Patna-Gya Branch.

Improvements of water-supply.

Ghazipur-Dildarnagar Branch.

Additional sleepers.

Spurs up and down stream, and stone protection, to flood relief openings.

Sindia Branch.

Stone protection to piers, and pitching to abutments, Chumbul bridge.

Chumbul bridge over Sunk river.

Outfalls and drops for drainage in ravines of Chumbul valley.

Completing fencing.

Of the above works, only the Hooghly bridge and the works at Howrah need special notice here.

A general description of the proposed Hooghly bridge, and of the approaches to connect it on the one side with the East Indian and on the other side

Hooghly bridge.

with the Eastern Bengal Railway, was given in the last report.

There has been some delay in the acquisition of the land for the junction line. The Agent of the Company objected strongly to the high value assessed for the land in connection with the Hooghly bridge by the Railway Deputy Collector, and it has been arranged that the latter is to tender first the amount estimated by the East Indian Railway Company; and if this is not accepted by the owners, the question will be referred to the Civil Courts for decision under Act X of 1870.

The quarters for staff, with offices, workshops, and store-yard and the lines for workmen, with a filtered water-supply and latrines, etc., have been completed.

A heave-up boat and a steam-launch have been supplied and fitted up. Two large pontoon flats, to be employed in sinking the piers and afterwards in erecting girders, have been completed. The platform and staging for these pontoon flats is in progress. The caissons, two in number, each 66 feet long by 25 feet wide, for the piers have been completed and floated; 19,000,000 bricks and 835,266 cubic feet of material for concrete, estimated to be sufficient for the completion of the work, have been prepared.

The preparation of the designs for the cantilever and horizontal steel girders is in the hands of the Consulting Engineer to the East Indian Railway in England.

The foreshore wall for a length of 1,950 feet has been completed and the reclaimed land behind it filled in. On the northern half a large goods-shed 800 feet \times 100 feet has been erected for export produce, and on the southern half, which is still intersected by the approaches to the coal jetties, the intervening spaces are utilized by the coal traffic.

Works at Howrah.

The extension by 1,800 feet of the floating stage has been completed, with the exception of breaks to enable the coal jetties to be worked.

It was anticipated that the lock and gates to the boat dock would be completed in May 1884. The new goods-shed, 1,000 feet long by 50 feet wide, is under construction along the north bank of the boat dock for the export produce. The next step to be taken is the removal of the coal yard to some other place in order to utilize the space thus gained for the export goods traffic. The coal owners and traders do not wish to move out of the Howrah yard, but if this be necessary, say that they would prefer a site above the floating bridge.

MINERAL RESOURCES.

The fuel used on the East Indian Railway, and on the branches worked by it, consists solely of coal from the Kurhurbaree and Serampore collieries, which are the property of the undertaking.

The following statement exhibits the results of the colliery operations for the year :—

						Kurhurbaree.	Serampore.
						Tons.	Tons.
<i>Stock on 3rd December 1882, excluding 59,152 tons of slack ascertained deficiency during 1883.</i>							
Steam	...	...	...	...	...	10,250	5,000
Rubble	...	...	...	...	...	2,012	600
Smithy	...	...	...	...	...	4,390	5,904
Slack	...	...	...	...	...	37,487	21,034
Coke	...	...	...	...	...	300	500
Total						54,439	33,038
<i>Outturn during 1883.</i>							
Steam	...	...	...	...	...	141,808	63,927
Rubble	...	...	...	...	...	8,532	5,306
Smithy	...	...	...	...	...	10,309	17,742
Slack	...	...	...	...	...	28,616	31,761
Coke	...	...	...	...	...	11,404	14,247
Total						200,669	132,983
<i>Issues during 1883.</i>							
Steam	...	...	...	...	...	145,558	67,927
Rubble	...	...	...	...	...	9,044	5,406
Smithy	...	...	...	...	...	12,199	22,796
Slack	...	...	...	...	...	26,603	30,795
Coke	...	...	...	...	...	11,549	14,197
Total						204,953	141,121
<i>Stock on 31st December 1883.</i>							
Steam	...	...	...	...	...	6,500	1,000
Rubble	...	...	...	...	...	1,500	500
Smithy	...	...	...	...	...	2,500	850
Slack	...	...	...	...	...	39,500	22,000
Coke	...	...	...	...	...	155	550
Total						50,155	24,900

The quantity of serviceable coal in stock on the 31st December 1883 will thus be seen to have been—

	Tons.
At Kurhurbaree	10,500
At Serampore	2,350
Making a total of tons	12,850
Against a total stock on the 31st December 1882 of tons	28,156

The consumption, therefore, exceeded the outturn by tons 15,306, though the quantity raised, *viz.*, tons 308,000, is said to have been the largest out-put on record at the colliery.

The coal appears to have been raised at an average cost of Rs. 1-10-6 per ton, and to have been issued to the Locomotive Department at an average rate of Rs. 2-1-7 per ton, though the sanctioned issuing rate was much higher, *viz.*, Rs. 2-8-0.

The rate at which private companies supply coal to the State Railways is said to be Rs. 3-4-0 to Rs. 3-8-0 per ton.

The Manager of the colliery is desirous of making arrangements in good time to develop the Bhadua side of the coal field in anticipation of the time when the present working will be exhausted.

The outturn and consumption of hard and soft coke are increasing.

LINES OPEN FOR TRAFFIC.

The length of single line open for traffic on the East Indian Railway was 1509·45 miles against a length of 1506·77 miles at the end of 1882. The difference is due to the opening of the Mokameh Ghât branch. The total length of line, including sidings, was 2332·89 miles against a total length of 2319·14 miles on the 31st December 1882.

The lengths of the several State Branch Railways worked by the East Indian Railway were as follows:—

Patna-Gya	...	...	...	...	57·2
Dildarnagar-Ghazipur	...	...	...	...	11·99
Sindia State	...	...	...	...	74·42
					<hr/>
			Total	...	143·61
					<hr/>

The following is a list of the more serious accidents which occurred during the year:—

On the 4th January a collision occurred at Pundooah between No. 30 down goods train and the empty carriages of No. 37 up local passenger train. Damage to rolling stock to the extent of Rs. 9,500 is reported to have occurred.

On the 10th January a collision occurred at Giridih between No. 5 down mixed train, which was leaving the platform, and a pilot engine bringing wagons from the Serampore collieries. One of the native firemen in the mixed train was killed, and the damage to rolling stock amounted to Rs. 470.

On the same date a collision occurred at Gidhaur between No. 4 down passenger and No. 14 down goods train. Damage to rolling stock to the extent of Rs. 1,600 is stated to have occurred.

On the 10th March a collision occurred between two goods trains at Phaphund. Damage to rolling stock to the extent of Rs. 1,768 was reported.

On the 23rd March a collision occurred between two down goods trains at Futwah. The damage to rolling stock amounted to Rs. 2,895.

On the 1st June the superstructure of a bridge at mile 142 gave way under a special goods train. Seventeen goods wagons were wrecked and three other wagons were damaged. The cost of making good the damage done to rolling stock is estimated to have been Rs. 27,554.

On the 10th July a trolley was run over by a postal special near Bargarh. The engine was damaged and the trolley destroyed.

On the 20th July a special passenger train was derailed at the Chota Pugla bridge on mile 152 of the loop line. A native child was killed, the guard of the train and several persons more or less injured, and six vehicles were wrecked. The cost of making good the damage to rolling stock is estimated at Rs. 21,300.

On the 29th October a material trolley loaded with rails was run over between Karmatar and Madhupur by No. 16 down goods train. The damage to rolling stock amounted to Rs. 10,564.

The Mokameh Ghât line was breached by floods in three places on the 31st July; elsewhere the damage done by floods was slight.

PERSONS EMPLOYED.

The total number of Europeans in the employment of the East Indian Railway in India was 1,049, of Eurasians 607, of natives 47,454. The total number of employés was therefore 49,110.

The average number of European drivers in the employment of the Locomotive Department was 244, of native drivers 124, of European shunters 19, of native shunters 123, of European firemen 86, of native firemen 829.

English schools aided by the Railway have been established at Howrah, Rancegunge, Asansol, Rampur Haut, Sa-

Schools.

hebgunge, Jamalpur, Dinapur, Buxar, Moghal Sarai, Cawnpore, Tundla, Aligarh and Ghaziabad. Native schools similarly aided have been established at Howrah, Rancegunge, Asansol, Rampur Haut, Sahebgunj, Jamalpur, Moghal Sarai and Tundla. These schools receive grants-in-aid from Government in addition to the grant made by the Railway. The average daily attendance was about 943. This number, however, includes some children whose parents are not in the employment of the Railway. It thus appears that, on the average, every batch of 50 employés on the Railway sent one child between them to one of the East Indian Railway English or native aided schools every day.

A proposition for increasing the number of schools is under consideration. Arrangements are also being made for opening a Hill boarding school for East Indian Railway children at Mussoorie, on the principle of the Hill boarding school opened by the Sind, Punjab, and Delhi Railway some eight or nine years ago and since carried on successfully at that place.

Native adult schools have been established by the Locomotive Department at Howrah, Burdwan, Asansol, Madhupur, Nawadib, Rampur Haut, Sahebgunj, Jamalpur, Mokameh, Dinapur, Gya, Buxar, Moghal Sarai, Allahabad, Sutna, Jubbulpore, Cawnpore, Tundla, Aligarh and Ghaziabad.

The average daily attendance at these locomotive adult schools was about 554.

The total number of natives in the employment of the Locomotive Department was 11,749. It thus appears that about one in every 21 of the native employés of the Locomotive Department attended school every day—a better result than has been attained with the schools for children.

Schools for apprentices have been provided at Jamalpur and Allahabad, and a school for native workmen at Rampur Haut, in addition to the schools mentioned above.

The total expenditure by the East Indian Railway on grants to schools in the plains during the year was about Rs. 15,589, equivalent to an allowance of about five annas to each employé. This sum was partly defrayed by Revenue and partly by the Benevolent Fund.

The duties of maintaining law and order, and keeping watch and ward within the limits of the railway, were performed by a force of Government Rail-

Police.

way Police, independent of the Railway.

The sanctioned establishment was, for Bengal—

- 1 Assistant Inspector General,
- 7 Inspectors,
- 9 Sub-Inspectors,
- 10 European Constables,
- 57 Head Constables,
- 499 Constables,

costing Rs. 1,06,638 per annum.

For the North-Western Provinces—

- 1 Assistant Inspector General,
- 6 Inspectors,
- 9 Sub-Inspectors,
- 8 European Constables,
- 45 Head Constables,
- 373 Constables,

costing Rs. 84,384 per annum.

The total cost of the sanctioned police establishment was therefore Rs. 1,91,022.

The East Indian Railway's share of the cost of the Railway Police in 1883 was Rs. 1,46,354-8-6.

Under an arrangement which has recently been sanctioned, the Government Railway Police will in future only undertake the duty of maintaining law and order, with a reduced establishment, estimated by the Inspector General of Police for the Lower Provinces, in communication with the Inspector General for the North-Western Provinces, and with the Agent and Traffic Manager of the East Indian Railway, to cost Rs. 1,32,628 per annum; whilst the duty of keeping watch and ward will be undertaken by a force of chowkidars employed by the Railway, and costing, in accordance with the sanctioned scale, Rs. 30,600 per annum.

Under the contract the cost of Police is borne, $\frac{3}{10}$ ths by the State and $\frac{7}{10}$ ths by the Company as part of the working expenses of the undertaking.

The total strength of the Battalion of East Indian Railway Volunteers on the 31st March 1883 was 1,088; the non-efficients numbered 38 only. The head-quarters were at Jamalpur.

The companies, of which there were 17, were distributed as follows:—

Jamalpur, three, with a total strength on the 31st March 1883 of	159
Dinagepur, Gya, Mokameh, and Luckee Serai, one; with a total strength on the 31st March 1883 of	119
Allahabad, two, with a total strength on the 31st March 1883 of	130
Tundla, one, " " " " " "	67
Howrah and Burdwan, three, " " " " " "	191
Asansol, Ranoegunge, and Kanu Junction, one, with a total strength on the 31st March 1883 of	113
Nawadih, Madhupur, and Giridih, one, with a total strength on the 31st March 1883 of	59
Rampur Haut and Shahebgunj, one, with a total strength on the 31st March 1883 of	44
Buxar and Moghal Sarai, one, with a total strength on the 31st March 1883 of	57
Cawnpore and Etawah, one, " " " " " "	52
Jubbulpore and Sutna, one, " " " " " "	54
Ghaziabad, Aligarh and Delhi, one, " " " " " "	43

There are 23 rifle ranges belonging to the corps.

The number of subscribers to the Provident Fund was 6,193 against 5,965 in 1882.

The total amount of subscriptions was Rs. 4,25,856 against Rs. 3,74,352 in 1882.

The amount withdrawn was Rs. 1,16,212 against Rs. 1,67,218 in the previous year.

The total amount standing at the credit of the subscribers at the end of the year was Rs. 40,37,628, equivalent to a sum of about Rs. 650 per head.

The amount contributed by the undertaking for the year was Rs. 3,11,896, a sum sufficient to allow of a bonus at the rate of cent. per cent. being credited for all compulsory subscriptions, and at the rate of about 42 per cent. on all voluntary subscriptions.

The interest realized from investments was sufficient, after defraying the cost of management, to allow of a dividend of the rate of $3\frac{1}{2}$ being allowed upon the balances at credit of the members at the end of the year. Against this, however, must be set a deduction at the rate of $2\frac{1}{16}$ per cent. which was made during the year from the balances at credit of the members on account of a depreciation in the market value of the securities held by the institution.

This Fund, which appears to have been established in 1866 for the purpose of relieving cases of distress, assisting local charities from which the servants of the Railway derive benefit, and providing facilities for education or recreation, is supported by a monthly grant of Rs. 500 from Revenue, and by interest accruing on sums which have accumulated in the Fine Fund and Unpaid Wages Fund.

Benevolent Fund.

The income of the fund from all sources during the year was Rs. 16,215 and the total disbursements were Rs. 12,653. The amount at credit of the fund was Rs. 21,140 at the end of the year. The amount at credit appears to have realized Rs. 389 as interest during the year.

This fund is now, under the orders of the Government of India, to be finally closed, and its assets and work taken over by the Fine Fund.

The total amount realized from fines imposed during the year was Rs. 4,980. The disbursements were Rs. 462.

Fine Fund.

The total amount at credit of the fund at the end of the year was Rs. 1,53,752. Against this sum an expenditure of Rs. 1,50,000 has been sanctioned for the establishment of a hill boarding school at Mussoorie for the children of Railway servants.

The amount at credit of this fund appears to have realized Rs. 8,873 as interest during the year. The whole of the interest thus accruing has been made over to the Benevolent Fund.

STORES.

The total expenditure on the Store Department, shown in the Revenue Account for the year under General Charges, is Rs. 1,73,894. This, however, represents only the expenditure in connection with the safe custody, receipt, and issue of the stores in the depôts under the charge of the General Store Department at Howrah and Khana. The value of the stores at these two depôts is stated to have been on the 31st March 1883—

					Rs.
At Howrah	...	...	...	...	11,59,350
At Khana	...	...	...	...	1,23,300
			Total	...	<u>12,82,650</u>

In addition to the two depôts in charge of the General Store Department, there were 14 depôts in charge of the Engineering Department located at Howrah, Rampur Haut, Asansol, Madhupur, Kurhurbaree, Serampore, Jamalpore, Dinapur, Tari Ghât, Allahabad, Cawnpore, Agra, Dholpore, and Delhi, the stores in which amounted in value on the 31st March 1883 to Rs. 37,86,489. There were also three depôts in charge of the Locomotive Department located at Jamalpur, Allahabad, and Manauri (Oil Factory), containing stores, excluding coke and coal, to the value, on the 31st March 1883, of Rs. 18,71,656. And in addition there was one depôt in charge of the Carriage and Wagon Department at Howrah, containing stores aggregating in value Rs. 7,41,800.

The cost of the establishment for looking after these depôts is charged to the office expenses of the three departments concerned, and does not appear in the accounts of the General Store Department.

The total value of the stores in charge of the Engineering, Locomotive, and Carriage and Wagon Departments thus aggregated Rs. 64,00,035, exclusive of the value of coal and coke in charge of the Locomotive Department, against a stock to the value of Rs. 12,82,650 only in the hands of the General Store Department. The question of reorganizing and concentrating the control of the Stores Department is now under consideration.

The following statement exhibits the store transactions for the year as shown in the Store Accountant's books. The balances do not, however, correspond exactly with those shown in the General Storekeeper's books owing, it is stated, to certain adjustments which have been made in one set of books not appearing in the other set.

Statement showing the Store balances on the 31st December 1883.

Heads of Accounts.	Balance on	Stores added	Total.	Stores issued	Balance on
	31st December	to the stock		during the year		31st December
	1882.	during 1883 as		as per East	1883.
		per East		Indian Railway	
		Indian Railway		balance sheet.	
		balance sheet.			
	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>
General Stores	10,37,423 6 1	73,01,113 8 4	83,38,536 14 5	69,71,543 14 1	19,60,093 0 4
Detail stores... {					
Carrriage and wagon	9,33,099 1 1	15,81,586 4 8	25,17,685 5 9	16,83,011 2 2	8,34,674 3 7
Locomotive ...	17,88,163 14 0	23,80,530 8 2	41,78,694 6 2	26,59,633 6 2	15,28,061 0 0
Colliery	2,07,402 8 2	8,74,768 12 8	10,82,171 4 10	9,41,345 12 5	1,40,825 8 5
Engineering ...	41,09,091 12 2	87,61,789 8 8	1,28,70,891 4 10	96,94,834 8 3	31,76,046 12 7
Hooghly, bridge ...	Nil.	5,26,700 0 8	5,26,700 0 8	1,06,507 0 3	4,20,253 0 5
Total Detail Stores ...	70,47,757 3 5	1,41,28,435 11 10	2,11,76,162 15 3	1,50,76,332 6 3	69,90,869 0 0
Locomotive coal and coke account...	61,691 15 6	6,69,051 12 10	6,81,743 12 4	5,89,514 15 10	76,228 12 6
Stationary Department	96,27 10 6	3,80,748 0 3	4,77,020 10 3	4,02,637 13 9	74,392 12 6
Workshop manufacture and suspense	39,336 10 6	31,95,280 6 5	35,31,617 0 11	35,83,070 12 8	2,61,546 4 3
London stores	6,71,218 0 0	41,19,013 14 0	47,90,231 14 0	43,61,049 8 2	4,29,182 0 7
Sales account	61,260 8 4	9,06,010 3 1	10,60,270 11 5	10,27,288 11 10	32,081 15 7
	98,17,960 5 10	3,10,23,653 9 6	4,06,41,013 15 4	3,17,11,438 2 7	80,30,175 12 9
Less—Credit purchase account ...	Cr. 1,71,050 0 3	29,40,737 13 1	26,69,087 12 10	29,52,109 10 9	Cr. 2,83,021 13 11
Total	94,46,310 5 7	3,38,64,391 6 7	4,33,10,701 12 2	3,46,63,547 13 4	86,47,154 14 10

It will be noticed in the above statement that the issues during the year exceeded the receipts in value by about eight lakhs of rupees, and that the stock has accordingly been reduced from Rs. 94,46,310 on the 31st December 1882 to Rs. 86,47,154 on the 31st December 1883.

The stock of stores is much swollen by the large quantity of returned stores on hand. These amounted in value to Rs. 19,61,137 on the 31st December 1883. The following statement shows the distributed value of these returned stores:—

Returned Stores.

Particulars.	BY WHOM RETURNED AND VALUE.			Total.
	Engineering, &c.	Locomotive.	Carrige and Wagon.	
	Rs.	Rs.	Rs.	Rs.
Serviceable ...	13,82,263	1,90,660	13,545	15,37,468
Unserviceable ...	2,24,601	1,99,068	...	4,23,669
Total	15,57,865	2,89,728	13,545	19,61,137

Nearly two-thirds of the stock of returned stores consisted of serviceable permanent-way material, the value of which was Rs. 12,28,815 on the 31st December 1883. A portion of this returned permanent-way material, viz., 25 miles of 2nd class rails, has been sold to the Tarakeshwar Railway Company for the construction of their line.

Rolling stock.—The following list gives particulars of the rolling stock belonging to the Railway on the 31st December 1883 :—

					Number on the list.	Actual number running.
<i>Engines—</i>						
Tank mail	...	...	...	...	5	4
Passenger	...	...	...	...	75	57
Tank goods	...	...	...	...	2	1
Goods	...	...	...	...	468	357
Total					550	419
<i>Coaching vehicles—</i>						
Family carriages	...	...	...	...	22	19
Saloon (Royal)	...	...	...	...	4	4
First class	...	...	...	...	85	79
Composite	...	...	...	...	17	16
Second class	...	...	...	...	99	92
Intermediate class	...	...	...	...	61	53
Third class	...	...	...	...	645	640
Hospital	...	...	...	...	3	3
Post office vans	...	...	...	...	20	20
Through luggage vans	...	...	...	...	21	20
Horse-boxes	...	...	...	...	75	75
Carriage trucks	...	...	...	...	39	26
Passenger brake-vans	...	...	...	...	132	123
Total					1,223	1,170
<i>Goods vehicles—</i>						
Covered goods wagons	...	...	...	...	5,877	5,608
High-sided wagons	...	...	...	...	1,244	1,130
Open-sided wagons	...	...	...	...	38	33
Cattle vans	...	...	...	...	31	80
Powder vans	...	...	...	...	127	100
Timber trucks	...	...	...	...	1,151	947
Coal-hoppers	...	...	...	...	47	29
Coke wagons	...	...	...	...	23	22
Platform trucks	...	...	...	...	13	9
Miscellaneous	...	...	...	...	208	184
Goods brake-vans	...	...	...	...
Total					8,759	8,092
Grand Total					9,982	9,262

The value of the surplus stores which, though the property of Government, remain in the custody of the East Indian Railway, was Rs. 7,46,935 on the 31st March 1883, against a value of Rs. 8,19,886 on the 31st December 1882.

Surplus stores belonging to Government.

CAPITAL TRANSACTIONS.

The expenditure from Capital and Capital Advance Accounts on rolling stock from 1st January 1880, the date on which the Railway was taken over by Government, to the 31st December 1883, has been as follows :—

					Rs.
Locomotives	...	...	...	...	5,12,706
Vehicles	...	...	...	...	29,52,860
					<hr/>
					34,65,566
					<hr/>

The expenditure on the Hooghly bridge and its approaches has amounted up to the 31st December 1883, to Rs. 7,15,109, the expenditure during the present year having been Rs. 5,02,271.

Expenditure on the Hooghly bridge.

The total expenditure from Capital and Capital Advance Accounts from the 1st January 1880 to the close of 1883 has been Rs. 1,09,42,336. The expenditure during the year was Rs. 27,44,165.

REVENUE TRANSACTIONS.

The following statement exhibits the Revenue transactions for the year in comparison with those of 1880, 1881, and 1882 :—

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.	XVI.	XVII.	XVIII.	XIX.
	CAPITAL EXPENDITURE.			EARNINGS.				Working expenses.	Net earnings.	Fixed charges.	INTEREST ON		Provident fund.	Total charges.	SURPLUS PROFITS.		Train mileage.	Number of passengers carried.	Number of tons lifted.
	Capital advance account.	Capital account.	Stores balances (half-yearly).	Coaching.	Goods.	Others.	Total.				Additional capital.	Stores.			Government share.	Company's share.			
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	No.	No.	Tons.
1880 ...	64,265	2,95,053	{ 1st-half, 81,02,404 2nd-half, 95,73,830	1,16,73,200	2,08,32,802	14,38,055	4,20,45,116	1,41,90,698	2,87,54,418	1,00,71,220	1,36,810	3,05,363	2,87,544	1,98,90,043	70,00,784	17,72,601	70,44,520	85,88,868	34,71,100
1881 ...	80,06,380	4,69,736	{ 1st-half, 1,15,30,053 2nd-half, 1,19,48,613	1,18,02,132	3,22,38,405	13,80,845	4,54,11,472	1,44,03,162	3,00,48,310	1,00,38,000	7,52,099	5,28,493	3,09,483	2,06,28,075	82,55,468	20,03,607	83,30,535	80,00,102	38,20,004
1882 ...	32,82,565	10,80,163	{ 1st-half, 1,11,58,522 2nd-half, 94,46,310	1,31,92,300	3,27,07,476	11,57,800	4,71,17,594	1,74,05,084	2,07,12,510	1,87,40,415	12,70,007	4,63,609	2,07,125	2,07,72,146	71,52,201	17,83,073	90,61,363	1,04,37,319	43,83,652
1883 ...	Cr. 7,47,720	34,01,804	{ 1st-half, 93,12,241 2nd-half, 89,47,154	1,25,47,204	3,50,85,385	8,34,496	4,94,07,085	1,82,77,498	3,11,80,587	1,83,76,844	20,98,108	4,04,086	3,11,896	2,11,00,034	70,98,922	10,02,731	1,03,70,430	1,13,16,037	49,38,019
TOTAL...	50,05,400	53,36,846	86,47,154	4,03,04,014	13,08,24,248	49,12,105	18,40,41,267	6,43,36,442	12,06,04,825	7,52,26,470	42,58,920	17,91,551	12,06,048	8,24,82,098	3,04,07,465	76,24,362	3,57,02,857	3,93,11,415	1,03,10,744

Earnings and Net earnings 1880, 1881, 1882 include $\frac{1}{4}$ ths of net Revenue of State lines.

.. 1883—Nil.

Expenses—Nil as regards State branches.

Provident Fund 1880, 1881, 1882 includes 1 per cent. on $\frac{1}{4}$ ths net Revenue of State Railways.

.. 1883—Nil.

In reference to the reduction of the 3rd class passenger fare which took place in 1882, and to the reduction made in the grain rate during the current year, it at first sight, no doubt, appears unsatisfactory to find from this statement that the surplus profits during the current year were less by about three lakhs of rupees than the surplus profits during the year 1881, which immediately preceded the introduction of the reduced fares. A close examination, however, reveals the fact that the surplus profits were abnormally reduced during 1883 by the large expenditure on maintenance, which amounted to Rs. 73,94,021 against an expenditure of Rs. 43,53,786 only in 1881. The excess was chiefly due to a sum of Rs. 39,05,000 having been spent on material for the renewal of the permanent-way in 1883 against an expenditure of Rs. 19,85,037 only for the same purpose in 1881.

The steamer traffic, which appears to have been worked at a loss during 1881 and 1882, shows a profit this year of Rs. 2,765, the earnings having been Rs. 31,891 and the expenses Rs. 29,126.

The total amount paid for compensation on account of injuries to passengers or loss or damage to goods was Rs. 5,090 only against a sum of Rs. 12,068 in the previous year.

The following statement shows in comparison for the three years 1881, 1882 and 1883, the earnings of the State Railway branches worked by the East Indian Railway:—

Names of Railways.	PASSENGER TRAFFIC.						GOODS TRAFFIC.					
	1881.		1882.		1883.		1881.		1882.		1883.	
	Number.	Rupees.	Number.	Rupees.	Number.	Rupees.	Tons carried.	Rupees.	Tons carried.	Rupees.	Tons carried.	Rupees.
Patna and Gya State Railway	540,569	3,38,261	624,238	3,52,433	615,322	3,10,797	67,698	1,59,438	74,151	1,75,162	68,021	1,43,101
Sindia State Railway	175,957	1,33,940	235,787	1,76,332	243,340	1,75,176	134,062	95,708	133,940	1,25,615	91,415	1,34,001
Ghazipur and Dildarnagar State Railway	80,151	17,073	102,049	18,528	122,149	20,173	27,576	19,351	37,823	23,999	44,999	25,779

N.B.—The above statement shows the earnings from passengers and goods only, exclusive of receipts from luggage, carriages, live stock, &c.

TRAFFIC AND WORKING.

Allusion has been already made to the increased activity of the Engineering Department in improving the condition of the line.

Engineering Department.

The total number of sleepers renewed during the year was 578,332 against a total of 509,628 in 1882 and of 353,289 in 1881.

Out of the total number of sleepers renewed during the present year, 308,133 were replaced by wooden and 270,199 by iron sleepers.

The total length of the rails renewed during the present year was about 177.02 miles against a length of 113.91 miles in 1882 and of 70.3 miles in 1881.

Of the rails thus renewed during the present year, 140.57 miles were renewed with steel and about 36.45 with iron rails.

The total length of road laid with steel rails amounted on the 31st December 1883 to 509.25 miles.

The total length of road laid with the full complement of sleepers amounted on the same date to 1614.2 miles. Additional sleepers are still required on a

length of 364.74 miles. On a portion of this length, 223.83 miles, the bearing of the rails has been shortened by the introduction of blocks of wood under the rail. These will be replaced hereafter by sleepers when a sufficient number are available.

The quantity of stone ballast for maintenance delivered during the year was 16,517,258 cubic feet against a quantity of 12,973,645 in 1882.

The only point in reference to the maintenance of the State Railway branches worked and maintained by the East Indian Railway requiring special notice is the general failure of the cast-iron bowls of the pot sleepers on the Patna-Gya State Railway.

The result of a count made during the last half-yearly inspection of the line showed 34 bowls broken or cracked out of 65 in under-burnt brick ballast; 59 out of 124 in stone ballast, and 13 out of 59 in a mixture of gravel and dirt.

The expenditure of the Locomotive Department shows a decrease of Rs. 4,07,291 in comparison with the expenditure in the previous year. This decrease is due to the fact of the expenditure in 1882 having been abnormally swollen by heavy debits on account of a number of new engines and tenders which were got out at the cost of Revenue to replace condemned engines and tenders.

Eight new engines arrived, and nineteen old engines were condemned during the year.

The average age of each of the condemned engines was 21 years; the average number of train-miles run by each was 255,043 and of engine miles 341,203.

One hundred and twenty-four engines and 110 tenders received thorough repairs during the year.

The average number of native drivers employed was increased this year by six. The average number of native shunters remained the same as in last year. The native drivers and shunters continue to give satisfaction, and the Locomotive Department are able to show large present savings effected by their employment in place of Europeans.

The average cost of fuel, including charges for carriage of coal, was 1 anna 7 pies per train-mile. The average cost per train-mile of wages of drivers, firemen, and guards was annas 2 pies 7.

Oil Factory.

The outturn of the oil factory at Manauri was—

Castor oil, 1st quality	...	...	336,732 gallons.
Ditto medicinal	...	...	59 "
Linseed oil, raw	...	...	6,582 "
Ditto boiled	...	...	2,920 "
Machine grease	...	...	628 cwts.
Soap, country	...	...	200 "

The expenditure was—

	Rs.	A.	P.
For wages	...	...	...
For material	...	...	...
	13,599	10	0
	299,536	7	10

The average issuing price was—

	Rs.	A.	P.	
For castor oil, 1st quality	0 14 3 per gallon.
Ditto medicinal	3 0 0 "
Linseed oil, raw	1 5 3 "
Ditto, boiled	1 7 8 "
Machine grease	16 4 0 per cwt.
Soap, country	6 7 0 "

Carriage and Wagon Department.

The following additions were made to the rolling stock during the year, *viz.*—

1 Family carriage.	17 Covered goods wagons.
4 First class carriages.	4 High-sided goods wagons.
9 Third class carriages.	30 Goods brake-vans.

The number of vehicles rebuilt was 362.

The total number of vehicles rebuilt since the commencement is stated to have been 3,133.

The traffic expenses were slightly higher in proportion to the gross earnings than they were last year. The difference was not, however, sufficiently large to call for special explanation.

Traffic Department.

The traffic this year, both in passengers and goods, exceeded considerably the traffic of any previous year.

In connection with the working of the Traffic Department, it is necessary to notice that during the period between April and August, when a heavy export traffic was being done in wheat and oil-seeds, a block occurred at Howrah, which necessitated restrictions being placed upon the through-booking of all foreign railways with Howrah, so as to limit the number of wagons arriving daily at Howrah to the number—about 500—which could be unloaded in a day.

While this block of traffic was on, a failure of the water-supply occurred at stations on the chord line early in June, and in consequence goods trains had to be sent round by the loop line.

RATES AND FARES.

The year 1883 is specially interesting, because there is not only the operation of a reduction from 3 to 2½ pies per mile introduced in the previous year in the third class passenger fare, but also the effect of a considerable reduction introduced in June in the rate for the carriage of grain and seeds from the upper part of the North-Western Provinces and from the Central Provinces to Howrah to be studied. This reduction in the goods rates was chiefly due to the action of the Government of India in reducing the rate for grain sent to Bombay over the Rajputana-Malwa State Railway.

The immediate effect of the reduction in the grain rates was, according to the figures in the Traffic Manager's report, to bring, in the second half of the year, when the reduced rates had come into full operation, the exports of wheat from Bengal, for the first time since 1880, once more ahead of the exports from Bombay. And thus, whereas in the first half of the year the exports from Bombay exceeded those from Bengal by 103,624 tons, in the second half the exports from Bengal exceeded those from Bombay by 21,419 tons.

The following statement exhibits the improvement which has taken place in the position of Calcutta in respect of the wheat trade under the reduced rates:—

Year.	Total exports.	Exports from Bengal.	Exports from Bombay.
	Tons.	Tons.	Tons.
1881	869,983	328,992	470,479
1882	710,439	222,657	418,511
1883	1,116,162	405,891	488,096

However, not only did the quantity carried largely increase, but the receipts increased largely also; so that, while in 1881 the receipts from goods traffic were Rs. 3,22,38,495 and in 1882 Rs. 3,27,67,495, in 1883 they rose to Rs. 3,59,85,385.

The following statement, showing in comparison with 1881 and 1882 the quantity of wheat carried in the downward direction and the amount received, indicates how largely the wheat traffic contributed to the prosperity of 1883 :—

Year.				Weight carried.	Amount received..
				Tons.	Rs.
1881	...	...	...	336,716	38,59,234
1882	...	...	...	239,310	29,59,110
1883	...	...	...	420,332	53,22,314

At the same time the working expenses for goods traffic do not, if allowance is made for abnormal expenditure on maintenance, show, in comparison with other years, an excessive increase.

Hence the results from the reduction of goods rates which the East Indian Railway made in this instance, under pressure of competition, appear to have been successful.

In the absence of any competition with other railways, it is reported that the local goods traffic on the East Indian Railway languishes and is not always attracted to the line.

Local goods traffic.

Carts may be seen in the neighbourhood of many of the large towns on the railway making journeys of several days' duration alongside of the railway in connection with local traffic. In some places, too, even pack bullocks may be seen making journeys of several days' duration in droves alongside of the railway; and this at times when every available bullock is required for employment in connection with the cultivation of land.

The following extracts from a report furnished by the Traffic Department in 1883 will show this :—

In regard to a road crossing on the Sindia State Railway, which is worked by the East Indian Railway, at a station upwards of 50 miles distant from Agra, it is stated that "strings of carts laden with cotton, grain, oil-seeds, and ghee pour along this road to the trunk road on the way to Agra."

Again, in regard to a road crossing on the same line a mile to the north of the next station on the Agra side, it is stated that—"Traffic such as cotton, ghee, and grain passes in large quantities along this road to the trunk road on the way to Agra, and a return traffic from Agra of jaggree, rice, and piece-goods goes back the same way. The road to the station is quite easy for country carts, but no traffic visits the station."

Of the trunk road referred to, which runs alongside of the line, it is stated that "the trunk road throughout the year is crowded with carts carrying country produce to Agra."

These extracts, it is true, refer to a branch railway, which has been but recently opened, but very much the same state of things will be found to exist at some seasons on the roads alongside of the main line of the East Indian Railway in the neighbourhood of the large cities up-country.

Although large reductions on present rates might in some instances have to be made in order to develop a local goods traffic, and although the lead would be very short, yet as the traffic, unlike the export traffic, goes in both directions, and as it can be engaged in during the season when other traffic is slack, it ought to prove remunerative.

Under the reduction referred to in the third class passenger fares, the number of *ordinary* third class passengers carried has increased from 7,531,528 in 1881, when the higher fare was in force, to 10,062,098 during 1883.

Third class fares.

But though the increase in the number carried was large, the increase in the receipts from the third class passenger traffic was comparatively small, the amount received having been Rs. 93,68,872 against Rs. 86,77,574 in 1881, so that, while the number carried increased by one-third, the earnings increased only by one-twelfth.

The Agent has pointed out that the comparative smallness of the receipts from the third class passenger traffic is the more remarkable, because of the fact that increased train accommodation has been provided since the third class fare was reduced, by running an additional through train between Howrah and Allahabad, which might naturally of itself have been expected to produce a large increase of traffic, even with the higher fares previously in force.

It will be apparent from the present time-table that four passenger trains each way run through daily between Howrah and Allahabad; that three of these as down trains start from, and three as up trains run on to, Delhi, while two of them as down trains start from, and two as up trains run on to, Jubbulpore. Besides these, on the first 67 miles, *i. e.*, between Howrah and Burdwan, no less than seven additional trains run each way daily as local trains, though three of them run only between Howrah and Pundooah, a distance of 38 miles, and two run beyond Burdwan over the loop line; or, in other words, while the first 67 miles enjoy an efficient local train service, the remainder of the line is served by through trains only.

It was of course natural that the traffic of the first 70 miles, where the people are in exceptionally prosperous circumstances, should have received more attention than that of the rest of the line; but this does not account for the requirements of the local traffic of the other large cities along the line having been to a certain extent neglected.

The local passenger traffic of large cities cannot as a rule be properly served by through trains. Turning, for instance, to the latest time-table of the East Indian Railway, it will be seen that even with the present improved through service, a dealer from any station in the down direction wishing to attend the bazar at Allahabad in the early morning, must come in at midnight, 12-10 A.M., as there is no other train until 10-34 A.M.

Again, a passenger from the up direction who comes down to Patna to attend the courts or public offices, must leave at noon, 12-6 P.M., or stop until 11 o'clock at night.

Again, at Aligarh, there is no train by which a dealer can come in from the up direction in the early morning to attend the bazar, unless he comes in at midnight 12-36 A.M., and there is no train by which a passenger who has come in from the down direction to attend the courts, can get away until midnight, 12-50 A.M., unless he can catch No. 4 down train, which leaves at 11-7 A.M.

So, also, a passenger from the down direction attending the courts at Cawnpore must get away at 11-35 A.M. or wait until 9-25 P.M.

It will be instructive, now, to compare the results attained on the section accommodated with an efficient local train service, with those on the rest of the line, where the travelling public has had to make the best of a through train service.

It appears, from the Chief Auditor's half-yearly reports, that the stations on the Calcutta-Burdwan section, 67 miles in length, contributed in 1883 no less than 3,189,013 third class passengers to the traffic, whilst the remainder of the line, 1,442 miles in length, contributed 6,328,249 third class passengers, or about twice the number contributed by the first 67 miles. Thus, on the first 67 miles, every mile contributed on an average 130 third class passengers up or down each day—a traffic nearly three times as large as the average third class traffic per mile of any other railway in India, according to the latest statistics available, *viz.*, those for the second half of 1882. While on the remaining 1,442 miles, each mile on the average was only able to produce 12 third class passengers up or down per day—a traffic smaller than the average third class traffic per mile of any other guaranteed railway except the Great Indian Peninsula line.

The Howrah-Burdwan section will doubtless always furnish a much larger local passenger traffic than any other portion of the East Indian Railway, but it seems very desirable to similarly promote the convenience of the local passengers in other districts, and an attempt to foster such traffic by running convenient local trains at low rates in the neighbourhood of some of the large up-country cities would probably prove remunerative.

The fare for the intermediate class still remains on the East Indian Railway $4\frac{1}{2}$ pies per mile. The Government of India has addressed the Agent suggesting a reduction, as the fare, when compared with that of the 3rd class of $2\frac{1}{2}$ pies, is out of all proportion to the difference of accommodation provided, but the Agent has taken no notice of the suggestion.

EASTERN BENGAL RAILWAY.

GAUGE 5' 6".

WORKS IN PROGRESS.

There were no works of any engineering importance in progress on the Eastern Bengal Railway during the year.

At Goalundo a new station building and four bungalows for the locomotive staff have been built in place of those removed owing to the encroachment of the river. All the buildings at Goalundo are constructed of a framework of poles, with matted sides and thatched roof, owing to the shifty nature of the River Ganges rendering the site of the station liable to change. An engine-shed capable of holding four engines with tenders, and the watering arrangements, have been completed during the year.

About $2\frac{2}{3}$ miles of line from Barrackpore have been relaid with steel rails, making a total length of $17\frac{2}{3}$ miles from Calcutta; a balance of $6\frac{1}{2}$ miles yet remain before Naihati station is reached, the point where the Hooghly Bridge branch of the East Indian Railway will eventually join the Eastern Bengal Railway.

On the Poradaha Branch belonging to the Northern Bengal (State) Railway, but worked by the Eastern Bengal Railway Company, the Damookdea station has been abandoned and a new steamer and boat ghât constructed higher up the river Ganges at Golabnugger, on account of the main stream having changed its course and the channel leading to the Damookdea station having shoaled up.

The new steamer ghât is still called Damookdea Ghât, and is nearly opposite the Sara Ghât of the Northern Bengal (State) Railway on the other side of the river Ganges: the length of the connecting line from the Damookdea engine-shed is about 6 miles.

The new Damookdea Ghât, together with this extension, were opened for public traffic—passenger and goods—on the 11th December 1883.

At the beginning of 1883, the Eastern Bengal Railway Company only worked a short length of the Bengal Central Railway—that from Ranaghat to Bongong—a distance of $20\frac{3}{4}$ miles. Since then the following sections have been opened for public traffic:—

Length.	Between stations.	Date.
$14\frac{1}{2}$ miles . . .	Dum-Dum to Duttapukar	2nd April 1883.
17 "	Duttapukar to Gobardanga	10th December 1883.
$61\frac{1}{2}$ "	Bongong to Khulna	16th February 1884.
$11\frac{1}{4}$ "	Gobardanga to Bongong	22nd April 1884.

This completes the Bengal Central Railway, so far as hitherto constructed.

The earth-work of the extension from Ranaghat towards Bhugwangola, 89 miles, has been commenced as a State work. The mode of junction at Ranaghat is not yet fixed.

The line, about 5 miles in length, intended to connect the Hooghly station on the East Indian Railway with the Naihati station on the Eastern Bengal Railway, and the bridge crossing over the Hooghly river, have been commenced.

LINES UNDER SURVEY OR PROJECTED.

A line has been projected branching off the Eastern Bengal Railway at Titaghur running along the bank of the river Hooghly to Chitpore, hence joining the main line again by two curves, one in the direction of Dum-Dum, and the other in the direction of Narculdanga, where, after crossing the main line to Sealdah, it will join the Calcutta and South-Eastern Railway, and curve round outside Calcutta to the Kidderpore Docks.

A tramway has been projected from the station at Kissengunge along the metalled roadway, 21 miles in length, to Kot Chandpore, a large sugar market.

MINERAL RESOURCES.

No minerals have been found in the alluvial country traversed by the Eastern Bengal Railway, and the fuel used during 1883 is coal obtained from two sources.

The coal supplied by the Bengal Company from Mungulpore and Madhupore and by Messrs. Shibkisto Daw & Co. for the use of locomotives costs Rs. 7-8-0 at Chitpore and Rs. 7-8-0 at Shamnugger per ton.

Messrs. Shibkisto Daw & Co.'s coal from Shibpore for use of the steamers costs Rs. 8-8-0 at Chitpore and Rs. 8-8-0 at Shamnugger per ton.

During the year the total consumption of coal for locomotives amounted to 20,237 tons and for the steamer service 6,755 tons.

LINES OPENED FOR TRAFFIC.

The total length of line of the Eastern Bengal Railway opened for traffic on the 31st December 1883 was 159.64 miles, and besides this the Eastern Bengal Railway Company worked the Poradaha branch belonging to the Northern Bengal State Railway, 17.50 miles long, and the two following sections owned by the Bengal Central Railway Company, *viz.*, the Ranaghat section, 20.58 miles, and the Dum-Dum section, 31.77 miles in length, making a total of 229.49 miles opened for traffic in connection with the Eastern Bengal Railway system, against 193.11 miles in 1882. This is probably the last time these lines will be so considered, as the guaranteed contract terminates on the 1st July 1884, when the Eastern Bengal Railway will be transferred to Her Majesty's Secretary of State for India and be amalgamated with the Calcutta and South-Eastern Railway.

There has only been one accident of a serious nature during the year, and that took place at Munshigunj on the 20th December 1883, when No. 14 Up mail train ran through the dead siding, knocking down the buffer stop and damaging the engine and some of the carriages and wagons. Fortunately none of the passengers were seriously injured, but the driver's foot was hurt. The driver is to be prosecuted when he comes out of hospital.

The returns of accidents during the past three years have been tabulated for ready reference and comparison—

	1881.	1882.	1883.
Accidents	77	91	68
Open mean mileage	172.75	181.30	210.25
Total train-mileage	743,780	794,296	814,320

giving a result of—

in 1881	...	...	...	1	accident to	9,620	train-miles,
in 1882	...	...	...	1	"	8,728	"
in 1883	...	...	...	1	"	11,975	"

—a marked decrease between 1883 and 1882.

During the year under review no passengers were killed and 4 were injured against 2 killed and none injured in 1882, and none killed and 2 injured in 1881.

Of the Company's servants 10 were killed and 13 injured, the numbers for the last and previous years being—

					Killed.	Injured.
1883	...	...	...	...	10	13
1882	...	...	...	...	6	17
1881	...	...	...	...	5	12

For every million passengers who travelled by this railway during the year none were killed and 0.134 injured, that is to say, 1 passenger was injured for every 7 millions that travelled.

PERSONS EMPLOYED.

The total number of persons employed on the Eastern Bengal Railway, including the Poradaha, Ranaghat, and Dum-Dum sections, amounts to 273 Europeans and 6,552 natives.

The Eastern Bengal Railway has its own police of 325 constables and 26 jemadars, with one Police Superintendent, whose head-quarters are at Sealdah, and an Assistant Police Superintendent at Goalundo.

At the locomotive shops at Kanchrapara and Narculdanga and the carriage shops at Sealdah, European, East Indian, and native lads are trained as apprentices, being bound for a term of five years. There are not any night schools, but such lads as show a taste for design are taken into the Locomotive Superintendent's drawing office. A number of native lads have thus been trained as mechanics. Some of the European lads trained as apprentices have since become drivers.

The Eastern Bengal Railway has no school of its own, but the Company subscribes Rs. 100 per month towards the expenses of educating the children of European employes at hill schools. During the year there were eight children at the Government School at Kurseong. It does not appear that anything is done towards helping the education of the children of native employes.

The *Volunteer Force* in connection with the Eastern Bengal Railway consists of two companies, and aggregates 172 men, including officers. There are only 10 non-effectives in the corps. There are 28 marksmen and 47 first-class shots. There are this year only two rifle ranges, one at Belghurria and one at Kanchrapara. When the Goalundo diversion was made in 1882, the range was crossed by the railway and the land belonging to it occupied by the Company's buildings. Since then, owing to the difficulty in obtaining a new site and the opposition of land-owners, no range has been put up. Arrangements are now in hand for obtaining a suitable site, as the Goalundo range is a very important one, and its non-existence has acted prejudicially to the shooting of the corps.

STORES.

The stores account for the year 1883 is given below—

	Rs.	£	Rs.	£		Rs.	£	Rs.	£
Balance in stock on the 31st December 1882	...	...	0,62,358	88,210	Stores issued during the year—				
Purchased during the year 1883—					On Capital Account	1,90,803	17,491	...	...
In England	5,52,304	50,623	...	...	On Revenue Account	10,01,765	91,529	11,92,569	109,319
In India	6,23,873	57,646	11,81,177	108,274	Stores sold during the year	...	...	43,424	980
Stores returned into stock during the year—					Balance in stock on the 31st December 1883	...	...	0,35,070	85,708
On Capital Account	1,234	113	...	...				21,71,090	199,097
On Revenue Account	27,170	2,421	28,404	2,604					
			21,71,030	199,097					

The locomotive stock of the company consisted of 48 engines—33 large passenger and 15 small passenger engines.

The number and description of the vehicle stock at the end of the year 1883 is shown below :—

LIST OF VEHICLE STOCK.

Coaching vehicles—

8	saloon carriages.
10	sleeping carriages.
7	first class carriages.
21	first and 2nd class composite carriages.
8	second class carriages.
46	third class carriages.
5	third class with postal accommodation.
9	third and 4th class composite.
56	fourth class carriages.
1	postal van.
18	passenger brake-vans.
6	horse-boxes.
4	carriage trucks.
1	fish wagon.

200

Goods wagons—

112	covered goods wagons.
4	covered goods wagons for ambulance purposes.
1	powder-van.
13	goods brake-vans.
4	cattle wagons.
76	high-sided wagons.
50	ballast wagons.
15	timber trucks.
270	iron cylindrical wagons.
500	iron rectangular wagons.
1	sample cylindrical wagon.

1,046

CAPITAL TRANSACTIONS.

The total capital expenditure up to the end of the year 1883 was Rs. 3,57,37,316 (£3,275,920). After deducting the steam-boat expenditure amounting to Rs. 13,82,327 (£126,713) and the stores held in suspense amounting to Rs. 9,35,978 (£85,797), there remain Rs. 3,34,19,011 (£3,063,410) which give an expenditure per open mile of the Eastern Bengal Railway (159.64 miles) of Rs. 2,09,933 (£19,186).

During the year 1883—

	Rs.
The capital expenditure, including steam-boat expenses, amounted to	2,09,475
The credits to capital	3,528
Capital expenditure	<u>2,05,947</u>

of which the details are given below—

Construction of line	11,039
Ballast and permanent-way	19,501
Stations and buildings	10,679
Plant	1,169
Carriage and wagon	1,67,087
Locomotive stock, &c.	3,258
Total	<u>2,05,947</u>

The following summary exhibits the Company's Capital Account as it stood at the close of 1883:—

	£
Capital, stock, and shares authorized	6,000,000
Capital subscribed	2,255,480
Balance available of capital stock and shares not raised	3,744,520
Loan debenture, stock, and sundries	1,023,658
Capital expended	3,275,920

REVENUE TRANSACTIONS, 1883.

The net earnings of the year under review amounted to Rs. 26,58,245 (£243,672), giving a dividend of 7·43 per cent. on the total capital expenditure.

The net earnings exceeded the guaranteed interest on subscribed capital and interest on the debentures and overdrawn capital by Rs. 9,72,696 (£89,163), which has been divided equally between the Company and the Government, the shareholders thus drawing a dividend of 1·97 per cent. on subscribed capital in excess of the guaranteed interest, 5 per cent.

From figures obtained from the Auditor of the Eastern Bengal Railway it appears that a sum of about £70,912, together with simple interest, was still due to Government on the 31st December 1883, on account of its early advances to make up the guaranteed interest.

TRAFFIC AND WORKING.

There has been on the whole some improvement in the running of the trains, the number of late trains having decreased 19·34 per cent. from the previous year, and this in spite of the down Darjeeling mail train having been 140 times late at Sealdah.

					TRAINS LATE.		1882.	1883.
Up trains	...	...	...	...	607	393		
Down trains	...	...	...	...	535	531		
Total					...	1,142	924	
In 1882	...	...	...	...	19·4 per cent. up trains were late.			
In 1883	...	...	...	...	12·6 per cent. up trains were late.			
In 1882	...	...	...	...	17·2 per cent. down trains were late.			
In 1883	...	...	...	...	17·0 per cent. down trains were late.			
In 1882	...	...	...	...	18·3 per cent. of all trains were late.			
In 1883	...	...	...	...	14·8 per cent. of all trains were late.			

The general results of working during the last five years are compared in the following tables:—

Abstract of Earnings, Expenses, and Profits.

Year.	Miles open.	Train-mileage (Traffic Department).	Earnings.	Expenses.	Profits.	PER MILE OPEN.			PER TRAIN MILE.			Percentage of working expenses on earnings.
						Earnings.	Expenses.	Profits.	Earnings.	Expenses.	Profits.	
			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
1879	171·75*	660,517	40,65,814	17,80,403	22,85,411	23,873	10,366	13,307	6 1 2	2 10 7	3 6 7	43·8
1880	171·75*	675,337	44,51,318	19,07,547	25,43,771	25,017	11,100	14,911	6 9 5	2 13 2	3 12 3	42·9
1881	172·92*	743,780	51,23,603	20,18,331	31,11,227	20,604	11,072	17,002	6 14 4	2 11 5	4 2 11	39·3
1882	103·11†	794,290	56,23,507	21,75,534	34,47,423	29,118	11,200	17,652	7 1 3	2 11 10	4 5 5	38·7
1883	229·49‡	814,320	40,06,735	23,20,302	26,46,433	21,642	10,110	11,532	6 1 6	2 13 7	3 3 11	40·7

N.B.—Steamer traffic has been excluded from this table.
 * Includes Poradaha Section of Northern Bengal State Railway (13 miles).
 † Ditto ditto 13 miles and Bongong section, (20·47 miles).
 ‡ Includes 69·85 miles of foreign lines worked by the Company. Of this length 17·50 miles belong to Poradaha Section of the Northern Bengal State Railway, 20·53 miles of Ranaghat section, and 31·77 miles of Dum-Dum section of Bengal Central Railway.

Steamer Traffic.

Year.					Earnings.	Expenses.	Profits.
					Rs.	Rs.	Rs.
1879	...	...	...	...	4,38,113	2,89,992	1,48,121
1880	...	...	...	...	4,84,843	3,04,304	1,80,539
1881	...	...	...	...	5,72,434	3,14,381	2,58,053
1882	...	...	...	...	5,02,718	3,11,704	1,91,014
1883	...	...	...	...	4,17,686	3,79,507	38,179

The gross earnings, inclusive of the steam-boat service, show a net decrease as compared with 1882 of Rs. 7,41,305 (£67,953), or 12·10 per cent.

There is a favourable increase of Rs. 2,22,921 (£20,434), or 14·39 per cent., under the head of coaching traffic, but goods traffic and steam-boat earnings have together decreased to the extent of Rs. 9,74,930 (£89,369), or 21·79 per cent.

The very serious decrease in goods traffic and steam boat earnings is accounted for by the unfavourable outturn of the jute crop in 1883, the earnings from the carriage of this staple having fallen off to the extent of Rs. 11,09,574 (£101,711) on a decrease of weight of 166,567 tons.

The greater portion of this serious decrease has taken place in local traffic; the extent to which foreign traffic has been affected will be seen below :—

Increase.	Rs.	£	Decrease.	Rs.	£
Northern Bengal Railway ...	43,396	3,978	Serajganj traffic with the Indian Steam Navigation Company ...	1,34,476	12,327
Bengal Central Railway ...	42,142	3,863	Calcutta and South-Eastern Railway ...	2,280	209
Darjeeling-Himalayan Railway ...	8,684	796			
Total ...	94,222	8,637	Total ...	1,36,756	12,536

	1882.		1883.	
	Rs.	£	Rs.	£
The earnings from—				
Coaching traffic amounted to ...	15,48,440	141,940	17,71,361	162,375
Goods traffic amounted to ...	39,71,793	364,181	30,81,895	282,507
Upon the total earnings of ...	61,25,726	561,525	53,84,420	493,572
The percentage of coaching traffic is ...	25·28	25·28	32·89	32·89
The percentage of goods traffic is ...	64·84	64·84	57·24	57·24

Details of passenger traffic.

Description of classes.	NUMBER CARRIED.			Increase in 1883.	Decrease in 1883.	Increase per cent.	Decrease per cent.	RECEIPTS.			Increase in 1883.	Decrease in 1883.	Increase per cent.	Decrease per cent.
	1881.	1882.	1883.					1881.	1882.	1883.				
First class ...	29,147	30,223	38,531	8,607	...	28.49	...	Rs. 57,525	Rs. 61,131	Rs. 69,553	Rs. 5,422	...	8.87	...
Per cent. on entire passenger traffic ...	1.23	1.25	1.30	...	...	...	...	3.90	4.41	4.12	...	...	...	...
Second class ...	62,631	68,037	73,900	10,959	...	16.01	...	Rs. 55,610	Rs. 57,178	Rs. 60,018	Rs. 1,810	...	3.22	...
Per cent. on entire passenger traffic ...	2.64	2.82	2.64	...	...	...	...	3.78	3.13	3.00	...	...	...	...
Third class ...	467,143	405,339	390,663	...	8,170	...	2.26	Rs. 2,23,111	Rs. 2,38,052	Rs. 2,29,547	...	10,195	...	4.35
Per cent. on entire passenger traffic ...	10.72	10.61	13.26	...	...	...	...	21.02	17.25	14.16	...	...	...	...
Fourth class ...	1,810,630	1,910,100	2,476,870	566,770	...	29.07	...	Rs. 10,37,402	Rs. 10,27,732	Rs. 12,60,110	Rs. 2,32,318	...	22.60	...
Per cent. on entire passenger traffic ...	79.41	79.12	82.80	...	...	...	...	70.40	74.21	78.00	...	...	...	...
Total ...	2,369,560	2,414,200	2,991,364	677,161	...	23.90	...	Rs. 14,73,634	Rs. 13,85,053	Rs. 16,14,229	Rs. 2,29,175	...	16.51	...
Per cent. of passenger traffic to total railway receipts ...	...	...	...	...	...	...	...	28.75	24.65	32.51	...	...	...	...

The number of passengers carried, exclusive of *season ticket-holders*, has risen from 2,233,240 to 2,782,841, an increase of 549,601, or 24.61 per cent., while the receipts, including excess fares, have also risen from £124,854 (Rs. 13,62,045) to £145,854 (Rs. 15,85,617), or 16.41 per cent.

Of the increase in the number of passengers, the Bengal Central Railway contributed 391,147, the Northern Bengal and Darjeeling-Himalayan Railways 26,098, and the local traffic of the Eastern Bengal Railway 132,356.

There has therefore been a general increase, which, however, has not added in the same proportion to the earnings, owing chiefly to,

(a) The short distance traffic on the Bengal Central Railway; for which only half the earnings appear in the accounts.

(b) The issue of return tickets available for one month from all stations to Calcutta at a single fare for the convenience of those desirous of visiting the International Exhibition.

The largest increase appears as usual in the 4th class, but it is satisfactory to observe that the 3rd class shows a tendency to improvement, which is apparent both in local and through traffic, and it is therefore hoped that the desertion from that class in favour of the improved 4th class carriages is now checked, and that the 3rd class traffic will again develop and steadily improve.

Season ticket-holders show an increase of 689, or 15.23 per cent., in number and of £514 (Rs. 5,603), or 24.37 per cent., in receipts. A large number of persons employed in Calcutta have availed themselves of the Bengal Central Railway trains, which enable them to reside at their homes in the neighbourhood of the new stations.

Details of goods traffic.

Description of goods.	WEIGHT CARRIED.					RECEIPTS.			Increase in 1883.	Decrease in 1883.
	1881.	1882.	1883.	Increase in 1883.	Decrease in 1883.	1881.	1882.	1883.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Rs.	Rs.	Rs.	Rs.	Rs.
MERCHANDISE.										
For the public ...	422,816	482,164	436,680	...	45,284	32,77,688	37,74,847	28,91,339	...	8,83,508
Military stores ...	1,020	352	390	28	...	11,461	3,000	3,678	678	...
Railway materials for construction ...	69	...	1,233	1,233	...	121	...	1,122	1,122	...
Railway materials for revenue	18,738	24,447	18,976	...	5,471	16,942	35,280	21,949	...	13,931
MINERALS.										
For the public ...	45,282	54,020	42,723	...	11,297	85,327	1,00,712	1,10,978	4,266	...
" construction ...	...	...	...	...	...	...	...	...	...	...
" revenue ...	10,117	20,078	23,237	3,159	...	17,222	21,408	31,368	9,963	...
" other departments ...	6,719	6,228	4,783	...	1,445	16,739	10,197	8,949	...	7,249
Live-stock ...	...	...	...	...	...	526	225	261	36	...
Bent, demurrage, &c. ...	...	...	...	...	...	14,170	14,129	12,254	...	1,875
Miscellaneous ...	...	...	...	...	...	...	...	...	...	...
Total ...	510,811	587,230	528,212	...	59,077	34,40,206	39,71,793	30,81,895	...	8,89,898
Percentage of goods traffic to total railway receipts ...	...	...	...	...	...	67.12	70.71	62.14	...	...

Abstract of Working Expenses during the years 1881, 1882 and 1883.

Heads of Charges.	EXPENSES.			Increase in 1883.	Decrease in 1883.
	1881.	1882.	1883.		
	Rs.	Rs.	Rs.	Rs.	Rs.
Maintenance of way, works, and stations	3,38,310	4,19,781	4,39,794	20,013	...
Locomotive ...	5,91,379	4,88,850	5,06,559	17,709	...
Carriage and wagon ...	1,97,057	1,58,654	4,01,341	2,42,687	...
Traffic ...	5,46,945	5,92,357	6,02,690	10,333	...
General charges ...	3,06,098	3,08,979	3,32,123	23,144	...
Steam-boat ...	3,14,381	3,11,704	3,79,507	67,803	...
Special and miscellaneous ...	48,590	2,06,963	37,795	...	1,69,168
Total ...	23,32,760	24,87,288	26,99,809	2,12,521	...

The maintenance per mile per month, including stations and buildings, came to Rs. 202-3-2 in 1882 and Rs. 211-13-6 per mile in 1883, showing an increase of Rs. 20,013 (£1,834), or 4.77 per cent. under this head, due chiefly to heavy renewals of rails and sleepers, new ballast laid down, and increased expenditure in repairs of buildings.

	1882.	1883.
The number of wooden sleepers renewed ...	22,439	23,714
The number of cast-iron bowls (single) renewed ...	469	159
Lineal feet of rails renewed ...	29,489	35,447
Lineal feet of rails inverted ...	26,587	54,120
Cubic feet of ballast expended ...	267,313	492,995

On the 31st December 1883 about 16,000 sleepers yet remained to be renewed.

Three new engines were added to the stock in 1883, and 14 engines were thoroughly repaired. Twelve engines have been supplied with new boilers during the year, making a total of 14 engines supplied with new boilers.

The average daily engine and train mileage run by the engines was—

	Engine miles.	Train-miles.
In 1881	52·29	42·45
In 1882	56·57	45·34
In 1883	58·16	46·60

The consumption of coal in lbs. per train-mile was—

	lbs.
In 1881	52·61
In 1882	55·30
In 1883	55·94

The increased consumption of coal is due to the increased weight of the trains hauled.

In the Locomotive Department there has been an increased expenditure of Rs. 17,709 (£1,623), or 3·62 per cent., whilst the train mileage has increased by 20,024, or 2·52 per cent.; this is chiefly on account of extra expenditure incurred in working the Bengal Central Railway.

The expenses in this department show an increase of Rs. 2,42,687 (£22,247), or 152·97 per cent., a large portion of the heavy expenditure incurred in 1882 being on account of renewals chargeable to the Reserve Fund.

During the year 1883—

- 4 vehicles have been converted and turned out.
- 187 vehicles have been rebuilt.
- 230 vehicles have been heavily repaired.
- 1,823 vehicles have been slightly repaired.
- 87 vehicles have been constructed and turned out.
- 7 vehicles were under construction.
- 66 vehicles being rebuilt.
- 8 vehicles undergoing heavy repair.
- 38 vehicles undergoing slight repairs.

The Traffic expenses show an increase of Rs. 10,333 (£947), or 1·74 per cent., whilst the train mileage has increased 2·52 per cent.; this is owing chiefly to the extra length worked of the Bengal Central Railway.

The steam-boat service shows an increase of Rs. 67,803 (£6,215), or 21·75 per cent., caused by heavy repairs to engines and boilers of the steamers *Princess Alice* and *Soorma*, and overhauling flats Nos. 1, 3, and 5.

On the 31st December 1883 the steamers *Prince Alfred*, *Prince of Wales*, and *Rob Roy*, and flats Nos. 2, 3, 5, 7, and 8 were out of commission.

Under this head there has been a decrease of Rs. 1,69,168 (£15,507), or 81·74 per cent., the amount contributed to the *Reserve Funds* having been charged to it in the accounts of 1882.

RATES AND FARES.

The rate for the carriage of *unscrewed jute* was raised to $\frac{2}{3}$ pie per maund per mile, the classified rate, on the 1st July 1883, the beginning of the season. It was then gradually reduced to $\frac{1}{3}$ pie per maund per mile, in order to compete with the cheap freight offered by the boatmen down the rivers.

The rate, however, for loose jute coming from the Northern Bengal Railway stations above Natore and Atrai was fixed by agreement at $\frac{1}{2}$ pie per maund per mile during the season between Damookdea and Sealdah.

GENERAL REMARKS.

The following table is an annual summary showing the progress of this Railway from 1880 to 1883 inclusive. In the two prosperous years of 1881 and 1882, the receipts were high owing to the crops of jute being large and of good quality. In 1883 the crops, both of jute and rice in Eastern Bengal, were poor, and traffic fell off considerably. There is a fair prospect for the future, but the competition by boat on the rivers is very active, while a new outlet for the export of country produce from Naraingunge is being opened out by running steamers from this large mart to the seaport of Chittagong.

The working expenses have been moderate, notwithstanding the large additions required under the orders of Government for maintenance of way, works and rolling stock.

The property of the Eastern Bengal Railway Company was taken over by the State on the 1st July 1884, and it has been arranged that the Eastern Bengal Railway, the Calcutta and South-Eastern Railway, and the Poradaha branch of the Northern Bengal Railway should, from that date, be united under one Government management. The Bengal Central Railway, hitherto worked by the Eastern Bengal Railway Company, is from that date to be worked by State agency under the same management as the new Eastern Bengal Railway system, subject to arrangements now under consideration by the Secretary of State and the Board of Directors of the Bengal Central Railway Company. Except that the maintenance of way and works will be kept separate, the terms for working the Bengal Central Railway by the Eastern Bengal Railway Administration will probably be very similar to those under which the State branches are worked by the East Indian Railway Company.

Eastern Bengal Railway.

Years.	CAPITAL.		Capital expended, including Stores Suspense to last day of half-year.	Balance of Stores in hand on last day.	EARNINGS (TRAFFIC).					WORKING EXPENSES.			NET EARNINGS.			FIXED CHARGES.						NET PROFITS.					Train mileage.	No. of passengers carried.	Tons of goods lifted.							
	Subscribed.	Debenture Stock.			Coaching.	Goods.	Steamer Service.	Other Receipts.	Total.	Expenditure, excluding Steam-boat.	Steam-boat service.	Total.	Net earnings.	Outstandings realized.	Total, including outstandings.	Guaranteed interest.	Interest on overdrawn Capital.	Contribution to Provident Fund.	Total.	Outstandings not realized.	Total including Outstandings.	Surplus.	Amount set aside for maintenance and other purposes.	Net surplus profits available.	Government share.	Company's share.										
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1880 ...	2,16,05,258	1,11,07,178	3,57,01,850	11,16,638	14,88,015	28,73,203	4,81,813	90,040	40,36,101	10,07,547	3,04,301	22,11,851	27,24,310	1,532	27,25,842	10,70,050	2,420	27,213	17,00,622	1,632	17,08,254	10,60,000	15,000	10,54,000	5,27,460	5,27,450	677,640	2,110,644	694,008							
1881 ...	2,40,05,258	1,11,07,178	3,65,00,638	9,16,548	10,17,285	34,40,206	5,72,431	72,117	67,02,042	20,37,010	2,05,745	23,32,761	33,60,281	1,405	33,70,775	10,70,050	11,310	33,693	17,21,050	587	17,22,520	16,48,250	1,87,270	14,00,080	7,30,400	7,30,400	743,780	2,360,511	510,811							
1882 ...	2,40,05,258	1,11,07,178	3,55,67,781	0,02,368	15,48,410	30,71,763	5,02,718	1,02,774	01,25,725	21,75,583	3,11,705	24,87,288	30,39,437	210	30,39,653	10,70,050	3,870	35,201	17,10,027	1,204	17,17,231	10,21,422	1,30,762	17,00,660	8,05,330	8,05,330	704,205	2,414,704	587,280							
1883 ...	2,40,05,230	1,11,07,178	3,57,37,916	0,35,073	17,71,360	30,81,898	4,17,687	1,19,472	33,84,431	23,20,302	3,70,507	26,90,800	30,84,612	1,315	26,95,927	10,70,050	6,000	20,840	17,12,306	480	17,12,876	0,73,051	52,000	*0,21,051	4,00,625	4,60,620	814,321	2,001,322	528,212							

N. B.—The foregoing figures includes for each year 60 per cent. only of the gross receipts of the Poradaha Branch. The figures of 1882 and 1883 include 60 per cent. only of the gross receipts of the open lengths of the Bengal Central Railway.

* Of this Rs. 45,000 recommended by the Consulting Engineer to be reserved have not yet been accepted by the Board.

OUDH AND ROHILKHAND RAILWAY.

GAUGE 5' 6".

WORKS IN PROGRESS.

The most important works in progress during the year were:—

The Ganges bridge extension, 5.75 miles, with bridge over the Ganges river at Benares, consisting of 7 main spans of 356' each from centre to centre of piers, and 9 extension spans of 114' each.

The northern extension from Moradabad to Saharanpur 120 miles in length.

Benares bridge extension.—The following table exhibits the progress made on the piers and abutments of the Ganges bridge from 31st March 1883 to 31st March 1884:—

Number of Piers.	R. L. of curbs when sinking commenced.	R. L. curbs on		Depth sunk during year.	Total depth sunk since commencement.	
		31st March 1883.	31st March 1884.			
1	200.00	174.00	149.44	24.56	50.56	
2	204.00	...	142.10	61.90	61.90	
3	202.00	...	137.31	64.69	64.69	
4	195.00	154.08	123.33	30.75	71.67	
5	197.83	123.83	69.00	54.83	128.83	
6	201.99	123.79	91.76	32.03	101.23	
7	206.47	113.38	83.46	29.92	123.01	
East.	West.					
8	...	215.84	113.17	101.30	11.87	114.54
	8	215.71	111.31	98.92	12.39	116.79
9	...	215.25	127.33	96.75	30.58	118.50
	9	214.25	126.95	99.84	27.11	114.41
10	10					
11	11					
12	12	Sinking completed and pier built up to R. L. ...			...	252.37
13	13					
14	14					
15	15	Ditto	ditto	...	...	267.37
South abutment completed to R. L						...
North ditto ditto						...
						...
						...
N.B.—R. L. of assumed highest flood						...
" " low water						...
						245.00
						195.00

The sinking of No. 4 pier has been stopped since the 17th April 1883, owing to the serious accident which then occurred. A violent inrush of sand into the three working chambers of the pier, suddenly displacing the water in them, forced it upwards, so as to cause it to overtop the steining (which was 22½ feet above the surface of the river-water). The green brickwork gave way under the pressure, and a large section of masonry, extending 61 feet down from the top, was partly detached and thrust outwards. Various proposals as to the best method of dealing with the injured pier were considered, but nothing was decided upon before the rains came on. During the flood season the partly detached portion of brickwork fell completely away.

One of the principal difficulties in the various remedial proposals had been the getting rid of this brickwork, as the use of explosives was precluded—so that the matter became simplified by what had now happened.

It was eventually decided to construct and sink a large iron shield exactly fitting the breach—the shield to be filled in with Portland cement concrete. This was done, and by the end of March 1884 the reparation was nearly completed, and it was hoped that the work of sinking this pier would be very shortly resumed.

As regards the superstructure, three spans have arrived at site, and a fourth is being delivered. It was not, however, anticipated that any girder erection would be commenced this season.

The approaches to the bridge both on the north and south banks are practically completed. On the north side 1½ miles of the embankment was brought into use for the open line on the 17th June.

Northern extension.—The work on this extension has generally been much retarded during the year by insufficient supply of bricks for masonry works.

The section Moradabad to Nagina, 47 miles in length, was at the end of the year nearly ready for opening, and will probably be quite so by the end of the season.

The next section from Nagina to the Ganges river at Balawala Ghât, a length of about 30 miles, is one on which the Company were not able to commence work so soon as on the rest of the line, owing to questions as to the route to be followed having been for some time undecided.

The earthworks along this length were thrown up to full height, the banks in some parts being very high and the cuttings deep. As no rain had as yet fallen on this earthwork, the section will not be ready to receive the rails before the cold weather of 1884.

There is also a good deal of heavy bridging on this length, but owing to want of bricks no masonry work had been commenced.

On the Ganges bridge itself nothing has yet been done; considerable progress had, however, been made with the protective works above the bridge, in the shape of spurs, on a carefully prepared system.

On the next section from the Ganges to Lokhsar (the junction for the Hardwar branch), about 10 miles, the earthworks are very heavy. Of the high banks about one-half were completed. No bricks were delivered along this length, and consequently no masonry was commenced. As the bridging in this section is exceedingly heavy, it will probably be the last on the extension to be completed.

On the remaining section between Lokhsar and Saharanpur the earthworks were to a large extent completed, except the heavy bank across the Solani valley, and a deep cutting between this bank and Roorkee.

Except in the case of the large bridges, including that over the Solani (11 openings of 150'), the bridges over the Hindun and over the Ganges canal, the brickwork was more advanced than on the other sections, especially on the portion nearest to Saharanpur, where the minor bridging was nearly completed.

Open line, capital works.—There were no important works under this head carried out during the year. The new foundry in the locomotive shops at Lucknow was finished towards the end of the year.

LINES UNDER SURVEY OR PROJECTED.

The construction of the branch from Lokhsar to Hardwar, 17 miles in length, had not at the end of the year been commenced, but the route was cleared and permanently marked out and land made over.

MINERAL RESOURCES.

No known coal-yielding district is traversed by this line. The fuel used is steam coal supplied by the Bengal Coal Company, and the average consumption and cost per train-mile for 1883 was lbs. 51.73 and annas 4.37 respectively.

LINES OPEN FOR TRAFFIC.

The following are the sections of the main line and its branches, the lengths given being exclusive of sidings :—

				Miles.
Benares to Moradabad (Ganges river) ...	...	...	...	420.25
Bahramghat branch ...	...	...	...	21.52
Cawnpur branch ...	...	...	...	44.48
Aligarh branch ...	...	...	...	60.60
Total				546.85

During the year no serious accidents or flood damages have occurred.

The road was maintained in as good order as could be expected with the materials in use; no really excellent condition of the roadway can, however, be reported until the old clip joints have been entirely replaced throughout by new fish plates. The supply of 1,000 tons of new plates indented for in February 1882 was delivered in Benares between May and November 1883, and a rapid improvement will, it is hoped, soon be visible.

PERSONS EMPLOYED.

The police on the Oudh and Rohilkhand Railway consists of a private staff of constables and chowkidars with Inspectors, who are maintained by the Company and are under the control of the Traffic Superintendents. A few men of the Regular Police Force have access to the platforms as detectives, but in plain clothing. The cost per mile of railway for 1883 was Rs. 50.74, and the compensation paid for loss of property for the same period was Rs. 0.27 per mile.

Only one day school is maintained by the Company, *viz.*, that at Charbagh, Lucknow. The average attendance at this school for 1883 was 20. Contributions are paid to the East Indian Railway School at Aligarh and grants-in-aid are given to parents who send their children to the following Hill Schools, *viz.*, St. Mary's Convent, the Diocesan School at Naini Tal, and the Loretto School at Darjeeling. Thirty-four children attended these aided schools.

As regards medical attendance, a Medical Department is maintained at Lucknow, in charge of the Civil Surgeon. At all the stations on the line where Government has Medical Establishments, the services of the Medical Officers are secured for the supervision of the Company's dispensaries, and for attendance on all serious cases. At Lucknow, Chandausi, Benares bridge-works, and at a few points on the Northern Extension Works a special staff of Apothecaries and hospital attendants is maintained.

At Lucknow there is a Company of Railway Volunteers, 55 strong, of whom 46 are efficient.

About 25 or 30 railway officials belong to the Fyzabad Company, of whom 20 are efficient.

There is no separate Railway Corps.

STORES.

The transactions of the calendar year 1883 were as follows:—

	Rs.	Rs.
Balance in hand on 1st January 1883	...	29,91,250
Purchases during 1883—		
In England (Value of stores brought on to the Indian books)	... 35,75,446	
In India	Rs. 22,62,735	
Less writes back for stores returned, both English and Indian	2,76,054	19,86,681
		<u>55,62,127</u>
		85,53,377
Issues during the year—		
On Construction account	... 22,04,548	
On Revenue account	... 11,00,107	
Sales to public and foreign railways	... 1,36,339	
		<u>34,40,994</u>
Balance at close of year 1883	... ..	<u>51,12,383</u>
Increase in the balance during the year	... ..	<u>21,21,133</u>

The increase is due to stores purchased in England and in India for the Northern Extension, chiefly under the heads "London stores," "Permanent-way stores," "Locomotive stores," and "Freight suspense account."

CAPITAL TRANSACTIONS.

The total Capital transactions during the calendar year 1883 were as follows:—

	Rs.	Rs.
Outlay on engineering works	... ..	38,54,186
Outlay on locomotives	... ..	1,16,958
Outlay on Stores—		
English	... 35,75,446	
Indian net	... 19,86,681	55,62,127
		<u>95,38,271</u>
Decrease in Suspense accounts and increase in liabilities	... ..	<u>4,75,344</u>
Gross outlay—		<u>90,57,927</u>
Credit—for Stores used on—		
Revenue works	... ..	11,00,107
Capital works and sold	... ..	23,40,887
		<u>35,68,321</u>
Net outlay—		<u>54,89,606</u>
Nominal capital raised	... ..	7,00,00,000
Add premium	... ..	1,96,190
		<u>7,01,96,190</u>
Deduct discount	... ..	<u>3,01,107</u>
Balance, being capital received into the Government treasury	... ..	6,98,95,083
Capital withdrawn from treasury	... ..	<u>7,07,89,445</u>
Capital overdrawn from treasury	... ..	<u>8,74,362</u>

REVENUE TRANSACTIONS.

The following were the Revenue transactions during the year 1883 :—

	Rs.	Rs.
Gross receipts	54,56,255	
Working expenses	29,75,893	
Net earnings	<u>24,80,362</u>	
Percentage on capital withdrawn from treasury ...	3.50	
Guaranteed interest for the year	31,31,950	
Interest on capital overdrawn	495	
	<u>31,35,445</u>	
Deficit for the year		<u>6,55,083</u>

TRAFFIC AND WORKING.

The coaching traffic of the year 1883 shows a decrease in receipts as compared with 1882 of Rs. 1,82,686, a decrease in numbers carried of 36,785, and a decrease of average mileage travelled by each passenger.

The decrease is virtually confined to the "lower class" traffic, and the heaviest portion of it, which occurred in the 1st half of the year, is attributable to the heavy extra traffic that occurred in the first half of 1882 in connection with the Khoombh mela held in Allahabad.

The second half of the year shows an increase in the number of lower class passengers carried (as compared with the second half of 1882) and a decrease in receipts under this head of Rs. 16,498, entirely due to a further falling off in the average distance travelled by each passenger.

It is not easy to account precisely for the latter continuous decrease. It may possibly be due merely to the greater development of passenger traffic and trade along the direction of the short branches of the Oudh and Rohilkhand Railway as compared with that along the course of the main line, but the increase of rate from 2 pies to 2½ pies, which was made in January 1880, is probably one cause of the falling off in the average mileage travelled.

The goods traffic during 1883 as compared with 1882 shows a net increase in receipts of Rs. 2,47,955, the whole increase being in the latter half of the year.

The improvement is due principally to special class traffic, and in this class to the item wheat. A very large portion, however, of the whole improvement in special class traffic and also under the head "Railway materials for construction," is due to carriage of permanent-way materials for new lines in Rohilkhand and Oudh. This cause of increase can only be regarded as temporary.

In the Locomotive Department the working results throughout the year have been very favorable as compared with 1882. Whilst the engine mileage has increased by 140,751 miles and the train mileage by 4,011 miles the consumption of coal has been reduced to 1,441 tons less than in 1882.

RATES AND FARES.

The changes in Rates and Fares for the year 1883 were few. Neglecting certain changes in classification, the following are the principal items affected :—

The free allowance of luggage for lower class passengers was raised to 20 seers.

The charge for carriage of permanent-way materials in full wagon loads of 270 maunds booked to or *via* Benares was altered from $\frac{1}{4}$ to $\frac{1}{5}$ pie per maund per mile.

Benares crossing charges for parcels up to 20 seers in weight were reduced 1 anna, the previous charge of 2 annas remaining for parcels over that weight.

The rate for carriage of coal for revenue was reduced from $\frac{1}{8}$ to $\frac{1}{10}$ pie per maund per mile.

SIND, PUNJAB, AND DELHI RAILWAY.

GAUGE 5' 6".

WORKS IN PROGRESS.

The principal works wholly or partially executed during the year were—

The *extension of the Raewind branch* from Kasur to the Sutlej, a distance of 11 miles. This includes a bridge of 9 spans of 30 feet girders over the Rohi nullah, a bridge of 7 spans of 30 feet over an old branch of the Sutlej, one span of 100 feet over the Katora canal, and a bridge 300 feet long, over the western branch of the Sutlej, made of old rails.

A small but convenient station was opened at Ganda Singhwala on the permanent bank of the river, and a temporary station 3 miles further on at the boat-bridge over the main channel.

A design is being prepared for a railway boat-bridge over which broad gauge wagons can be crossed, so as to complete communication with Ferozepore, 7 miles distant, but it is doubtful whether it will be carried out. Another design is also being got out for a screw-pile bridge over the river at a very much cheaper cost than the ordinary class of large girder openings with deep well piers, and it is proposed to put in one or two piles as a trial to see if they will stand the scour during the floods.

The *Amritsar-Pathankot branch*, 66 miles long, constructed by the Punjab Government, was opened as far as Dinanagar, 51 miles, on the 1st January last, and has since been worked by the Sind, Punjab, and Delhi Railway. The remaining 15 miles to Pathankot were opened for traffic on the 17th June 1884.

A good passenger traffic has already been developed on this branch, but the goods traffic is at present small.

The *Rupar branch*, 48 miles long, from Doraha to Rupar and Nalagarh was taken over from the Sirhind canal authorities at the beginning of the year and worked by the Sind, Punjab, and Delhi Railway. The section from Rupar to Nalagarh, 14 miles, was so constantly interrupted by floods, and the traffic was so poor, that after the first three months it was closed for general traffic, and only worked for stone-carrying. The rest of the branch has been regularly worked, but it is doubtful whether it will be advisable to retain it.

The construction of the *Patiala branch* from Rajpura to Patiala, 16 miles long, was commenced in December last by the Sind, Punjab, and Delhi Railway Engineers on behalf of the Patiala State, and is in full progress. This branch will shortly be opened for traffic.

Lahore.—An additional bay has been added to the carriage shops, and an iron roof has been put over the Mooltan departure platform.

Khasa.—New permanent station in progress.

Jullunder City.—Additions and alterations in progress.

Sutlej ferry station.—In progress.

Ludhiana.—Branch line into two sarais completed, and new goods sheds and platforms for the Ferozepore traffic.

Doraha.—Junction works for the Rupar Branch and new station completed.

Rajpura.—Junction works for the Patiala branch in progress.

Mustafabad.—New station built and opened for traffic.

Meerut City.—Additions and alterations in progress.

Pipri, Ran Pethani, and Janabad.—Crossing stations completed.

Kurrachee City.—Old goods yard entirely reconstructed so as to give ample accommodation to the inwards traffic, and a new station opened close to the Customs house for the outwards traffic, work on which is still in progress.

Kiamari.—New wharf and sheds completed and opened for traffic close to the Merewether Pier. It is also proposed to extend the reclamation of land towards the harbour mouth and to prolong the wharf and add to the number of sheds on the ground thus reclaimed.

LINES UNDER SURVEY OR PROJECTED.

There are none immediately in prospect except the continuation of the Raewind branch into Ferozepore, adverted to above.

The Ludhiana-Ferozepore line and the Umballa-Kalka line were noted last year as being under discussion, and have not advanced beyond that stage.

MINERAL RESOURCES.

There are none worth mentioning on this line. Some hopes were entertained last year of a supply of coal being obtained from the Salt Range, but those hopes have so far proved futile.

LINES OPEN FOR TRAFFIC.

The following are the sections of the main line and the branches open for traffic:—

MAIN LINE.

	Miles.
Ghaziabad (junction with East Indian Railway) to Lahore ...	335
Lahore to Mooltan (junction with Indus Valley State Railway) ...	208
Kotri (junction with Indus Valley State Railway) to Kurrachee ...	105

BRANCHES.

	Miles.
Raewind to the Sutlej	27
Amritsar to Dinanagar	51
Doraha to Rupar	34
Mooltan to Sher Shah	11

The above lines are laid partly with iron and partly with steel rails on wooden sleepers or iron pots. The main line and the 2nd and 4th branches are duly ballasted and fenced, but not the other two branches.

The principal stations of the line are Lahore, Amritsar, Mooltan, Kurrachee, Ludhiana, Saharanpur, Meerut, Umballa, Jullunder, Muzaffarnagar, Kotri, Kasur, Batala, and Rupar.

The principal bridges on the line are those over the Sutlej, Beas, Jumna, Markanda, Tangri, Ghaggar, and there are many others of large size and only inferior to the above.

The only serious *accidents* during the year have been the following:—

On the 21st June a collision occurred between a goods train and a fuel special at Okara. The fuel train was working with a "caution line clear" under the train-following system, but arrived from Pakpattan at Okara at such a high rate of speed that it overran the distant signal and ran into the rear of the goods train, which was then moving forward: one covered goods wagon and one third class carriage were smashed, and considerable damage done to 17 other vehicles.

On the 1st July a collision occurred between two goods trains at Pipri station. The driver of No. 8 up goods losing control over his engine ran through the loop siding and out again on to the main line for some 1,300 feet, where he collided with the No. 1 down goods, then entering the distant signal. Both engines were jammed together, and the buffers and cow-catchers together with three covered goods wagons in the down train were damaged; and a number of axle boxes were broken; the line was blocked for seven hours.

On the 5th December a Punjab Northern State Railway goods train entering the Lahore station-yard was turned on to a wrong line and collided with standing vehicles, causing heavy damage to rolling stock.

On the 24th December No. 11 down goods train was run into in the Kurrachee City station-yard by an outgoing Kiamari train at a point about 200 feet within the four-armed distant signal. It appears that both drivers received "line clear" about the same time; the former train was started from the main goods departure line, and the latter from the second goods departure line at a distance of not more than sixty yards from the down train, and in full view of each other they (both native drivers) proceeded for more than 800 yards and made no attempt to prevent a collision at the crossing until too late. Ten wagons of the down train were derailed, one overturned; in the Kiamari train only a water tank was derailed. The damages to rolling stock were numerous, but not heavy; some slight damage was done to the permanent-way.

PERSONS EMPLOYED.

The principal *staff quarters* for the line are at Lahore, Saharanpur, and Mooltan, but there are others at the principal stations.

The *Railway Police* on the Delhi and Mooltan sections are under the orders of an Assistant Inspector-General at Lahore, who has also to superintend those of the adjoining State lines.

There are *railway day schools* at Lahore, Phillour, Saharanpur, Ghaziabad and Kotri for about 100 pupils altogether. There is also a hill boarding school at Mussoorie, which accommodates about 40.

The head-quarters of the 3rd Punjab *Volunteer Rifle Corps* are at Lahore. Lieutenant-Colonel Boyle Travers Hill (Chief Storekeeper, Sind, Punjab, and Delhi Railway Company) commands the regiment, which consists of two half battalions, the right half being from Mooltan to Delhi, including Kurrachee, and the left half Mooltan to Kotri. The strength of the half battalion is as follows:—

Rank.	RIGHT HALF, SIND, PUNJAB, AND DELHI RAILWAY.			LEFT HALF, INDUS, VALLEY STATE RAILWAY.			Grand Total.
	Civilians.	Railway employes.	Total.	Civilians.	Railway employes.	Total.	
Lieutenant-Colonel ...	...	1	1	...	...	...	1
Majors ...	...	1	1	...	1	1	2
Captains ...	2	3	5	...	4	4	9
Lieutenants ...	2	6	8	...	5	5	13
Staff ...	...	2	2	...	2	2	4
Staff Sergeants ...	...	1	1	...	3	3	4
Sergeants ...	6	24	30	...	18	18	48
Corporals ...	3	15	18	...	19	19	37
Buglers ...	1	3	4	...	4	4	8
Privates ...	81	287	368	...	261	261	629
Total ...	95	343	438	...	317	317	755

With regard to medical arrangements at Lahore, an allowance is made to one of the Professors of the Lahore Medical School, who acts as consulting physician and attends patients, advises in sanitary questions generally, and supervises the European and Native Railway Hospital. There is also a Native Assistant Surgeon and subordinates. An allowance is made to the Civil Surgeons of Mooltan, Montgomery, Amritsar, Jullunder, Ludhiana, Phillour, Umballa, Saharanpur, Kurrachee, and Kotri for medical assistance; and besides this there are native doctors and a small staff at Mooltan, Phillour, Saharanpur, and an Apothecary at Ghaziabad and Kurrachee.

The employment of native drivers on this line continues to receive attention. There is, of course, a distinct saving in the item of wages as compared with Europeans; but the Locomotive Superintendent appears to think that this saving is largely reduced by the increased consumption of fuel. This difficulty will possibly be overcome in time and with patience.

STORES.

		Rs.	
Balance in hand on 1st January 1883	...	...	39,43,088
Purchases during the year—		Rs.	
In England	...	17,38,247	
In India	...	27,32,396	
			44,70,643
Issues during the year	...	...	84,13,731
			43,96,076
Balance at the close of the year	...	...	40,17,655
Addition to the stock of stores during the year	...	...	74,567

The issues during the year were made up as follows :—

		Rs.	
To Revenue	...	30,04,235	
„ Capital Advance Account	...	2,31,599	
„ Construction	...	11,60,242	
			43,96,076

while the amount now locked up in stores may thus be subdivided—

	New and good stores.	Stores which have been used, but are still serviceable.	Old, obsolete, and useless, set aside for sale.	Total.
	Rs.	Rs.	Rs.	Rs.
Stock on General Stores Ledgers	15,00,727	3,56,778	1,30,098	19,87,603
Timber and petty Locomotive stores	Rs. 2,80,909			
Fuel	2,53,769			
	5,34,678	...	...	5,34,678
Engineers' Imprests	6,65,905	3,28,487	...	9,94,392
Stationery, printing, paper, tickets, and forms	1,21,178	...	...	1,21,178
Departmental manufactory accounts	88,742	...	...	88,742
Stores in sea transit from England	2,91,062	...	...	2,91,062
	32,02,292	6,85,265	1,30,098	40,17,655
		8,15,363		

The *rolling stock* of the line consists of the following:—

Engines	...	...	...	159
Passenger carriages...	...	...	...	485
Covered wagons	...	...	...	2,308
Open wagons	...	...	...	858
Other vehicles	...	...	...	410

The above are all in serviceable condition, but heavy renewals of some of the engines, 3rd class carriages, and wagons will be required within the next three years.

CAPITAL TRANSACTIONS, 1883.

Outlay on Engineering works (including Rs. 8,16,803 for Raewind branch line)	...	...	...	Rs. 14,16,077
Outlay on rolling stock	...	...	...	1,59,764
Outlay on stores—				
				Rs.
In England	...	...	...	17,38,247
In India	...	...	...	27,32,396
				<u>44,70,643</u>
Gross outlay	...	...	...	60,16,484
Credits for—				
Stores used on revenue works	...	...	...	30,04,235
Stores used on capital works and sold	...	...	...	13,91,841
Amount realized for flotilla steamers, flats, and barges sold, and other items	...	...	...	63,000
				<u>44,59,076</u>
Net outlay	...	...	...	<u>15,87,408</u>

The following shows the capital raised, expended to date, and balance in hand:—

Capital raised	...	...	...	Rs. 12,08,68,940
Capital expended	...	...	...	12,14,58,262
Balance in hand on 31st December 1883	...	...	...	<u>— 5,89,322</u>
Interest on the overdrawn capital amounted to	...	...	...	2,345

REVENUE TRANSACTIONS, 1883.

Gross receipts	...	...	...	Rs. 1,14,47,854
Working expenses	...	...	...	65,40,261
Net earnings	...	...	...	Rs. 49,07,593
Percentage on capital expenditure	...	...	...	4.04
Guaranteed interest for the year	...	...	...	60,43,404
Deficit for the year	...	...	...	11,35,811
Net earnings to date	...	...	...	4,31,14,143
Guaranteed interest to date	...	...	...	11,48,72,357
Deficit to date	...	...	...	<u>7,17,58,214</u>

The amount ordered to be written off, *viz.*, Rs. 32,50,000 as loss by sale of the steam flotilla, is not included above, but its adjustment against the revised estimate for 1883-84 will not be overlooked.

The percentage on capital expenditure for the last year shows a considerable improvement on 1882, and might be considered normal but that the receipts were affected by the favorable but spasmodic wheat traffic, and the expenditure is now, and will for some years to come be, increased by heavy renewals of the permanent-way and rolling stock, due simply to the age of the line. This must always be the case in the absence of any regular depreciation fund. But it is satisfactory to note that the total working expenses of the

line have been reduced to a reasonable percentage in spite of the large sums required for these renewals, which is due partly to a better control over the expenditure, but chiefly to the large increase in the gross receipts.

TRAFFIC AND WORKING.

The traffic operations of the year showed a healthy development of the normal traffic of the line, especially of the 3rd class passenger traffic, and of the general goods traffic. The wheat traffic is still of too uncertain and fluctuating a character to be depended upon, but everything has been done to encourage it as far as possible by the adoption of low rates, by increased provision of shelter at stations, and by increased accommodation at the sea port (Kurrachee). In regard to the general traffic, the Consulting Engineer urges the necessity of improving the feeders to the line, whether in the shape of metalled roads, cattle tramways, or branch railways.

RATES AND FARES.

No change of any importance has been made during the year, but it has been agreed to give a specially low rate of $\frac{1}{8}$ pie per maund per mile for wheat and seeds booked from Ferozepore to Kurrachee, to prevent the traffic being lost owing to the break at the Sutlej.

The following statement shows the total coaching and goods traffic for the years 1882 and 1883 :—

Passenger Traffic.	Number carried,	Number carried,	Difference.	Receipts,	Receipts,	Difference.
	1882.	1883.		1882.	1883.	
				Rs.	Rs.	Rs.
First class	24,229	22,610	—1,619	1,50,382	1,30,642	—19,740
Second class	61,293	57,291	—4,002	1,82,178	1,58,611	—23,567
Intermediate class	13,749	12,737	—1,012	24,345	25,318	+973
Third class	4,129,649	4,207,157	+77,508	27,97,299	27,79,995	—17,304
Total passenger traffic	4,228,920	4,299,795	+70,875	31,54,204	30,94,566	—59,638
Other coaching traffic ... ..	...	...	...	4,46,908	3,41,908	—1,05,000
Total coaching receipts ... ..	...	...	...	36,01,112	34,36,474	—1,64,638
	Tons.	Tons.	Tons.			
Total goods traffic	1,128,599	1,606,416	+477,817	57,78,038	75,63,987	+1,78,599

The apparent decrease in the coaching traffic is only nominal, as the receipts for 1882 were swollen by a considerable military traffic which did not recur in 1883. The large increase in the goods traffic is due to increased traffic in edible grains, oil-seeds, sugar, cotton, salt, and railway materials.

PUNJAB NORTHERN STATE RAILWAY.

5' 6" GAUGE.

	Miles.	Miles.
<i>Main Line—</i>		
Lahore to Rawalpindi	...	173 $\frac{1}{2}$
Rawalpindi to Peshawar	...	104 $\frac{1}{4}$
<i>Branches—</i>		
Golra junction to Khushalgarh	...	70 $\frac{1}{2}$
Wazirabad to Sialkot	...	26
	—	374 $\frac{1}{4}$

SALT BRANCH—		Metre Gauge.	Miles.	Miles.
Lala Musa to Miani	53½	
Miani to Bhera	8½	
Miani to Khewra	9½	
			—	71½
<i>Total mileage</i>	416

WORKS IN PROGRESS.

This branch, 26 miles in length, was sufficiently advanced to permit of its being opened for traffic on 1st January 1884, although the station buildings were not completed and the line was only partially ballasted. At Wazirabad, the junction of this branch with the main line, considerable additions and alterations have been made, including a separate passenger platform for Sialkot branch, a new ticket office, passenger overbridge, 3rd class passenger shed, engine shed with ashpits, engine turntable, and loco. yard, a carriage dock, and additional staff quarters and sidings. The engine shed and third class passenger shed are still incomplete.

Sanction has been accorded to the substitution of iron rolled beams and cross timbers, and 62-lb. flat-footed steel rails for the longitudinal timbers and heavy iron rails now in use, which have worn very badly; some cross bracing is also to be given to main girders and a buckle plate footway added. It will probably be necessary to close the bridge for 2 or 3 days whilst this work is in progress. The iron beams have been ordered from England, and the work will be carried out next cold weather.

As iron rails have been taken up for the Sialkot branch, steel rails have been laid down in their place on the main line, and it is hoped that there will be sufficient to complete the relaying as far south as Wazirabad junction.

The most important works carried out at this station during the year are as follows:—

- (i) Post office for the Railway Mail Service.
- (ii) Weighbridge for goods traffic.
- (iii) Staff quarters (consisting of three bungalows) for Engineering, Accounts, and Locomotive Departments.
- (iv) Office for Locomotive Superintendent.
- (v) A swimming bath for the subordinate staff.
- (vi) Weighbridge for tareing vehicles.
- (vii) Three furnace chimneys.
- (viii) New boiler-house.
- (ix) Water-works.—These important works are now completed and in satisfactory working order, the Locomotive Department has been served by them since September 1883, and in addition a supply of water has been laid on to the station buildings, the staff quarters, the swimming bath, railway gardens, &c., with great benefit to all concerned.

This was opened to traffic on 24th May 1883; since then the west abutment has been completed, the subway has been paved with asphalt, and was opened to traffic on 1st December, and the masonry cutwaters completed with exception of coping, which has been left over pending the erection of military block houses which are to be erected at either end of the bridge. These block houses have now been sanctioned, and will shortly be put in hand. A third class station with waiting rooms for 1st, 2nd, and 3rd class passengers has been erected at Attock bridge, and a tank with cranes, but the water-supply from the well not having proved sufficient to ensure a regular supply, this is not at present used as a watering station.

Sanction for the construction of this work was received in August 1883, and it was completed and made over to traffic in January 1884. It comprises a passenger station with the usual offices, waiting rooms for 1st and 2nd class passengers, and shed for 3rd class passengers, passenger platform with carriage dock, latrine, an engine shed with ashpits for 4 engines, an engine turn-table, quarters for traffic and locomotive staff, sidings, gatekeepers' huts, &c. All these buildings are semi-permanent and are capable of being removed or demolished at short notice, and at no great pecuniary sacrifice, should military exigencies demand it.

The station at this place was completed and opened for traffic on June 13th, 1883. A turn-table and ashpit for locomotives have since been erected, but no engine shed has been considered necessary, the traffic on the line not warranting the expenditure. A running room for the combined locomotive and traffic staff has also been constructed, and sidings for goods traffic and a special catch siding have been provided, but no goods shed nor goods platform have been built, nor are they required at present.

The chief works carried out during the year chargeable to capital have been as follows:—

- Erection of 20 "L" class engines, 5' 6" gauge.
- Construction of 10 horse-boxes, 5' 6" gauge.
- Construction of 21 rail carriers converted into timber trucks., 5' 6" gauge.
- Construction of 1 first class carriage, metre gauge.
- Construction of 2 composite carriages, metre gauge.
- Construction of 6 third class carriages, metre gauge.

The whole of the new machinery and plant has been laid down, with the exception of the forges intended for the boiler and tender shop, which has not yet been sanctioned. The boiler repairs are now done in the erecting shop and the tanks and tenders outside for want of a suitable shop to repair them in.

A pattern loft has been erected over the foundry.

The boiler and engines for the workshops have not been received, but it is understood they will shortly arrive from England.

LINES PROJECTED.

Government have declined to consider the question of this extension of the Salt Branch at present.

This scheme has not apparently made much progress during the past year, and there are at present no signs of the work being undertaken.

The temporary bridge over the Jhelum between Miani and Pind Dadan Khan was entirely swept away on 13th November 1883, shortly after its completion, by an unusually high flood for that season of the year, and much material was lost. This has drawn attention to the necessity for a permanent bridge over the Jhelum and proposals and an estimate have been submitted for a bridge at Chak Nizam, where there is an excellent site. The bridge would be of no great length, and would not be expensive, as it is possible that the girders may be obtained from the reduction in length of the Chenab bridge.

This bridge is urgently required on account of the important and increasing salt traffic from the Mayo Mines at Khewra, which is now ferried across the river under great difficulties, and also for the wheat traffic from Pind Dadan Khan, which appears likely to assume considerable dimensions. Moreover, if the Salt Range were made more accessible various mineral products would

possibly be developed; it would also come in hereafter for an extension to the river Indus opposite Dera Ismail Khan, which has been proposed and surveyed.

This subject has been discussed, but hitherto without any result. The line would be 27 miles in length, of which 9 miles would be in British and 18 in Kashmir territory. The country is easy, and presents no physical difficulties, but the traffic likely to be developed is not apparently of very considerable importance, unless the line were extended right into the Kashmir Valley.

Extension of Sialkot branch to Jummoo.

MINERAL RESOURCES.

A survey of one of the most important seams in the Salt Range was ordered, and the earlier reports seemed to show that a considerable quantity of coal was available near Pind Dadan Khan, but on closer examination the prospects of the seam did not appear to warrant any considerable expenditure in opening it up. A further examination has, however, been ordered.

Salt Range coal.

The Manager, whilst on leave, visited several of the principal patent fuel works in England, and, had this seam not turned out a failure, it was proposed to obtain a small amount of machinery and try the experiment of converting the Salt Range coal, which is very friable, into patent fuel.

LINES OPEN TO TRAFFIC.

The following extensions were opened for traffic during the year on the dates specified:—

	Miles.
Campbellpore to Khairabad <i>via</i> Attock bridge on 1st June 1883	11
Campbellpore to Attock closed on 31st May 1883	8½
Wazirabad to Sialkot opened on 1st January 1884	26

The mean mileage open during the year was 420·50 against 397·17 in 1882.

Mean mileage.

There have been no very serious accidents during the year; the following two cases of derailments of passenger trains owing to running over cattle fortunately led to no fatal results.

Accidents.

The engine, tender and six wagons of No. 29 down mixed were completely derailed and damaged at mile 51·12 on the Salt Branch by running over a buffalo.

4th February 1884.

The line was cleared by the following day. The engine was fitted with a cow-catcher, but the line at the site of the accident was not fenced.

Two wagons attached to No. 4 up mail were derailed at mile 180 by running over a buffalo. There was no damage done. The engine was fitted with a cow-catcher, but there was no fencing at the site of the accident.

29th December 1883.

There were 62 cases of cattle run over and 43 cases of fires in trains.

No very important cases of fraud or crime have come to light during the year. It is known, however, that the bad characters of the Province make use of the railway to make sudden raids on distant points in other Provinces, and

Crime.

the question of a more efficient detective force to be worked in connection with the Railway Police is, it is understood, under the consideration of the Local Government.

PERSONS EMPLOYED.

The general European school at Rawalpindi, alluded to in last year's report, has worked satisfactorily.

Education.

The native adult schools at Rawalpindi, Lala Musa, and Jhelum continued to work satisfactorily. The average daily attendance at each was, respectively, 28, 26 and 49.

A second school has been opened at Rawalpindi for traffic employés as the locomotive school was too far off for traffic men to attend.

The following statement shows the strength and efficiency of the two companies of volunteers on 1st April 1884 as compared with the previous year:—

Volunteers.

Companies.	1882-83.					Grand total.	1883-84.					Grand total.
	EFFICIENTS.				NON-EFFICIENTS. Rank and file.		EFFICIENTS.				NON-EFFICIENTS. Rank and file.	
	Officers.	Sergeants.	Rank and file.	Total.			Officers.	Sergeants.	Rank and file.	Total.		
"E" Company, Jhelum ...	2	4	49	55	...	55	3	5	39	47	1	48
"H" Company, Rawalpindi	3	6	109	118	10	128	3	6	94	103	2	105
Total ...	5	10	158	173	10	183	6	11	133	150	3	153

The percentage of efficient is 98.04 against 94.53, in 1882-83 but the strength has been reduced by 30 men during the year under review, owing to a reduction of the European and Eurasian staff on the line. Practically every subordinate on the line of European descent, worth having, is a volunteer.

The shooting of the "H" Company at Rawalpindi has much improved, owing to the completion of the rifle range and the liberality of the officers of the railway and of the two companies in giving prizes for competition.

An interesting experiment was tried from May 1883 at the Lahore junction, by which all inwards foreign invoices were audited before despatch to destination. The result is said by the Manager to have been most satisfactory. The system has now been extended to outwards invoices, and the Sind, Punjab, and Delhi and Indus Valley (State) Railways have been asked by the Manager to join, and give the system a trial on a more extended scale.

Audit of Inward Invoices.

Provident Fund.

The transactions connected with the Provident Fund were as follows:—

	VOLUNTARY.		COMPULSORY.		BONUS.	TOTAL.		FINE FUND.	UNDISTRIBUTED.		Grand Total.
	No.	Amount.	No.	Amount.		No.	Amount.		Bonus.	Security.	
Balance on 31st March 1883 ...	20	5,321	771	42,495	9,530	773	57,406	12,403	7	45,130	1,14,040
Additions during 1883-84 ...	39	8,047	177	29,936	4,021	178	39,094	1,400	69	21,726	62,207
Total ...	59	13,368	948	72,431	13,551	951	96,500	13,803	76	66,856	1,77,153
Withdrawals during 1883-84 ...	10	4,081	238	13,518	3,018	237	29,849	2,000	46	22,861	45,487
Balance on 31st March 1884 ...	49	9,287	692	58,913	10,533	694	75,770	11,803	29	44,055	1,31,666

The falling off in the number of depositors is due to reduction of establishment in the several departments of the railway.

Fine Fund—

				Rs.
Credited balance on 1st April 1883	...	...	...	12,427
Receipts of the year	...	...	...	4,458
				16,885
Expenditure ...	...	...	...	4,994
				12,491

The Railway institutes and libraries at Jhelum and Rawalpindi have been well kept up during the year, and those at the latter station, which have been enlarged and improved, are much appreciated by the men.

Railway Institutes.

STORES.

The value of stores in hand on 31st March 1884 was Rs. 10,18,465 against Rs. 11,32,366 on 31st March 1883. Compared as follows :—

Sub-heads.	RAWALPINDI DEPÔT.		JHELUM DEPÔT.		LOCOMO-TIVE DEPÔT.	TOTAL.	
	31st March 1883.	31st March 1884.	31st March 1883.	31st March 1884.	31st March 1884.	31st March 1883.	31st March 1884.
Bridge works	8,063	60,354	1,83,333	1,40,060	...	1,01,426	1,00,414
Engineers, plant	87,208	44,191	11,051	2,171	...	48,850	40,303
Workshop machinery	2,671	10,068	10,061	2,168	1,410	12,732	13,648
Ballast and permanent-way	48,802	69,108	8,327	50,002	...	67,019	1,20,010
Rolling stock	8,216	0,919	...	0	1,53,487	8,216	1,00,446
Station materials	46,322	20,912	35,633	7,002	608	81,055	29,393
Tools and stores.	5,65,624	2,00,636	1,46,536	3,626	1,87,944	7,32,160	4,52,306
Total	7,36,825	4,02,118	3,05,511	2,12,838	3,43,609	11,32,366	10,18,465

The store accounts may now be considered to be in a thoroughly satisfactory state. During the year the Stores Department has been particularly busy, all stores with the exception of some items of bridge work and plant have been removed from out-stations and concentrated in one central depôt or general store at Rawalpindi, and all surplus material at site on completion of the Attock bridge has also been removed to the general store, valued, and taken to account, the value being Rs. 1,10,576.

Surplus stores to the extent of Rs. 54,775 in value have been transferred to other railways or divisions during the year.

The whole of the stores and material in stock were revalued in June 1883, and prices, which had been high owing to most of the material having been obtained at a time when rates were enhanced in consequence of the second Afghan campaign, were reduced to the current market price, the difference in value being written off as loss on stores; the amount so written off was Rs. 1,53,632.

The locomotive stock on the 31st March 1884 was as follows:—

Particulars.	ENGINES, 5' 0" GAUGE.					ENGINES, METRE GAUGE.			Total.
	H Class.	H A Class.	H B Class.	L Class.	D and M.	A Class.	B Class.	E Class.	
Total stock on 1st April 1883 ...	18	8	10	50	...	2	6	4	98
Received during the year ...	...	...	...	20	...	...	...	...	20
Total ...	18	8	10	70	...	2	6	4	118
Transferred during the year ...	...	...	...	25	...	...	...	...	25
Total on line on 31st March 1884 ...	18	8	10	45	...	2	6	4	93

(a) 20 engines Nos. 316 to 335 received from general stores and erected in the Rawalpindi workshops.

(b) 20 L class engines were transferred to the Indus Valley State Railway and 5 L class engines to the Amritsar-Pathankot State Railway

The carriage and wagon stock on the 31st March 1884 was as follows:—

Particulars.	COACHING STOCK.		GOODS STOCK.		TOTAL.	
	5' 0" gauge.	Metre gauge.	5' 0" gauge.	Metre gauge.	5' 0" gauge.	Metre gauge.
Total stock on 1st April 1883 ...	237	24	1,368	234	1,605	258
Received during the year ...	11	9	2	...	13	9
Total ...	248	33	1,370	234	1,618	267
Transferred during the year ...	...	...	...	...	...	...
Total on line 31st March 1884 ...	248	33	1,370	234	1,618	267

CAPITAL TRANSACTIONS.

The capital cost of the line to 31st March 1884 was Rs. 7,34,33,965.

The capital expended during the year amounted to Rs. 3,54,659.

		Rs.	Rs.
Lahore-Pindi ...	...	67,017	
Salt Branch ...	...	86,109	
Sialkot Branch ...	...	7,92,179	
			9,45,305
Northern Section—credit by transfer of engines and duplicates to the Kandahar State Railway, and by material returned, chiefly permanent-way material used on temporary lines ...	...	...	—5,90,646
Total ...	...	...	3,54,659

REVENUE TRANSACTIONS.

The earnings for 1883 were practically the same as those for 1882. There was a slight falling off in coaching receipts due to less money in the country owing to closing of railway work, and to less movement of troops. In goods traffic the receipts under general merchandise and under railway materials for construction show a slight decrease.

The falling off in receipts under general merchandise is due to the lowering of rates, the average sum received for carrying one ton of goods one mile being 9·31 against 11·03 in 1882. The ton mileage was 25,874,865 in 1883 against 19,587,498 in 1882.

The expenditure again shows a decrease on that of the previous year, due partly to decreased train mileage, but principally to steady improvement and economy in working, the mean mileage worked during the year being 420·50 against 397·17 in the previous year.

TRAFFIC AND WORKING.

There has been no very noteworthy feature about the passenger traffic during the year; it is steady but shows little elasticity. The question of a reduction of fare from 2½ to 2 pies has been considered, but as the change appeared likely to involve a considerable reduction in receipts, at all events for the next two or three years, it was not considered advisable to make any change and thus hamper the action of the new Traffic Superintendent and Manager about to be appointed.

All troop movements in the course of ordinary relief have this year been made by road, but owing to the Chenab boat-bridge not having been erected this year, regiments and corps on the march have had to be conveyed by train between Gujrat or Kathala and Wazirabad.

The arrangements and appliances of the ferry train between Wazirabad and Kathala are sufficient to provide for ordinary traffic only, and when troops had to be crossed it has been at the expense of the ordinary traffic, and the inconvenience to all concerned is said to have been considerable.

The pressure on the ferry trains was in some instances relieved by running special troop trains between Wazirabad and Gujrat, but the Military Department object on the score of expense, and the railway has it is said hitherto worked this traffic at a loss.

The intermediate class carriages were thrown open to passengers of all races, booked either locally or through with foreign railways, on and from the 1st January 1884.

They had been but little used by the Natives for whom they were specially introduced. They are now chiefly useful as affording accommodation to free pass-holders who would otherwise have to be carried 2nd class.

During the last eight months of 1883, the introduction of a low rate for grain and seeds together with a temporarily brisk demand for export brought the Railway a large increase of outwards traffic in these staples.

The other principal increases were in salt and timber.

The introduction of the "through traffic" system at Khewra, consequent on the opening of the railway extension, coupled with the reduction of duty, probably accounts for the increase in salt.

The increase in timber is partly due to the requirements of other railways for construction purposes.

During the year a total of 312,306 tons of goods of all kinds was carried against 263,793 tons in 1882. The gross earnings were Rs. 14,24,725 against Rs. 15,86,470, and to the former should be added an increase of Rs. 1,64,247 earned in the form of increased mileage by Punjab Northern State Railway goods vehicles running on foreign lines.

Native drivers are being employed to a greater extent as the line increases in length. The sections now worked by native drivers are as follows :—

Native Drivers.		Miles.
Salt branch and Khewra extension	... ..	73
Sialkot branch	... ..	27
Khushalgarh branch	... ..	79
Wazirabad ferry trains	... ..	4½
Total		183½

Coal is the fuel consumed on the main line between Lahore and Rawalpindi, and wood on all other parts of the line.

Indian coal from Bengal has been used hitherto, but arrangements have now been made for a supply of English coal and patent fuel at reduced rates, as, owing to high rates maintained by the East Indian Railway, English coal can be placed at Lahore cheaper than Bengal coal.

Wood fuel has been obtained at slightly lower rates than formerly, and a contract has now been entered into for a continuous supply from the Forest Department from Chunga Munga.

A small quantity of coal was obtained from the Salt Range during the year, but the supply was stopped pending a survey of deposits, which turned out to be unsatisfactory, and since then no coal has been obtained thence.

RATES AND FARES.

The rate for grain and seeds in full wagon loads was reduced, on and from the 11th April 1883 in local booking and through booking with the Sind, Punjab, and Delhi and the Indus Valley State Railways, and on and from the 1st June 1883 in through booking with other railways, to ⅓th pie per maund per mile with a terminal charge of 3 pies per maund.

The object was to stimulate export and to find work for Punjab Northern State Railway goods stock which would earn mileage when running loaded over other railways.

This rate was subsequently modified (on and from the 16th November 1883) to ⅓th pie per mile for distances under 100 miles and ⅓th pie per mile for distances over 100 miles, the Punjab Northern State Railway terminal in either case being 1½ pie per maund only.

The results were an increase of 44,706 tons of grain and seeds, and an increase of Rs. 1,64,247 in vehicle mileage earned on foreign lines.

On and from the 1st July 1883, the charge on downwards traffic of double mileage between Jhelum and Rawalpindi was abolished. With the introduction of a low rate for grain, it was believed that the upwards traffic (that towards Lahore) would exceed the downwards traffic, and that the extra charge on downwards traffic would involve light running, some of which might be saved by lowering the downwards rates.

The outwards has continued in excess of the inwards traffic, and there has been no reason to regret the abolition of double mileage on the latter. It had been previously abolished on salt and grain.

Horses up to 14 hands, booked from Peshawar only, were carried at 4 annas per truck load of 7 or more per mile on and from the 1st October 1883. A considerable live-stock traffic to Calcutta and elsewhere was thus secured as the Sind, Punjab, and Delhi Railway were induced to quote a similar rate for Peshawar traffic only.

An experimental rate of 2½ annas per truck per mile for horned cattle booked in the downward direction for distances of 100 miles and over was quoted for a month from the 1st November 1883, to try and get some of the traffic in cattle returning from the Umritsar fair. It was not continued, as when once

the cattle left Umritsar by road even vigorous touting at the points where those travelling north again crossed the railway failed to secure more than a few head; and the low rate quoted did not permit of the employment of special canvassers. It was made known to all large dealers at the fair.

INDUS VALLEY AND KANDAHAR STATE RAILWAY.

GAUGE 5' 6".

WORKS IN PROGRESS.

ENGINEERING WORKS.

The great increase of traffic on the line has led to a large demand for additional buildings and appliances, and the year has been one of considerable activity, and heavy capital expenditure, in the Engineering Department. The following is a brief notice of the principal engineering works in progress during the year :—

INDUS VALLEY STATE RAILWAY.

Owing to serious damage done to the line from severe floods in 1882, the embankment between miles $342\frac{3}{4}$ and $344\frac{1}{2}$ and from mile $346\frac{1}{2}$ to mile 350 was raised from 2 to 3 feet above flood, and the slopes pitched on the river side from ground to 2 feet above flood level almost throughout the flooded length, miles $341\frac{3}{4}$ to 350. This was completed during the year.

Additional waterway, aggregating 400 lineal feet, was introduced at miles $344\frac{1}{2}$, $346\frac{3}{4}$, $348\frac{1}{4}$, $349\frac{1}{4}$, and $359\frac{1}{2}$ to carry off flood water which spilt over the country and breached the sections of the line, detailed above, during the floods of 1882.

Towards the close of last official year, the construction of a combined railway and road bridge over the Indus at Sukkur was sanctioned by the Secretary of State, the site selected being that known as the Haiji Motoo. Active operations were undertaken forthwith, and the approaches to the bridge on the Sukkur and Rohri sides were put in hand, and favourable progress had been made. The preparation of materials for the bridge foundations was well advanced, and a large quantity of plant, set free by the completion of the Attock bridge, was received in transfer from the Punjab Northern State Railway. Work in the abutments and piers was started after the river had subsided in October 1883, the present state of work being as follows :—

At the Sukkur channel, which is crossed with 3 girders, spanning respectively 270, 230, and 90 feet, the piers and abutments were built up to bottom of bed stones or 25 feet above high water mark, and the staging for spans Nos. 2 and 3 was erected ready for the iron-work, some of which had arrived in Kurrachee.

A description of the bridge over the Rohri channel was given at page 7 of the Director General's Preliminary Administration Report for 1882-83. The blocks on which the pillars stand have been finished up to bottom of bed stones.

Two-thirds of the full complement of gate lodges, &c., required for the line were commenced and completed during the year. Ten sets maintenance gangs' huts on the Southern division and an 8 unit permanent-way gangmen's quarter at Sukkur bandar had been built, completing the total requirements of the line under this head.

Fencing had been in abeyance for a great part of the year for want of material, which arrived from England, and was being delivered, during the last quarter of the year. Work was immediately re-started and was progressing favourably. By March 1884, 207 miles had been fenced.

An office for the Storekeeper at Sukkur and a goods shed and platform at Ahmadpur were completed and occupied. Waiting sheds have been erected for 3rd class passengers at five stations on the Southern division. A new passenger station building and platform at Sukkur main station was put in hand and was approaching completion, the roof only remaining to be put on. To reduce the maximum distance between stations on the Northern division to 14 miles and on the Southern division to $12\frac{1}{2}$ miles, so as to allow of more trains being run than was formerly possible, the following crossing stations were undertaken during the year and had been nearly completed :—

					Miles.
Kathgarh	...	...	...	...	40 $\frac{1}{2}$
Kuarkote	...	...	...	...	119 $\frac{1}{2}$
Bhanbra	...	...	...	...	442 $\frac{1}{2}$
Rajar	...	...	...	...	493 $\frac{1}{2}$

Owing to increased traffic, the staff quarters at certain stations needed supplementing. The following were accordingly put in hand and completed during the year :—

New quarters for Locomotive Foremen at Samasatta and Reti, and 2 blocks of 4 units each for drivers at Samasatta and 2 blocks at Reti. Bungalow for Permanent-way Inspector at Reti and quarters for General Foreman and apprentices, Locomotive shops, Sukkur. Fourth class quarters were also provided for menials at the following stations :—

20 units each at Khanpur, Samasatta, and Sukkur main, and 30 units each at Reti and Kotri.

Quarters have been provided for the railway police at the following stations :—

For the chief constable of police at Sukkur main and Larkana, and five blocks aggregating 45 units for other policemen at Sukkur bandar, Sukkur main, Ruk, Larkana, and Radhan.

A bungalow for the Assistant Locomotive Superintendent has been erected at Khanpur, also one for the Sub-Storekeeper, Sukkur.

A block of 6 units superior native quarters for traffic staff and huts for fuel coolies have been built at Ruk.

A Railway Institute was built and opened during the year at Sukkur.

KANDAHAR STATE RAILWAY.

Fencing.

Forty-five miles completed.

Ballasting.

Approaching completion.

A new station building with goods platform, shed, and office was built at Sibi, and a protective bund thrown up round the yard. Permanent station buildings at Jacobabad and Humayon have been put in hand, and the Sibi and Rindli station yards fenced in with a wire fence.

Quarters at Sibi have been provided for the store munshi and coolies, and huts for pointsmen at entrance points of all stations were put in hand and were approaching completion.

Staff quarters.

The reservoirs throughout the desert have been deepened, except at Bellput, where it was unnecessary to do so, and settling reservoirs have been excavated at Sibi. An ashpit, tank house, and water column have been provided at Rindli.

Station machinery.

LOCOMOTIVE AND CARRIAGE AND WAGON WORKS.

The following are some of the larger works turned out complete in the Central shops at Sukkur during the year under report :—

- 2 first class carriages.
- 5 second class carriages.
- 5 composites, 1st and 2nd class.
- 24 rail carriers converted into covered goods wagons.
- 2 old engines converted into shop engines.
- 130 rail carriers floored.

MINERAL RESOURCES.

Explorations for petroleum in the neighbourhood of the Kandahar State Railway were undertaken during the year by the orders of Government, but not by the staff of the Railway.

The fuel used on the line consists chiefly of wood obtained from adjacent forests. No Indian coal is obtainable at prices that will compete with English coal brought up from Kurrachee. English coal is chiefly used on the Kandahar State Railway in the desert between Jacobabad and Sibi where wood is not procurable. During the year, the very heavy traffic brought the stocks of wood down so low, that some coal was used on the main line. The total quantity of wood and coal respectively used by locomotives during the calendar year 1883 was as follows :—

	Tons.
Wood	75,465
Coal and patent fuel	7,427

Besides this, 8,041 tons of wood were used in steamers on the Indus ferry; so the consumption of wood is very large, and though the Government forests in Sind may hold out for some time, the increasing price of wood on the Northern section shows that coal will soon have to be used there. The average cost of wood and coal was :—

	Per ton.
	Rs.
Wood	5.74
Coal	21.23

Wood being equal to $\frac{1}{3}$ rd of its weight of coal, the saving owing to the use of wood has been equal to Rs. 1.34 per ton of wood used, or just a lakh of rupees in the year, against which must be put certain disadvantages due to the use of wood, such as a greater number of fires in trains, and some damage to locomotives, &c.

LINES OPEN FOR TRAFFIC.

The length of this railway open to traffic, including the Kandahar State Railway to Pirchowki, is 652.485 miles.

The Indus Valley State Railway was not affected by floods during the year under review, but on the Kandahar State Railway in the month of July 1883 the hill streams swollen by heavy rainfall spilt and spread over the desert, breaching the line in several places. Between miles 59 and 64 the breaches aggregated 971 lineal feet, and the through running of trains was interrupted for 11 days, *viz.*, between 10th and 21st July 1883, while these breaches were being repaired. Between miles 114 to 116, Kandahar State Railway, several breaches also occurred, aggregating 533 lineal feet. The through traffic was interrupted here for 7 days, *viz.*, between 11th and 18th July 1883. There was also a small breach in the 88th mile. Passengers and mails were crossed over the breaks on trollies, except on the 16th and 17th July 1883, when, owing to the serious nature of the floods, not even trollies could be used. Goods booked to stations beyond Lindsay in foreign vehicles were transhipped at Jacobabad and the foreign stock released.

An estimate amounting to Rs. 42,446 has been recently sanctioned by Government for works deemed necessary to secure the stability of the line, and continuity of traffic during future floods.

PERSONS EMPLOYED.

The following statement gives the number of employes of all races on this Railway on the 30th September 1883 :—

Departments of the Railway.	NUMBER OF EMPLOYÉS.				No. of miles open.	No. of stations.
	Europeans.	East Indians.	Natives.	Total.		
General Administration, including managements, Audit and Accounts, Paymaster, Stores, Medical, Printing, and Stationery Establishments ...	18	11	553	582	660, including 7 miles of the Sind, Punjab, and Delhi Railway run over by the trains of this line.	77
Traffic and Telegraph Departments ...	77	61	1,307	1,445		
Engineering Department ...	33	7	2,971	3,011		
Locomotive and Carriage and Wagon Departments, including steam-boat establishment ...	138	19	2,945	3,102		
Total ...	266	98	7,776	8,140		

The percentage of casualties among Europeans and East Indians from various causes is given below for the year ended 30th September 1883 :—

	Europeans.	East Indians.
Death ...	1.52	...
Resignation or discharge ...	7.60	6.12
Dismissal ...	9.51	16.62
Total ...	18.63	22.74

The following statement shows the number of native drivers and shunters employed on the Indus Valley and Kandahar State Railway during 1882 and 1883 :—

	1882.	1883.
Native drivers ...	8	10
Native shunters ...	12	13
Total ...	20	23

The progress made by the men in acquiring a sufficient knowledge of English to be able to pass the prescribed test has not been so satisfactory as could be wished ; but the small increase in number over the last year is mainly due to the fact that no persons of any good social standing and very few of any education at all offer themselves for employment in this branch. Of the present number of drivers, three work the goods trains between Sukkur and Radhan and seven are employed on the mail trains between Ruk and Rindli, and the local fast service between Jacobabad and Sukkur.

The strength and cost of police on the Indus Valley and Kandahar State Railway and the amount of compensation payments due to theft for the year 1883 are as follows:—

Police.						Amount.
Particulars.						
Subordinate officers	...	...	...	...	No.	46
Constables and men	...	...	...	...	"	352
Salaries and fixed allowances of officers	...	...	...	...	Rs.	7,818
Office expenses and travelling allowances	...	...	...	...	"	1,697
Salaries of subordinate officers and men	...	...	...	...	"	45,658
Total cost of force per annum	...	...	...	...	"	55,171
Cost of force per mile of railway	...	...	...	...	"	84
Compensation payments due to theft or carelessness of police	...	...	...	...	"	1,330
Compensation payments per mile of railway	...	...	...	...	"	2
Length of railway open for traffic	...	...	...	...	Miles	653

The present arrangements under which the police for the railway are supplied from three different sources, *viz.*, the Governments of the Punjab and Bombay and the Agent, Governor-General, Biluchistan, and the divided police control on the line, the whole length being divided into five different circles of charge, are very defective, as tending to enable thieves to evade detection and thus enjoy immunity from offences committed. Special representations on this subject have been made to Government, and it is hoped that the present disadvantageous system may be superseded by a better one.

The third Punjab Railway Volunteer Corps.

The strength of the left half battalion is as follows:—

Field officer	...	...	...	...	...	1
Surgeon	...	...	...	...	...	1
Chaplains	...	...	...	...	...	2
Adjutant	...	...	...	...	...	1
Captains	...	...	...	...	...	5
Lieutenants	...	...	...	...	...	8
Staff non-commissioned officers	...	...	...	...	...	3
Color sergeants	...	...	...	...	...	4
Sergeants	...	...	...	...	...	27
Corporals	...	...	...	...	...	23
Buglers	...	...	...	...	...	5
Privates	...	...	...	...	...	383
						463
Total strength of battalion	...	...	...	...	...	750

The corps went under canvas for 10 days at Lahore, commencing from the 16th February 1884.

There are schools at Sukkur, Mooltan, and Kotri attended by the children of the railway servants, and one is about to be started at Khanpur. The principal

Schools.

one (at Sukkur) was started in April 1883. The average daily attendance is 23. Expenses Rs. 2,000 per annum, of which Rs. 238 are given by Government on results of examination, Rs. 210 by the Sukkur Municipality, Rs. 550 from the Railway Fine Fund, and the balance from fees, Rs. 3 being charged for first child and Rs. 2 each for any others of a family.

The question of the enlargement of the Murree Lawrence Asylum for the accommodation of a certain number of Railway children has been before Government, but in view of the probable amalgamation of the various Punjab Railways it is possible that their requirements may be better served by an enlargement of the existing Sind, Punjab and Delhi Railway School at Mussooree.

The medical arrangements of the line continue the same as in the previous year, except that in March 1884 orders were received appointing the Civil Surgeon at Sukkur to exercise a general superintendence over the whole of the Indus Valley and Kandahar State Railway in addition to his medical duties at Sukkur; the two officers, Messrs. Browne and Price, in charge of the line being placed under the orders of the Civil Surgeon, Sukkur.

A small dispensary has been attached to the Indus bridge division to afford medical aid in ordinary cases to workmen on the spot.

With the approval of the Government of India a contribution of Rs. 25 per mensem is made to the Civil hospital at Kotri for the treatment of cases requiring admission into hospital, as the Indus Valley State Railway arrangements at Kotri comprise only a dispensary with no hospital accommodation.

The question of amalgamating the medical arrangements of the Indus Valley and Sind, Punjab and Delhi Railways at Mooltan is under consideration.

The health of the staff on the line has, on the whole, been satisfactory during the year. Except ordinary cases of fever, &c., there have been few cases of any serious nature, and there were no epidemic complaints during the year. At head-quarters, although there has been a considerable amount of sickness, the mortality has been comparatively small and the general health of the railway population of Sukkur may be stated as satisfactory. The unhealthiness of Sukkur has been due mainly to the inundations of the Indus. The improvements recently carried out by the Sukkur Municipality in connection with the river embankment have to a great extent removed this fertile source of disease. To this must be attributed the improvement in the health of the community in general as compared with previous years.

The number of depositors, voluntary and compulsory, and the amount of deposits on 31st December 1883, compared with the previous year, are given in the following table:—

Depositors.	ON 31ST DECEMBER 1882.		ON 31ST DECEMBER 1883.	
	No.	Amount.	No.	Amount.
		Rs. A. P.		Rs. A. P.
Voluntary (including security)	204	89,697 12 6	247	86,455 0 1
Compulsory	1,145	78,146 7 10	1,237	1,19,606 7 4
Total ... ..	...	1,67,844 4 4	...	2,06,061 7 5

The bonus for the half years ended 30th June and 31st December 1883, was equal to 60.94 and 38.50 per cent., respectively, of the compulsory deposits,

against 25·03 and 29·86 per cent., respectively, in the corresponding periods of the previous year. The contributions from Revenue as bonus on compulsory deposits have been as under:—

Half-year ended	Amount.	Limit by which contribution was regulated.	Percentage on compulsory deposits.
	Rs. A. P.		
30th June 1881	2,461 0 0	½ per cent. of net earnings.	19·07
31st December 1881	3,455 0 0		26·18
30th June 1882	3,415 6 0		25·03
31st December 1882	4,504 12 6		29·86
30th June 1883	9,508 13 9		60·94
31st December 1883	6,665 2 9		38·50
Total	30,010 3 0		

STORES.

The balance of stores on the Indus Valley State Railway on 31st December 1883 was Rs. 21,37,519 against Rs. 19,91,170 on the corresponding date of 1882, showing an increase of Rs. 1,46,349, and an increase of Rs. 34,364 over the balance on 31st March 1883. The increase is accounted for by the large quantity of stores returned from works, and larger supplies of firewood received from the Forest Department than in the previous year. Stores of the following value were obtained from England and purchased in this country during 1883:—

	Rs.
From England	5,86,657
English stores purchased in India	3,10,622
Country stores	7,81,771

Of the amount spent in India on the purchase of English stores, the sum of Rs. 1,33,000 was for coal brought when it could be obtained on advantageous terms. The balance was for stores to meet the immediate requirements of the line, pending the arrival of stores from England.

The balance of stores on the Kandahar State Railway on 31st December 1883, was Rs. 5,18,991 against Rs. 4,90,294 on 31st December 1882; the increase of Rs. 28,697 is thus explained:—

	Rs.
Value of stores returned from works	36,662
Value of plant, &c., for the Indus bridge division, received from the Attock bridge, and charged to the Kandahar State Railway stores under orders from the Government of India, to be written off to the Indus Valley State Railway in 1884-85	1,12,906
	<u>1,49,568</u>
Net issues from the Kandahar State Railway	1,20,871
	<u>28,697</u>
Increase as above	28,697

The net results in the transactions of the Kandahar State Railway stores might be summed up with the remark that the stores balance would have been actually reduced by Rs. 84,209 had not the cost, Rs. 1,12,906, of the plant, &c., as above, been charged to the Kandahar State Railway. A further reduc-

tion of Rs. 94,000 is anticipated on account of issues to Harnai Road works; and the balance at end of March 1884 will, under the orders of Government, be transferred to the Indus Valley State Railway.

A new suspense head, as in the margin, was opened during the year under review, for each division, and the balance of stores in charge of each Executive Engineer on 31st December 1883 was as follows:—

	Rs.
Indus bridge division	Nil.
Northern division	1,99,517
Kandahar division	85,976
Southern division	1,53,600

The additions to rolling stock during the year have been as follows:—

Details.	Stock on 1st January 1883.	Additions of new stock during 1883.	Stock on 1st January 1884.	Stock under erection on 1st January 1884.	Remarks.
Locomotives	140	27	*167	...	*H class ... 45 H a " ... 12 H b " ... 20 J " ... 17 L " ... 30
Coaching vehicles	439	12	451	4	
Goods vehicles	2,680	...	2,680	8	
					Total Indian State Railway type ... 124
					Old engines received from other lines:— G. I. P. class ... 17 Kitson class ... 12 Sindia class ... 4 G. S. I. R. class ... 9 E. I. R. class ... 1
					Total ... 43
Total	3,259	39	3,298	12	Grand Total ... 167

The above list shows 167 engines on the line, out of which the 9 G. S. I. R. are being condemned as they come into the shops, not being worth repairs. The G. I. P. class have of late been taken off the mail service on the Northern section, and await in most cases general repairs in the shop yard.

There are only two Kitson class engines in good working order, the remaining ten require new boilers. Six new boilers for these engines are now coming from England.

The Sindia class engines are all in good order, and are being used for shunting at the Rohri, Main, and Bandar stations. The one E. I. R. is a single wheel tank engine worth repairing, and would be useful either to run a branch line or local trains between Sukkur and Rohri, when the bridge is finished.

Fifteen third class carriages out of the lot received from the Dhond and Manmad Railway have been condemned.

CAPITAL TRANSACTIONS.

The expenditure on final heads of account during the year under review was Rs. 17,07,870 on the Indus Valley State Railway and the total to date Rs. 6,96,90,844. On the Kandahar State Railway the expenditure during the year was Rs. 9,24,925 and the total up to date Rs. 1,42,23,112.

The principal works on which outlay was incurred have been referred to on a previous page.

REVENUE TRANSACTIONS.

The following comparative statement shows the expenditure and earnings of the Indus Valley and Kandahar State Railway for the years 1882 and 1883 :—

EXPENDITURE.					EARNINGS.				
Heads.	1882.	1883.			Heads.	1882.	1883.		
		Indus Valley State Railway.	Kandahar State Railway.	Total.			Indus Valley State Railway.	Kandahar State Railway.	Total.
	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
To Maintenance of way, works, and stations...	7,16,765	5,44,701	1,68,611	7,13,312	By Coaching traffic	11,18,467	8,52,203	2,25,268	10,77,471
„ Locomotive expenses ...	12,94,264	14,11,735	1,51,366	15,63,101	„ Goods traffic ...	34,99,326	54,94,234	2,30,932	57,25,166
„ Carriage and wagon expenses	1,99,619	2,93,899	31,836	3,25,735	„ Electric telegraph earnings ...	7,781	9,257	3,003	12,260
„ Traffic expenses	4,80,653	4,14,693	75,736	4,90,429	„ Steam-boat earnings ...	2,81,505	2,70,846	...	2,70,846
„ General charges	3,43,895	2,87,201	39,138	3,26,339	„ Sundries ...	2,05,481	1,48,359	7,073	1,55,432
„ Steam-boat service ...	1,60,753	2,14,502	...	2,14,502					
„ Special and miscellaneous expenses ...	3,40,498	3,85,664	3,459	3,89,123					
	35,36,447	35,52,395	4,70,146	40,22,541					
Net earnings ...	15,76,113	32,22,504	—3,870	32,18,634					
Total ...	51,12,560	67,74,899	4,66,276	72,41,175	Total ...	51,12,560	67,74,899	4,66,276	72,41,175

TRAFFIC AND WORKING.

The following explanations are afforded with regard to the earnings and working expenses of 1883 as compared with 1882 :—

EARNINGS.

The earnings under coaching have fallen short of those of the previous year, but the decrease is mainly due to a reduction in military traffic. The ordinary passenger traffic increased slightly during the year, but the passenger traffic of the second half of the previous year was exceptionally bad, owing to the floods in the Indus, the breaks on the line, and the sickly season.

The year 1883 has been remarkable for the heaviest goods traffic which the line has yet been called upon to deal with. The amount of wheat carried was altogether unprecedented, and in oil-seeds and other items of traffic there were very large increases. The amount of wheat carried in the last three years has been as follows :—

						Tons.
1881	...	...	...	...	...	82,635
1882	...	...	...	...	...	126,770
1883	...	...	...	...	...	276,559

The increase of earnings from goods traffic, as compared with the year 1882, was Rs. 22,25,840, of which increase by far the principal part was derived from the grain traffic.

During the year an important concession was made to the export trade in grain and seeds, by the abolition, in May 1883, of the charge for ferrying over the Indus at Sukkur all grains and seeds travelling more than 500 miles to Kurrachee.

The heavy traffic of the year threw a considerable strain on the arrangements for ferrying traffic over the Indus at Sukkur. The following gives the number of tons of goods crossed over the Indus in the late years:—

						Tons.
1881	...	...	...	...	...	114,503
1882	...	...	...	...	...	159,467
1883	...	...	...	...	...	308,277

During periods of very heavy traffic, work was continued without intermission, night and day, with the help of electric lights, and all traffic offering was put across the river without delay. Notwithstanding the very heavy rush of grain traffic during the year, the steam-boat earnings have fallen short of those of the previous year. This is due to the concession made to the export grain traffic by the abolition of the Sukkur ferry charges thereon. The receipts from this service of traffic during the latter half of the year under review were Rs. 63,976 against Rs. 1,83,188 in the corresponding previous half year.

The following statement furnishes details of the work performed at the Sukkur-Rohri slips during the year:—

Month.	No. of vehicles crossed.	No. of engines and tenders crossed.	NUMBER OF ROADS WORKING.		STEAMERS EMPLOYED TOWING FLATS LOADED WITH WAGONS.			Number of flats in use. Carrying capacities of each flat.	Maximum number of men employed.	Nights worked with aid of electric light.	Remarks.
			Rohri.	Sukkur.	Names.	Date.					
						From	To				
January	3,409	...			Tug "C"	1	31	115	...	11	
February	5,331	...			"	1	29				
March	6,640	...			"	1	2	17 days 115 and 11 days 225.	17		
"	6,040	...			" Fattch Mubarak."	3	5				
"	6,040	...			Tug "C"	6	31	17 days 225 and 14 days 115.	...	...
April	5,411	16 with tenders.			"	1	30				
May	6,473	22 with tenders.			"	1	26 afternoon.	23 days 115 and 7 days 225.	9	...	
"	...	...			" Cranbourne"	26 afternoon.	31				
June	9,015	2 without tenders.			"	1	30	225	80 nights Sukkur and 2 Rohri.	50	
July	6,521	...			"	1	31				
August	4,300	...			Tug "C"	1	12	20 days 225 and 11 days 115.	...	...
"	...	...			" Cranbourne"	13	20				
"	...	...			Tug "C"	21	31	8 wagoons in each.	...	...
September	2,975	7 with tenders.			"	1	30				
October	3,138	12 "			"	1	3	115	...	...
"	...	...			" Fattch Mubarak."	5	6				
"	...	...			Tug "C"	7	30	115	...	...
"	...	...			"	31	31				
November	2,431	...			" Fattch Mubarak."	1	6	115	...	...
"	...	...			Tug "C"	9	14				
"	...	...			" Fattch Mubarak."	15	30	30 days 15 and 225 for 1 day.	1 night	...	
December	5,769	...			"	1	20				
"	...	...			Tug "C"	21	31				

Comparative statement of work done at the Sukkur-Rohri slips.

Particulars.	1882.	1883.	Increase, 1883.	Decrease, 1883.	Remarks.
Wagons crossed ...	37,774	62,353	24,579		
Engines crossed ...	53	61	8		
Tenders crossed ...	9	59	50		

The total number of loaded and empty vehicles crossed over the ferry during the year was 62,353, or nearly twice as many as in 1882. The heaviest work occurred in the month of June, and the largest number of wagons crossed on any one day was 416 on the 23rd of that month.

There were only two accidents at the slips. In the first case, a ten-ton covered goods wagon, while being hauled up, fell overboard, owing to a brake strap of the winches being loose, and dropped into the river. The wagon was recovered, but the contents (a full load of wheat) were lost. In the second instance, a ten-ton wagon fell into the river, while it was being hauled up, owing to the check chain breaking. The wagon was recovered, but only 10 maunds of the contents were saved. Considering the unusual amount of extra work performed at the slips, two accidents in the year is a very small percentage.

WORKING EXPENSES.

The very large increase of traffic necessitated increased expenditure in all departments. But this increase of Rs. 4,86,092 was very small in proportion to the increase of Rs. 21,28,615 in the earnings. The percentage of expenses to earnings fell from 69·17 per cent. in 1882 to 55·55 per cent. in 1883. The net earnings after deducting working expenses rose from Rs. 15,76,113 in 1882 to Rs. 32,18,634 in 1883.

The excess under locomotive expenses has occurred principally under
 Locomotive expenses. "Maintenance and renewals of locomotive engines," wherein the expenditure during the year 1883 was Rs. 3,45,735 as against Rs. 1,63,754 in 1882, or Rs. 1,81,981 more. The heavy excess was due partly to comparatively little repairs having been done during 1882, owing to the removal of the shops during that year from Adamwahan to Sukkur, and partly to the line having originally been equipped with old engines, which necessitated more extensive repairs than would otherwise have been required.

The balance of excess under other items is mainly attributable to heavy traffic.

The excess of Rs. 1,26,115 refers almost wholly to the sub-head
 Carriage and wagon expenses. "Repairs and renewals of vehicles," and is due to more than ordinary repairs having been done to stock owing to more mileage run in the first half of 1883 than in the corresponding period of 1882; the repairs necessitated by accidents and the value (Rs. 33,133) of 15 condemned 3rd class carriages, which were not to be replaced, having been charged off to this head.

The increase of expenditure under this head was mostly due to extra
 Traffic charges. temporary staff having been engaged owing to increased traffic.

The following statement shows the train-mileage :—

Particulars.	1882.	1883.	Increase, 1883.	Decrease, 1883.	Remarks.
Passenger train miles	7,762	10,215	2,453	...
Mixed	9,91,519	9,40,859	...	50,690
Goods	9,09,652	9,88,427	78,775	...

The increase in the number of passenger train miles is due to extra trains run for troops for military reliefs and the Hurnai road works.

The decrease in the number of mixed train miles is due to the discontinuance of the local mixed train on the Northern district between Mooltan and Samasatta, because the ordinary train service on this section was found to be sufficient for the traffic.

The increase in goods train miles speaks for itself.

One passenger train ran daily between Sukkur and Jacobabad throughout the year, and, from 5th April 1883 to end of the year, carriages were attached to two goods trains between Sukkur Main and Radhan for the convenience of local passengers.

The average loads of trains were—

						Vehicles.
Passenger	...	...	...	...	...	18
Mixed	...	...	...	...	...	21
Goods	...	...	...	...	...	23

The total amount paid on account of compensation claims was Rs. 23,072 during the year 1883 as compared with Rs. 22,396 in 1882. The chief item, Rs. 12,714, was in connection with the out-agencies of Ferozepore and Fazilka, the claims being due, as explained in the last year's report, to the acceptance of river risk, &c., in 1881. The amount was pending in 1882, but settled and paid for in 1883. The next large item is on account of fires in trains, in connection with which Rs. 6,553 had to be paid. The balance, Rs. 3,805, consists of claims for loss of or injury to goods, &c.

The following statement compares the payments to and from foreign railways on account of mileage and demurrage charges for the years 1882 and 1883. The increased charges and receipts are due to increased traffic :—

Year.	MILEAGE AND DEMURRAGE PAID BY FOREIGN RAILWAYS.						MILEAGE AND DEMURRAGE PAID TO FOREIGN RAILWAYS.					
	Coaching.		Goods.		Total.		Coaching.		Goods.		Total.	
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
1882	48,375	6 0	57,138	6 0	1,23,513	12 0	50,796	5 0	2,13,674	14 4	2,64,471	3 4
1883	48,211	2 0	1,38,172	14 10	1,86,384	0 10	53,408	3 0	3,38,451	0 9	3,91,859	3 9

The booking of goods at the out-agencies of Ferozepore and Fazilka having stopped, on account of the railway not accepting risk, the agencies were closed, the former from the 6th January 1883 and the latter from 18th July 1883.

Phulji, Purana Dera, and Sehwan branch lines.—The trolley services introduced on these branches in 1882 were maintained throughout the year 1883 for the convenience of passengers, &c., and they have not been without profit. The earnings during the year were Rs. 633 on the Phulji branch and Rs. 844 on the Sehwan branch, while the expenditure on each was Rs. 384.

Bagatora flag station at mile 419½.—Owing to an accident which occurred at this station and its dangerous position, as well as on account of the very small traffic which existed there, it was decided to close it entirely as a booking station on and from the 25th January 1883. The construction of a crossing station on the site of the present one has been sanctioned to admit of traffic trains being crossed there.

From the 1st June 1883 the following flag stations were opened on the Khanpur-Mozufferabad section of the line for the convenience of passengers from and to adjacent villages, and were served by travelling booking clerks :—

Buch.
Chuck.
Gilawala.
Mianpur.
Kulloowalla.

Adamwahan bridge.
Koolunjwalla.
Goozarai.
Tibbi Izat.

RATES AND FARES.

The alterations in rates and fares were made either to assimilate with connected lines, or with a view to foster traffic. The only one of real importance was the reduced rate for grain and seeds, combined with the abolition of the Sukkur ferry charge on that traffic which came into force on the 13th May 1883.

RAJPUTANA-MALWA STATE RAILWAY.*

METRE GAUGE.

This report deals with the Rajputana-Malwa Railway, including the Rewari-Ferozepore Railway, but excludes the Muttra-Achnera Railway. For the calendar year it deals with the working of the system, including the portion of the Rewari-Ferozepore Railway, Rewari to Hissar only. But at the present time, the line worked has been increased in length by the Hissar-Sirsa section, 50·75 miles long, which was opened for public traffic on the 1st March 1884.

WORKS IN PROGRESS.

AJMERE DIVISION.

The heaviest work in this division has been at Ajmere. Here the general offices had been so far constructed as to be in use, the new general stores yard and buildings had been practically completed, and the new carriage shops with tank and office made nearly ready for occupation. The new arrangement of the Ajmere station yard had been carried out at the south end, and everything was ready for the rails at the northern extremity. The foundations of the new station building had been put in, and the building was up to plinth, and the new goods yard with platforms, shed, and approaches were complete. A school for the Railway children had been built, a house for the Chaplain was nearly ready, and several new quarters for officers and staff were occupied.

A goods shed had been constructed and is in use at Sanganer, the station at Jeypore had been enlarged and improved; the locomotive arrangements at Phalera had been completed, the sidings at Kishengurh lengthened, and five crossing stations on the Phalera division opened.

ABU DIVISION.

Abu road was opened as an engine changing station on 1st January 1884. During the year the following works were completed:—

The engine shed and yard.

District repairing shops and yards.

A tank to hold 70,000 gallons and accommodate the District Locomotive Office and stores beneath the reservoir.

A comfortable double-storied running room.

Quarters and office for the Executive Engineer.

Quarters for the District Locomotive, District Traffic, and Assistant Traffic Superintendents.

A native waiting shed, fourteen quarters for European employes, five bunniah's shops, a carriage examining pit (700 feet long), a sick siding and pit for the Carriage and Wagon Department, ten clerks' and one hundred and fifty menials' quarters.

Abu road has been changed during the year from a desert into a large station with a number of houses, well situated and connected by roads, &c.

*Includes the Rajputana State Railway, the Holkar State Railway, the Sindia-Neemuch State Railway, and the Rewari-Ferozepore State Railway.

At Sabarmati two sheds, each 400 feet long, consisting entirely of old rails and corrugated iron, have been erected on the tranship platforms. These are exceedingly satisfactory structures. They give the same shelter as the costly timber sheds erected elsewhere, and are handsome, cheap, and indestructible. The passenger station has also been protected by a roof of French tiles, the stores yard has been laid in, and arrangements for the Carriage and Wagon Department are in hand. Elsewhere two crossing stations have been constructed and opened, and sundry additions to stations have been made.

Nearly eighty miles of the main line fencing has been done during the year. The fence consists of four wires carried on stone posts placed at ten feet intervals, and is very strong and durable.

UJJAIN EXTENSION.

The Sipra bridge was opened in July 1884 superseding the temporary bridge over which the traffic had hitherto been conducted to and from the Ujjain city.

GENERAL.

The total expenditure chargeable to capital for the year 1883 has been Rs. 19,30,517 and Rs. 50,305 were charged to minor works Revenue giving a total expenditure upon new works of Rs. 19,80,822.

MINERAL RESOURCES.

The total consumption of fuel during the calendar year was 67,623 tons, delivered on the Railway at an average cost of Rs. 20·72 per ton. Of this amount 18,819 tons were imported, the balance being obtained from the Bengal mines. No wood was used on the system. The Manager is of opinion that it will not pay to use Warora coal, even on the Holkar district, until the price of production and the freight to Khandwa are reduced.

The English and Indian coal are said to be of about equal quality. The consumption per train mile was 33·43 lbs., and the cost 4·95 annas.

Percentage on total quantity consumed—

		Quantity. Tons.	Percentage.
English coal	...	18,818·99	27·83
Indian coal	...	48,330·31	71·47
Coke	...	55·60	0·08
Wood	...	417·78	0·62
Total	...	<u>67,622·68</u>	<u>100·00</u>

LINES OPEN FOR TRAFFIC.

The Rewari-Ferozepore Railway was first opened for limited goods traffic (at Bliwani, Hansi, and Hissar stations) on the 20th March 1883. On the 1st May 1883 the entire length from Rewari to Hissar (88½ miles) was opened for local and foreign goods traffic, and also for through coaching traffic with the Bombay, Baroda, and Central India Railway. This length was likewise opened for coaching traffic with other foreign railways on the 1st June 1883. On the 1st March 1884 all stations between Hissar and Sirsa were opened for local and foreign coaching traffic. This made the total open mileage of the Rewari-Ferozepore Railway 139½ miles.

During the year 1883-84 seventeen stations on the Rewari-Ferozepore Railway, the new Ujjain station, and nine more crossing stations on other parts of the system, have been opened, making the total number of stations 162 on the 31st March 1884.

The old Ujjain station, on the east bank of the Sipra river, was closed on the 29th February 1884, in consequence of the opening of the new Ujjain City station on the other bank of the river.

On the 31st December Nana and Palanpur stations were closed as locomotive changing stations, and Abu Road was constituted a changing station in lieu of them from the 1st January 1884.

The new transshipment station Ghaspura, close to Khandwa junction, was brought into use on the 5th February 1883, the new approach to Khandwa, passing Ghaspura, having been opened the same day. From the 1st January 1884 this station became the terminus for goods trains.

At six stations on the Sabarmati district the station masters had to perform postal work, a small extra allowance being granted to them. This arrangement commenced in January 1883 and acted well, except in one case (Sujat Road), where the work was too much for the staff.

ACCIDENTS.

There were 470 accidents of all descriptions during the year as compared with 457 in 1882-83.

Of the accidents during the period under review, the most important are briefly detailed below in the order of their occurrence; these were all made the subject of special report to the Government Inspector :—

- (1) *May 30th.*—No. 55 up passenger was derailed at mile $\frac{210}{10}$ near Jaora owing to the road being out of order and not sufficiently protected, and the driver running beyond the prescribed speed. The damage to the vehicles was estimated at Rs. 4,875. About 300 yards of the permanent way was torn up. The driver was fined Rs. 50 and the Permanent Way Inspector of the district summarily dismissed.
- (2) *December 5th.*—No. 22 down goods collided with No. 57 up mixed at Ajmere through the carelessness of the pointsman and the jemadar pointsman in receiving the former train on the same line as that on which the latter was standing. Both men were prosecuted and sentenced to six months' rigorous imprisonment.
- (3) *December 8th.*—No. 23 up local mixed collided with No. 11 up goods at Nana. The accident occurred through the carelessness of the driver of the former train, the pointsman, and jemadar pointsman. The engine of No. 23 up local, 7 vehicles of No. 11 up goods, and the permanent-way were slightly damaged. The men were punished departmentally.
- (4) *December 17th.*—Three wagons, attached to No. 16 down goods, were derailed at mile $\frac{170}{4}$ between Kanauta and Sanganer owing to the breakage of the leading axle of a bogie wagon caused by a flaw in the metal. The wagon and permanent way were slightly damaged.
- (5) *January 22nd.*—The engine and six vehicles attached to No. 38 Down mail, were derailed at mile $\frac{62}{4}$ near Kherli station owing to the train having run over a bullock straying on the line. The engine was capsized down the bank, and it, as well as the vehicles derailed, were considerably damaged.
- (6) *January 23rd.*—The first 7 wagons attached to No. 48 down goods were derailed at the west end crossing at Kherli station; the trailing wheels of the leading wagon were derailed at mile $\frac{62}{4}$, the site of the accident to No. 38 down goods on the 22nd, and ran along the ballast for a distance of 800 yards till the points were reached, where the wagon left the rails altogether, dragging six other wagons off the rails after it. The accident occurred through the driver of the train running over the spot above the prescribed speed, the station master, Ghosrana, having failed to endorse the restriction of speed on the line clear.
- (7) The line on the 6th September, at mile 80 near Khairthal, was flooded and sank for a length of 6 sleepers, but there was no delay caused to traffic. This was the only case of serious damage to the permanent-way by floods during the monsoon of 1883.

SCHOOLS.

The progress made by the locomotive apprentices under the tuition of Mr. Reed, Chief Draftsman, has been very satisfactory.

Locomotive Technical School—Drawing class.

The number of apprentices attending at the close of the year was 26.

This school has been carried on as usual during the year, and there is little to report upon, for the number and general abilities of the pupils continue much the same. The attendance averaged from 12 to 15 lads.

Locomotive Apprentices' Night School.

The Bandikui school was established three years ago, and has done well. The total number of children borne on the rolls during the past year was 40. The school is at present supported by fees averaging Rs. 70, and a grant from the Fine Fund of about Rs. 35 per month. It has been registered for Government inspection, and recommended for a grant-in-aid of Rs. 100 per mensem, but Rs. 60 only have been awarded. The standard of education is "primary."

Bandikui.

The average daily attendance at this school has been low as compared with previous years and the children much younger. The teaching staff has, however, been changed, and during the past three months there has been an improvement. There are 23 pupils on the rolls of ages from 4 to 12, and the average daily attendance has, from December 1883, increased from 9 to 16.

Mhow.

The children are taught, as far as possible, up to elementary standard No. IV. In view to getting a Government grant-in-aid, the school has been lately examined by the Principal, Raj Coomar College, Indore. The teaching staff consists of a school mistress on a salary of Rs. 50 per mensem. The monthly establishment charges amount to Rs. 59. The receipts from all sources during 1883 were Rs. 944 and the expenditure Rs. 907, leaving a balance at the end of the year of Rs. 37 in hand.

This school was opened in 1882 in connection with the Abu Lawrence School for soldiers' children, and is much appreciated by parents as furnishing a home in a healthy and bracing climate for their children, who receive a plain practical education. Mount Abu is a hill detached from the Aravelli range, and the station is 4,000 feet above the sea. There is accommodation for about 30 children in the two houses purchased by the Railway. In consultation with the management of other adjacent railways, a design and estimate amounting to Rs. 1,10,000, have been prepared for a large school to accommodate 100 children. The building is designed to hold 50 boys and 50 girls, besides the necessary class and dining rooms, and the educational staff. It is proposed that the cost of the building shall be borne by the Rajputana-Malwa and Bombay, Baroda, and Central India Railways.

Mount Abu.

The present school is supported by payments from parents of the children and contributions from the Railway Fine Fund. On 1st April 1883 there were 16 boys and 7 girls in the school; this number during the year increased to 21 boys and 13 girls, but on 31st March 1884 there were only 14 boys and 8 girls on the rolls. The average daily attendance throughout the year was 24. During the year ended 31st March 1884, the receipts from parents of children amounted to Rs. 3,746 and the contribution by the Railway to Rs. 3,789. The expenses were Rs. 7,636.

An application for a grant-in-aid for this school in favor of the Railway children has been negatived. The Railway is much indebted to the Lawrence Asylum for the help and support given to the Railway children.

The Railway school at this station was established in August 1883, and its need is abundantly evident from the rapid rise in the number of its pupils. It opened with 13 boys and 9 girls. By the end of February 1884 its numbers had reached 30, and the number on the school registers at the end of March

Nemuch.

1884 was 33, including 16 boys and 17 girls, of whom 29 children belong to the Railway and 4 to out-siders.

The education afforded is according to the new code of regulations for European schools. At present the highest class is in standard IV. The boys are also taught Urdu and the girls needlework. The school is supported by fees, according to a sliding scale, from parents of the children, and by contributions from the Railway. It has also received outside donations amounting to Rs. 505.

During the 8 months under review the total receipts from all sources amounted to Rs. 1,158 and the expenditure to Rs. 726.

The year opened with 40 children on the rolls of this school. In July the number reached 45, but afterwards fluctuated between 40 and 38, and at the end of March 1884 closed with 39 on the books.

Khandwa.

In June 1883 there was a change of staff, both of school mistress and pupil teacher, and these are favorably reported on by the Government Inspector. The school board has also been well satisfied with their method of teaching and the results obtained. Twelve children passed at the last examination held by the Government Inspector. Two in the upper primary school examination and seven in the lower; the three others did not go beyond the lower primary stage. Rs. 332 were realized by fees during the year and Rs. 586 by contributions of the Rajputana-Malwa and Great Indian Peninsula Railways. The annual cost of maintaining the school has been Rs. 918. The school has not received any Government grant-in-aid up to date.

The school building which was sanctioned for Ajmere by the Government of India, at an estimated cost of Rs. 16,591, having been completed, the Diocesan School was moved into it with the approval of the Committee of that school on the 1st March 1884, from which date the school changed its constitution and came under Railway management.

Ajmere.

The new Committee consists of eight Railway members, the Chaplain of the station, and one outside member to represent the interests of children whose parents are not connected with the Railway.

The school is open to the children of both European and Eurasian parents, and boys and girls are taught together, the limit of age in the case of boys being 14 years and in the case of girls 16 years.

The night school for apprentices attached to the Locomotive and Carriage and Wagon Shops is also carried on in the same building, and the head master of the day school looks after the night school as well. The advantages of this school cannot be overrated, the object being to improve the half educated youths who enter the workshops as apprentices. There are about 26 young men on the rolls, but all do not attend regularly.

As the Railway has only lately taken over the Diocesan School, there is little to report on; but a few details as to its present position and prospects may not be out of place here.

The attendance has not been particularly good, owing to the prevalence of measles among the children. On the date the school opened under its new management, there were borne on the rolls 16 boys and 15 girls; but the number actually attending was 10 boys and 7 girls. During March there was an increase of 5 boys and 1 girl, making a total of 21 boys and 16 girls, and in April there had been a further increase of 9 children, giving a total of 46 children on the rolls. The attendance also has improved. The ages of the children vary from 4 to 12.

As the school is under Government inspection and receives a grant-in-aid from Government, the course of instruction is the same as hitherto pursued, which is in accordance with the articles of the new code. The subjects taught are history, arithmetic, reading, writing, grammar, geography, dictation, and composition. The girls also learn needlework under the mistress.

The financial prospects are good. The committee's report showed a probable income as below :—

	Rs.
Government grant-in-aid	100
Railway contribution in the shape of accommodation	100
School fees	100
Total ...	300
and an expenditure of—	
Rent for school accommodation	100
Staff of teachers	195
Servants	17
Contingencies	8
Total ...	320

leaving a balance of Rs. 20 to be provided for from some other source. The Rs. 100 on account of school fees are not likely to be realized at present, but the saving in establishment (Rs. 32) will go towards making up the deficiency, and as soon as arrangements can be made for conveying the children to school by a shunting engine, as proposed in the committee's report, the school will be relieved of the expense of a horse conveyance, which at present costs Rs. 25 monthly.

The school fees for March amounted to Rs. 40, but with the increasing number of children, the fees for April will probably amount to Rs. 60, leaving Rs. 40 still to be made up to reach the committee's expectation.

The expenses of the first month have been somewhat heavy, in consequence of the furniture, books, &c., of the old school being taken over. The amount paid to the Diocesan School Committee on this account was Rs. 222 for which a special grant has been sanctioned by the Railway, so that this will not be a burden on the new school funds.

Owing to the increase in the number of native employés at Bandikui, the want of a school for the education of their children, and themselves also, was much felt at this station, and a building was therefore provided by the Railway in August 1883 at a cost of Rs. 3,524, in which the Bandikui Mission Anglo-Vernacular School was opened under the direction of the Rev. Mr. Grey, of the Church of Scotland. The monthly expenses connected with the working of this school have been about Rs. 64, and this amount has hitherto been borne by the United Presbyterian Mission; but from April 1884 it was proposed to sanction a capitation grant of eight annas per head per mensem from Railway funds for the children of purely Railway native employés. The school is making progress, and it is contemplated to provide more efficient assistants in both English and Persian.

In March 1881 the Bengali employés opened a school at Ajmere for their children, and up to August 1883 this school was self-supporting; but the major part of the students receiving instruction in it being children of employés of the Railway, and their numbers having increased considerably, it was necessary to strengthen the teaching staff, and to meet the expenses in this direction, the Railway has sanctioned a monthly grant-in-aid of Rs. 25 for one year only. The report for 1882-83 shows the school to be doing well.

PROVIDENT INSTITUTION.

The bonuses of the Provident Fund distributed during the two halves of 1883 were :—

	Rs.
For half year ending 30th June 1883	18,846
For half year ending 31st December 1883	42,831
Giving a total of	61,677
The compulsory deposits for both Rajputana-Malwa and Rewari-Ferozepore Railways together during the year amounted to ...	64,965

The bonus therefore was equivalent to an addition to these deposits of Rs. 95 per cent.

VOLUNTEER CORPS.

The corps formerly known as the Agra Volunteer Rifles was, on the 1st September 1882, made distinct from the Railway Companies, which were formed into the Rajputan-Malwa Volunteer Rifles under the command of Major Bisset, R. E., Lieutenant-Colonel and Commandant, whose place is now filled by Major B. W. Blood.

The strength of the corps on 1st April 1883 was 531; on 1st April 1884 it was 533. During the year 162 members were enrolled; 160 resigned, were transferred, or died.

Strength.

The corps consists of seven companies; two at Ajmere, and one each at Sabarmati, Bandikui, Jeypore, Mhow, and Khandwa.

Distribution.

B Company at Ajmere is the strongest, having 110 men on its rolls, and G Company at Khandwa the smallest, having only 55 men.

Composition.

Over 90 per cent. of the members are Railway employés.

In reply to representations from the Officer Commanding, Government have extended to this corps the special grant of Rs. 200 to every 100 efficient, which is granted for prizes for Railway Volunteers only.

Grants.

The attendance at the Annual Inspection rose from 183 in 1882-83 to 315 in 1883-84, or an increase of 132.

Inspections.

The rifle shooting this year has been very good. For the "Battalion Cup," a match extending throughout the hot weather, 326 points out of a possible 360 were made; and those who failed to obtain places in the final match, shot off by the first 20, all made over 306 points. In the annual course firing, 145 men obtained the marksman's badge; 351 qualified as first class shots, and 27 as third class, out of a total of 523 firing. 211 out of a possible 240 points was the highest score made.

Rifle shooting.

The cash balance on 1st April 1883 amounted to Rs. 915, and the capitation grant for 1882-83 to Rs. 13,273. The receipts from sale of clothing, stores, &c., was Rs. 8,619, or the total receipts during the year Rs. 21,892. The debits during the year amounted to Rs. 26,089, including a sum of Rs. 7,753 overdrawn on the Agra Bank on 1st April 1883; the difference (Rs. 18,336) therefore represents the expenditure during the year.

Accounts.

POLICE.

The strength of the Railway Police under the Ajmere Superintendent is now—

2 Assistant Superintendents.	13 Sub-Inspectors.
2 Inspectors.	58 Head Constables.
2 European Sergeants.	315 Constables.

The post of European Sergeant at the Agra Cantonment station has been abolished.

Reports of neglect of duty by goods sentries were frequent and were met by increased severity of punishment, and it is hoped improvement will be effected. In each case when goods were stolen from police custody, the value was deducted from the pay of the police responsible. Three constables were

Conduct of force.

criminally prosecuted and convicted of theft, and three were convicted of cheating passengers by the sale of false tickets. There were few cases of friction between the police and station masters, and none of a serious nature; one Sub-Inspector and two Head Constables were punished and transferred for improper conduct to station masters, and the Police Superintendent has done his best to support the proper authority of station masters within their stations. But the question of conduct is greatly mixed up with that of education; and it is hoped, the school now to be established at head-quarters for the proper education and training of recruits will in time effect a marked improvement. No constable will be sent for duty at a station until he is acquainted with his duties and with his relations with the Railway staff, nor until he has undergone at least 6 months' discipline at head-quarters. And a real knowledge of their duties will be required from all Head Constables for which purpose examination tests have now been established.

Buildings to accommodate the Police head-quarters at Ajmere are now under construction, and the head-quarters office will, it is hoped, be transferred from Jeypore before long. Accommodation for the police at Ajmere and Achnera stations was completed and occupied during the year. The arrangement by which the large detachment of police on duty at Agra Fort station is housed in the city is objectionable, and is likely to bring the men into contact with bad characters, which, as the men are entrusted with the watch and ward of valuable property, should be prevented. Mhow and Bhilwara are the stations where accommodation for police is most urgently required; at the former place quarters are now under construction.

The total number of offences reported during the year was 654 against 548 during the preceding year. The chief increase was under head of "Theft," and was met by increased successful action; 486 persons were arrested and 386 convicted during the year under report against 396 arrested and 346 convicted during the previous year; and property value Rs. 26,528 was stolen and property value Rs. 13,472 recovered in 1883-84, against Rs. 17,525 and Rs. 8,134 in 1882-83. Three cases occurred in which the property was of considerable value. In one, a passenger's property value upwards of Rs. 4,000 was stolen from Ajmere station, but the thief was arrested and the property recovered. In another, a dressing bag, value Rs. 900, was stolen from a first class carriage at Nusseerabad station: the bag with part of the contents was found in a well in the adjacent cantonment, but the thief was not detected. In the third case, property, value upwards of Rs. 900, was stolen from a passenger outside the Bandikui station, probably by some of the professional thieves who used to frequent that station, and no trace of thief or property was discovered. Several of the gangs of professional Mahratta Railway thieves, who travel habitually from Bombay to Ajmere and back to Bombay *via* Khandwa, were arrested and heavily punished; and theft from passengers in Railway carriages on that portion of the line have much decreased. Two gangs of professional Railway thieves were also arrested between Bandikui and Agra, and were rigorously dealt with.

An extraordinary outrage was committed at Rani station by a native traveller, who, provoked apparently by an attempt by some Railway servants to extort money from him, ran *amok* with his sword, killing one man and wounding five others. The murderer has been tried and convicted by the Sessions Court and sentenced to life transportation.

Southern Section.—Ahmedabad to Abu Road, but not including the latter station.

The total cost of this portion of the police for the year was Rs. 9,003 against Rs. 8,824 for last year, or Rs. 162 per mile open, against Rs. 79 for the previous year. This increase is due to the filling up of vacancies in the higher grades.

The total amount of property stolen was valued at Rs. 2,707 against Rs. 4,666 for the previous year. Rs. 1,726 were recovered, giving a percentage of 63·7 against 89·4 for last year.

Loss of property.

157 cognizable offences were committed in 1883; 5 remained over from last year; 21 were struck off by the Magistrate as "no crime"; 4 remained pending at the end of the year; 20 were undetected (but out of these property was recovered in 11, the offenders escaping into foreign territory) and 117 were detected, in which 101 convictions were obtained, giving a percentage of 86·3, as against 92·2 in the previous year. The increase in the number of cognizable offences this year is due to the detection of several cases of smuggled opium.

Crime.

126 arrests were made by the police, 8 remained untried from last year. Of these 134 persons, 104 were convicted, 4 were discharged without trial, 22 acquitted and 4 still remain to be tried.

The percentage of persons convicted to persons arrested was 82·5 as against 82·2, and of those convicted to persons brought to trial 82·5 against 88·1 of the previous year.

There were 18 cases of non-cognizable offences during the year; 15 were under the Railway Act. Convictions were obtained in all of them.

Six cases of thefts occurred in trains, but property was recovered in two only. Fifty-nine cases of smuggled opium were detected during the year, and about ten maunds, valued at Rs. 4,800, seized.

Three officers and 18 men were punished departmentally and 50 were rewarded; on the whole the conduct of the staff has been good.

Conduct of staff.

Return of Locomotive stock on the Rajputana-Malwa Railway on the 31st December 1883.

Particulars.	A		B		C	D	E				F		M	N	O	Total number of engines on line.					
	Dubs & Co.	R. W. Hawthorn & Co.	Dubs & Co.	Nanmyth, Wilson & Co.	Nanmyth, Wilson & Co.	Sharp, Stewart & Co.	Sharp, Stewart & Co.	Nelson & Co. [modified].	Vulcan Foundry.	Dubs & Co.	Dubs & Co.	Yorkshire Engine Company.	Nelson & Co.	Dubs & Co.	Avenside & Co.		Nelson & Co.	Dubs & Co.	Black, Hawthorn & Co.	Double Fairlie Engine.	
On line on 1st January 1883 ...	15	5	18	13	20	1	9	17	18	22	36	26	34	35	20	10	...	1	1	361	
Received during year ending 31st December 1883 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	1	} 20	
																	2	...	...
																	12	...	...
																	1	...	...
Total ...	15	6	18	13	20	1	9	17	18	22	36	26	34	35	20	10	10	1	2	321	
Issued during the year 1883—																					
To Dacca-Mymensingh Ry. ...	a1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	} 4 a Nos 17 & 18.
Bengal North-Western Ry. Co. ...	a1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Issue ...	2	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	4
Balance on line, 1st Jan. 1884...	13	5	18	13	20	1	9	17	18	20	36	26	34	35	20	10	10	1	2	317	

b Nos. 242 & 246.

Return of rolling stock on the 31st December 1883.

Particulars.	CARRIAGE STOCK.																	WAGON STOCK.											TRAVELLING CRANKS.																									
	SPECIAL CARRIAGES.	1ST CLASS.		2ND CLASS.	3RD CLASS.		MISCELLANEOUS.										COVERED GOODS.			LOW-SIDED.					MISCELLANEOUS.																													
		With two compartments.	With servants' compartments.		Ordinary.	Ordinary.	Double.	Side doors with bath room.	Ordinary with brake.	Ordinary without brake.	End doors with brakes.	Compos. Inter. and 3rd class.	Ambulance 3rd class.	Intermediate.	Combined 3rd class P. O. vans.	Prison vans.	Brake-vans.	Luggage vans, 14 feet.	Post Office vans.	Horse boxes.	Construction brake vans.	Dynamometer carriage.	Inspection carriages.	Cooking vans.	Carriage trucks.	Luggage vans 18 feet.	18 feet underframes.	14 feet underframes.			18 feet Military type.	15'-6" Military type.	14 feet iron.	14 feet underframe H. S. wagon.	Iron underframes.	Wood under frames.	Ballast.	14' Military type.	14' iron.	Powder vans.	Accident vans, 14 feet.	Timber trucks, 14 feet.	Store vans.	Horse wagons.	Fuel trucks.	14' iron timber trucks.	Broad gauge trucks.	18' timber trucks.	18' accident vans.	15'-6" iron platform wagons.	25' iron low-sided wagons, boxes.	25' Cleminson's type 1. cord. goods wagon.		
On 31st December 1882. ...	3	3	25	57	20	41	10	15	44	370	42	14	1	222	4	6	70	1	1	0	3	38	8	263	1,523	201	448	575	72	105	55	360	440	75	33	6	42	1	31	2	10	1	1	5	75	250	182	} 18			
On 31st December 1883 ...	3	3	25	57	33	32	21	20	64	301	14	20	5	30	14	1	232	4	8	70	1	1	0	3	38	13	263	1,523	261	650	575	72	105	50	360	440	75	33	6	42	1	31	1	10	1	1	5	75	250	240		8	10	

CAPITAL TRANSACTIONS.

The original grant for the year 1883-84 for the various railways, the accounts of which are dealt with in the Audit Office were as follows:—

	Rs.
Rajputana-Malwa Railway	18,22,000
Holkar Railway	50,000
Rewari-Ferozepore Railway	56,02,000

After certain modifications they stood at the time of the final issue of the Revised Estimate as below:—

	Rs.
Rajputana-Malwa Railway	17,31,000
Holkar Railway	38,000
Rewari-Ferozepore Railway	52,26,000

The expenditure against these grants will be approximately as follows:—

	Rs.
Rajputana-Malwa Railway	17,79,000
Holkar Railway	37,800
Rewari-Ferozepore Railway	52,19,000

	Rs.
The capital expenditure of the Rajputana-Malwa Railway for the calendar year 1883 amounted to	33,57,946
of which	12,91,969
was on account of expenditure in England, leaving	20,65,977
of outlay against the Indian grant.	

The heads of account principally affected were—

	Rs.
Construction of line	6,21,766
Stations and buildings	11,00,823
Plant	3,54,517
Rolling stock	9,73,743

The expenditure on construction of line is almost entirely due to the Ujjain Extension, and also partly to fencing.

The expenditure on stations and buildings was principally on the following large works:—

- Carriage and wagon shops, Ajmere.
- General offices, Ajmere.
- Engine erecting shops, Ajmere.
- New changing station at the Abu road with the requirements of the various Departments, on which some 3 lakhs were spent.
- Alterations and additions in Neemuch station and station yard.
- Staff quarters along the line.

The principal works upon which the expenditure in plant was incurred were:—

- Machinery for Central shops, Ajmere.
- Carriage and Wagon shops, Ajmere.
- Tarpaulins for covering open wagons.

The debit to rolling stock is chiefly due to the—

- Cost and erecting of 31 "O" class engines and 500 covered goods wagons, military type, and 80 third class carriages.
- Completing erection of 30 "N" class engines.
- Converting "C" class engines from tank to tender engines.
- Electric communication in mail trains.

The amount shown as expenditure in England, Rs. 12,91,969, is chiefly composed of the following items:—

- Cost of 31 "O" class engines.
- Materials for vehicles.
- Roofing materials for the Ajmere shops.
- Machinery for the Ajmere shops.
- Girders for the Sipra bridge.
- Permanent-way materials.
- Miscellaneous articles, such as metals, paint, &c.

The capital expenditure of the Rewari-Ferozepore Railway for the year 1883 amounted to Rs. 45,33,394, the whole of which is outlay against the Indian grant.

The chief progress was under the following heads:—

	Rs.
Ballasting and permanent-way	14,36,043
Stations and buildings	4,58,552
Rolling stock	10,50,131
and suspense accounts were increased by	9,69,411

The expenditure on ballasting and permanent-way was principally on the length from Hissar to Sirsa; that on stations and buildings was incurred chiefly on the length from Rewari to Sirsa, which is now open for traffic

The expenditure on rolling stock represents provision made for cost and erection of the various vehicles shown in the quarterly list of open sanctions and of 10 "O" class engines.

The increase in suspense accounts is due chiefly to the debit of the cost of the following English stores received for the construction and equipment of the line.

Bridge work.		Permanent-way material.
Engineering plant.		Building materials.
Workshop machinery.		Fencing and tools.

The Rewari-Ferozepore Railway expenditure being chargeable to protective works, all English stores are paid for from the Indian grant.

The capital expenditure of the Holkar Railway during 1883 was Rs. 35,002 the whole of which is outlay against the Indian grant.

This small outlay is due to a credit of Rs. 25,789 on account of material returned from the new approach line and tranship station at Khandwa

The gross expenditure therefore was Rs. 60,791, of which Rs. 46,258 was incurred on construction of line and chiefly on main line fencing between Mhow and Indore.

REVENUE TRANSACTIONS.

	Rs.
The gross earnings of the Rajputana-Malwa Railway for the year 1883 were	1,27,15,470
against in year 1882	1,09,29,630
giving an increase of	17,85,840
or 16.34 per cent., the open mileage being practically the same.	
The working expenses in 1883 were	66,34,738
while those of 1882 were	58,00,377
showing an increase of	8,34,411
or 14.33 per cent.	
The working expenses for 1883 [bore to the gross receipts a percentage of nearly	52.18
while in 1882 the percentage was	53.07
	Rs.
The net earnings of 1883 were	60,80,682
which upon a capital outlay to 31st December 1883 of	9,55,10,554
gives a dividend of 6.36 per cent.	
while in 1882 the dividend worked out to 5.57 per cent. — a satisfactory increase.	
If the Rajputana-Malwa and Rewari-Ferozepore Railways are taken as one, the net earnings are	61,31,742
which give on a capital outlay at 31st December 1883 of	10,03,31,535
a percentage of 6.11.	
The gross earnings of the Rewari-Ferozepore Railway for 1883 were	2,72,709
on a mileage of 88.75.	
The working expenses amounted to	2,21,649
giving net earnings of	51,060
The percentage of working expenses to gross earnings was nearly	81.28

The traffic has continued steadily to increase and is expected to reach a total of 132 lakhs, as against 111 for the preceding official year, the approximate returns for the period to the week ending 29th March 1884, showing total earnings of Rs. 37,11,000 as against Rs. 32,63,000 for the corresponding period of 1883, or an increase of about 14 per cent.

TRAFFIC AND WORKING.

ENGINEERING.

There has been no extension of the Rajputana-Malwa Railway during the year, but the length of the line has been increased 1·69 miles in consequence of alterations in the approaches to the stations of Ajmere and Khandwa, and 4·61 miles of additional sidings have been laid. The length, including sidings, of the Rajputana-Malwa Railway at the close of the year is therefore, 1239·66 against 1,233·36 for the preceding year. In addition to this, the Rewari-Ferozepore Railway with 96·75 miles of main line and sidings has been worked during half the year, and the mean mileage maintained for the whole year has therefore increased to 1286·673 miles.

The Muttra-Achnera Railway, 22·75 miles long, has also been worked by the Rajputana-Malwa Railway.

The road and works have been kept in thoroughly good working condition during the year. The cost of maintenance, excluding general superintendence and new minor works, as well as the maintenance of the Muttra-Achnera Railway, has been Rs. 11,41,347, or Rs. 73·92 per mean mile maintained by Revenue per month including sidings. This is an increase upon the sum of Rs. 9,98,585, representing an outlay of Rs. 68·62 per mile per month, which it was necessary to spend on maintenance during 1882. This increase is chiefly due to the great increase in the work done by the line during the past year. The ton miles carried are 787,089,074 for 1883 against 551,494,064 for 1882, representing an increase of nearly one-half in the quantity of work done. The larger expenditure is, however, partly due to the greater age of the road and to the cost of relaying 25 miles of 36 lbs. rails between Nana and Bhimalaya with 41½ lbs. steel rails.

The iron sleepers give less trouble than formerly, but they are not yet satisfactory on this line; probably in a country where stone ballast was not available, and where the line was laid in sand, they would compare more favorably with the wooden sleepers.

LOCOMOTIVE DEPARTMENT.

*Comparison between the Locomotive expenses of the past six calendar years.**

	1878.	1879.	1880.	1881.	1882.	1883.
Train miles ...	1,038,318	1,529,073	1,433,404	2,895,571	3,744,254	4,530,833
Vehicle miles ...	21,592,420	23,466,356	32,334,862	57,705,362	77,688,323	102,810,400
Total Locomotive expenses ...	7,51,495·34	10,88,145·16	12,04,360·04	21,28,853·27	25,55,653·47	30,98,423·22
<i>Cost per train mile.</i>	<i>As.</i>	<i>As.</i>	<i>As.</i>	<i>As.</i>	<i>As.</i>	<i>As.</i>
1. Running expenses ...	3·05	2·70	3·02	2·39	2·36	2·23
2. Fuel ...	4·88	4·83	5·66	4·05	4·98	4·94
3. Water ...	0·19	0·16	0·24	0·22	0·24	0·22
4. Oil, tallow ...	0·50	0·61	0·43	0·31	0·24	0·23
5. Maintenance and renewals ...	1·71	1·97	2·82	2·27	1·46	1·78
Total Locomotive expenses ...	11·57	11·38	13·44	11·76	10·92	10·94

* Includes miles run on and working expenses of Rewari-Ferozepore State Railway.

The following comparative statement shows the duties performed by engine drivers during the past five years :—

Particulars.	1879.	1880.	1881.	1882.	1883.
1. Average number of drivers employed monthly	72	81	116	160	169
2. Mean miles open for traffic on the close of the year	447.50	469.58	743.77	1,115.548	1,205.993
3. Total engine miles run	2,007,453	1,627,704	3,200,867	4,151,363	4,849,013
4. Number of drivers per 1,000 engine miles	.035	.05	.036	.039	.035
5. Average number of engine miles run by each driver	27,881	20,095	27,594	25,946	28,692
6. Gross ton-miles hauled	177,910,042	186,490,217	415,118,712	551,494,064	787,089,074
7. Number of drivers per 1,000,000 ton-miles	.40	.43	.27	.29	.21
8. Ton-miles worked by each driver ...	2,470,973	2,302,348	3,578,609	3,446,838	4,657,332

The present watering arrangements on the Rewari-Sirsa section of the Rewari-Ferozepore State Railway have, with few exceptions, proved unsatisfactory, the water being exceedingly bad all over the section.

To face the expected and threatened failure of water on this section, especially between Hissar and Sirsa, it has lately been decided to run water tanks with each train, and, to meet this, eighteen ballast trucks are now being fitted with water tanks.

At Hissar the Engineer-in-Chief of the line has proposed to make a reservoir for storage of eight days' supply of canal water.

Owing to the partial failure of the rainfall during 1883 much difficulty has been experienced on several portions of the main line in obtaining sufficient good water.

The quantities of water required have largely increased owing to the heavy traffic run. Arrangements are being made for improving the supply, and the question of water-supply over the whole line is now under consideration.

A second fixed crane has been erected on the foundry floor to meet requirements in consequence of the increase of work.

The improved furnaces continue to work satisfactorily. Phosphor bronze is still used with excellent result for the wearing parts of machinery and engines.

The scheme proposed in last year's report, *viz.*,—

- (1) driving the blowers from the shafting in the machine shops,
- (2) providing cast-iron blast service pipes throughout,
- (3) the grouping of all smith and boiler shop machines in a portion of the building where they will be convenient for both shops and can be worked from one engine without any complicated driving arrangements,

has been nearly completed, with the exception of the removal of the set of boilers to the smith's shop to supply steam to the steam hammers and other engines, which, pending further consideration, has not been taken in hand.

During the year, carriage and wagon work, which was largely executed in this shop, has been gradually transferred to the carriage and wagon new smithy, but, notwithstanding, the department has been much pressed with work, and the further extension of the shop cannot long be delayed.

It is proposed to put up a small temporary scrap furnace in which the large quantities of scrap which have accumulated can be worked up and a considerable saving in new material effected.

CARRIAGE AND WAGON DEPARTMENT.

The value of the total outturn for the year under review was—

	Rs.
Revenue	5,47,520
Capital	6,14,059
Other Departments, Railway and Miscellaneous ...	4,31,216
Total ...	15,92,795

The expenditure on Revenue account includes the following abnormal items:—

	Rs.
1. New minor works improvements	46,270
2. Cost of damages due to accidents	20,028
3. Adjustments on account of old Workshops Accounts...	15,573
Total ...	81,871

Amongst the items charged to Revenue the following appear:—

- 207 vehicles were damaged in accidents.
- 59 vehicles rebuilt.
- 151 coaching vehicles fitted with Jones' patent flexible buffers and screw couplings.
- 207 coaching vehicles fitted with Winter's patent system of electrical inter-communication.
- 100 carriages had sun-shades added and altered.
- 9 second class carriages were converted from three-compartment type to saloon types, and provided with bath-room accommodation.
- 294 khus coolers were added.
- 1,904 vehicles had miscellaneous additions and improvements added.

Including the above items, the gross revenue expenditure in this department was Rs. 5,51,185. The train mileage being 4,530,833, the gross cost per train-mile was 1.94 annas against 1.75 annas for the corresponding period of 1882.

To save empty mileage, out-stations have executed repairs to the value of Rs. 42,649. The vehicles withdrawn for repairs numbered 13,406. The liftings at out-stations amounted to 7,527 vehicles and the repackings of axle boxes to 29,273.

Rolling stock added to the Railway during the year.—The register showed the following totals at the commencement of the calendar year:—

Capital work.				Rs.
Coaching vehicles ... ..	...	...	...	1,028
Goods vehicles ... ..	...	...	...	4,933
				5,961

and at the close of the year—

Coaching vehicles ... ..	...	...	...	1,118
Goods vehicles ... ..	...	...	...	5,202
				6,320

There were therefore added to the line 359 vehicles *viz.*—

Coaching vehicles ... ..	...	...	...	90
Goods vehicles ... ..	...	...	...	269
				359

The rolling stock in progress of construction and the materials under delivery at the end of the calendar year were as follows:—

				Coaching.	Goods.
Under Construction	...	...	...	62	50
<i>Delivered but not erected.</i>					
Rajputana section	...	...	...	10	...
Frontier stock	...	...	...	9	...
For Malwa section	...	...	...	20	...
Rewari-Ferozepore section	...	...	...	161	...
For Jodhpore line	...	...	...	2	...
<i>Under delivery.</i>					
Rewari-Ferozepore	...	...	...	...	606
Total				264	656

The expenditure on rolling stock placed on the line and in progress of construction was Rs. 8,31,217.

One thousand American type low-sided bogie wagons.—The increase of the grain traffic having created a demand for more goods stock, loading experiments were conducted with the view to determining the best type of special wagon for this traffic. It was found that 17.3 tons of wheat and 13.2 tons of seeds could be safely stacked in a 25-foot American type bogie wagon; but to be strictly within the wheel load-limit of 2.25 tons imposed by the Government of India, such wagons on 8 wheels are only allowed to carry about 13.0 tons of wheat. Even with this limit an important problem was solved, *viz.*, 100 tons of grain loaded in metre gauge vehicles would not occupy more siding room than the same quantity loaded in broad gauge wagons of the most recent types, and the proportion of tare to load could be made as low as about 0.384.

The progress in erection of the new carriage shops admitted of occupation to the following extent on the 31st March 1884:—

New carriage shops.

- | | |
|---------------------------------|-------------------|
| I.—Repairs sidings. | IV.—Repairs shop. |
| II.—Smithy. | V.—Office. |
| III.—Part of iron machine shop. | VI.—Store sheds. |

The greater portion of the machinery has arrived and some more is now under delivery. Much of the iron working machinery is erected and has been set to work, with temporarily erected portable engines.

The erection of the wood machinery is in progress.

Besides adding the 359 vehicles already named to the stock of the Rajputana-Malwa Railway, the following were built for other lines:—

Rewari-Ferozepore Railway	...	...	100 wagons.
Cawnpore and Farukhabad Railway	...	...	170 „
Cawnpore and Farukhabad Railway	...	...	1 carriage.
Total			271

During the year 207 mail train vehicles have been fitted up with the necessary connections and fittings for Winter's system of electrical intercommunication. This system, however, could not be brought into operation in consequence of the difficulty experienced in obtaining a supply of Leclanché cells for the batteries. This work is, however, now so well forward that it is hoped the system of signalling will be brought into operation very shortly.

During the year under review, the failures of the standard pattern of combined buffer and draw gear have been numerous. The Carriage and Wagon Superintendent is of opinion that, although the coupling pins and hooks were originally of the best material, a very large proportion of the draw gear material has deteriorated through the fatigue due to numerous violent starting snatches; and that if the cause could be removed, these failures would greatly diminish, if not absolutely disappear. With the view to testing if tight coupling of goods vehicles was feasible, starting experiments with tight coupled buffers were tried in the presence of the Officiating Manager. A train of 12 loaded wagons was started on a level, proceeded on its journey, halted in the middle of a long incline near the next station, and was again satisfactorily started. The experiment having shown the feasibility of starting heavy goods trains with tight couplings, the 1,000 bogie wagons recently ordered from England had flexible buffers and screw couplings included in their design.

As the draw bars and other details continued to show signs of excessive wear, recommendations have been submitted to the Government of India to fit up the whole of the Rajputana-Malwa Railway vehicle stock with flexible buffers and screw couplings in the hope that this much-needed improvement will greatly diminish the failures now so prevalent.

TRAFFIC DEPARTMENT.

The traffic expenses of the year were Rs. 10,23,123 as compared with Rs. 8,55,536 in 1882, the train mileage having been 45,30,833, which makes them Rs. .22 per train mile. The traffic expenses were 7.88 per cent. of the gross receipts, against 7.83 per cent. in 1882.

The mean mileage worked was 1,187.023 (excluding the Muttra-Achnera branch) against 1,115.548 in 1882.

The number of stations worked (excluding three on the Muttra-Achnera branch) in the calendar year 1883 was 149 against 137 in 1882.

The total train mileage (excluding the Muttra branch) was 4,530,833 as compared with 3,744,254 in 1882.

The passenger mileage and coaching and goods ton-mileage compare as follows:—

Items.	1882.	1883.
Passenger miles	301,826,920	306,109,035
Ton-miles of coaching traffic other than passenger ...	1,560,657	2,675,865
Goods ton-miles	130,807,716	220,879,169

The gross earnings rose from Rs. 1,09,29,630 in 1882 to Rs. 1,29,88,179 in 1883, the gross earnings per train mile being Rs. 2.86.

The traffic expenses of 1883 were Rs. 10,23,123 as compared with Rs. 8,55,536 in 1882.

The earnings under this head in 1883 amounted to Rs. 38,79,803, those of the calendar year 1882 having been Rs. 37,60,874, being an increase this year of Rs. 1,18,929, which is satisfactory.

The increase occurs under the following heads, namely:—

	Rs.
Intermediate class passengers	23,381
Third class passengers	32,166
Parcels	63,192
Other coaching traffic	7,217

The number of passengers carried in 1883, as compared with 1882, and the earnings from each class, are shown in the following table :—

Half-year.	1st Class Passengers.		2nd Class Passengers.		Intermediate Class Passengers.		3rd Class Passengers.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		Rs.		Rs.		Rs.		Rs.
1st half of 1882 ...	7,922	71,129	24,519	62,924	26,111	28,307	2,547,755	15,58,578
2nd half of 1882 ...	7,350	59,082	23,880	60,305	32,991	35,632	2,397,750	15,25,208
Total ...	15,272	1,30,211	48,399	1,23,229	59,102	63,939	4,945,505	30,83,776
1st half of 1883 ...	7,916	67,055	22,607	60,381	38,908	44,005	2,669,410	16,19,604
2nd half of 1883 ...	7,201	61,194	21,405	57,784	40,041	43,314	2,474,470	14,96,338
Total ...	15,117	1,28,249	44,012	1,18,165	78,949	87,319	5,143,910	31,15,942

The first and second class traffic decreased both in number and amount but the intermediate and third class traffic shows a large and satisfactory augmentation.

With regard to the first and second class traffic, it might have been expected that the raising of the fares of these classes in January 1882 would have operated further in increasing the number of second class passengers at the expense of the first class traffic, the number carried for three calendar years having been as follows :—

			1st class. No.	2nd class. No.
1881	...	...	11,772	32,480
1882	...	...	15,272	48,399
1883	...	...	15,117	44,012

but the proportion of one class to the other remains nearly the same, namely, about three to one.

The number carried in these classes (first and second) was increased in 1882 by the Egyptian War, so that the figures of 1883 may be considered normal, being augmented by the increased open mileage.

The receipts from intermediate and third class traffic were likewise augmented by increased open mileage and the former by the reduction (from the 1st August 1883) of fares for reserved accommodation.

The principal fairs were as follows :—

	No. of passengers.
Rath Jathra at Bindraban (26th March 1883 to 4th April 1883) ...	3,500
Khwaja Sahib's Oorus at Ajmere (9th May 1883 to 14th May 1883) ...	18,718
Dussera festival at Indore (11th October 1883) ...	7,762
Pokhar fair, near Ajmere (9th November 1883 to 15th November 1883) ...	21,287
Onkar Mandhatta (Mhow District)—	
(1) 6th February 1883 to 26th February 1883 ...	2,050
(2) 5th May 1883 to 23rd May 1883 ...	800
(3) 10th November 1883 to 16th November 1883 ...	3,000
Grand Total ...	57,117

There was a falling off in the traffic to the Pokhar fair, which is the largest in the district, but the year was not an important one at that place of pilgrimage.

There was a considerable troop traffic, 27,560 men and 1,642 horses having been moved. The traffic occurred mostly in February, October, and November. In February 4 specials were run between Khandwa and Mhow. In April the

8th Bombay Native Infantry was moved from Delhi to Nusseerabad. In October and November the 1st Bombay Lancers were moved from Neemuch to Nusseerabad, and also from Nusseerabad to Rewari; these movements being the heaviest of the year, two trains being run daily for several days together. In December the Bombay Grenadiers were worked from Alhow to Khandwa and time-expired men from Delhi to Khandwa.

There were 80 special trains run during the calendar year.

The goods receipts increased from Rs. 70,24,583 in 1882 to Rs. 89,39,824, being an increase of Rs. 19,15,241. The ton-mileage was 220,879,469 and the average sum received for carrying one ton of goods one mile was pice 7.77.

Goods traffic.

The manner in which the heavy work of transshipment was conducted at Delhi, Agra, Sabarmati, and Khandwa was very satisfactory and up to the standard of former years, although the traffic was the heaviest yet dealt with.

The following figures show the work of transshipment done at Sabarmati during the last three years :—

Calendar years.	BROAD-GAUGE WAGONS.		NARROW-GAUGE WAGONS.	
	Loaded.	Unloaded.	Loaded.	Unloaded.
1881	15,263	8,548	12,251	22,073
1882	13,910	8,684	13,717	23,143
1883	28,617	13,149	18,218	44,090

The chief increases of goods traffic during the year have been as follows :—

Cotton.—7,670 tons in weight and Rs. 2,05,815 in receipts due to good crops this year and to improvement in exports *via* Bombay from the North-Western Provinces and Rajputana.

Cotton, manufactured.—1,176 tons in weight and Rs. 7,771 in receipts. Although there was an increase in piece-goods from Bombay, yet there was a decrease in the bookings to Delhi and *via* Delhi. This is receiving attention.

Grain and pulses.—69,911 tons in weight and Rs. 8,22,573 in receipts due to good crops, large requirements for export, the opening of the Rewari-Ferozepore Railway, and reduction in rates.

Seeds.—49,960 tons in weight and Rs. 5,76,193 in receipts, due to the same causes as in the case of grain and pulses.

Metals.—12,933 tons in weight and Rs. 1,77,667 in receipts due to the quotation of lower rates for iron and steel, and to increased imports from Bombay *via* Sabarmati in consequence.

Railway materials.—Although this Railway carried 18,488 tons less, yet the receipts increased by Rs. 3,44,828; this was due to materials for the Rewari-Ferozepore Railway, which were carried for long distances.

Saltpetre.—2,296 tons in weight and Rs. 22,938 in receipts due to the opening of the Rewari-Ferozepore Railway, on which saltpetre is manufactured.

Tobacco.—123 tons in weight and Rs. 30,518 in receipts. The traffic in tobacco is steadily increasing, this being due to the revision of rates.

Salt.—Although this Railway carried 6,012 tons more than in 1882, yet in the receipts there was a falling off of Rs. 61,370; this is chiefly due to the despatches of Sambhar salt, being for shorter distances than in the year before. There was a good salt traffic from Kharaghora on the Bombay, Baroda, and Central India Railway *via* Sabarmati owing to revision of rates.

Sugar—Is the chief staple in which there was a decrease, it being one of 13,466 tons in weight and Rs. 1,85,499 in receipts. This can only be ascribed to the demand being less during 1883, and perhaps the partial rains last year had something to do with this falling off.

The amount paid for compensation in 1883 was Rs. 6,600 against Rs. 10,407 in 1882, the decrease being Rs. 3,807. This decrease is satisfactory in view of the general increase of traffic and the amount paid is smaller than might be reasonably expected on such a traffic as the line (with five foreign junctions) possesses.

The expenses under this head are classified as follows:—

	Rs.	A.	P.
(1) Robberies from stations	1,118	6	0
(2) Robberies from wagons in transit	1,856	6	6
(3) Fires	20	14	0
(4) Damage and loss	2,574	2	3
(5) Exchange	248	15	3
(6) Miscellaneous	781	9	4
Total	6,600	5	4

Two troublesome cases have occurred in consequence of the adoption by tradesmen of the system of sending railway receipts (for goods and parcels) as value-payable parcels. In one of these cases the line has had to pay a claim of Rs. 452-7-0, the articles (photographic apparatus booked from Allahabad to Bawal, under parcels receipt No. 239 of the 15th May 1883) having been delivered under a forged receipt. The matter generally is now under consideration.

Except on the Rewari district, where the regularity of the service of trains at first suffered much from engine breakdowns and the newness of the staff, the passenger trains have worked with much regularity and there were only 12 cases of through trains missing their connection with those of foreign railways owing to delays on this line. This was not unsatisfactory with five junctions with foreign lines and a main line run of 579½ miles. The overland mails on one occasion only (23rd May 1883) missed connection with the corresponding foreign train.

RATES AND FARES.

Passenger fares remained the same as in 1882, as did the arrangements for through-booking of coaching traffic with foreign Railways, except that, from the 1st May 1883, the through-booking of horses with the East Indian Railway was agreed to.

From the 1st January 1883 the conditions as to time for ordinary return tickets were assimilated to those of the East Indian Railway.

From the 1st April 1883 the free allowance of luggage to intermediate class passengers was increased to 20 seers.

Goods rates.	From the 1st January 1883 the ordinary goods rates were reduced as follows:—		
1st class	0.35	pie	per mile per maund.
2nd class	0.525	"	"
3rd class	0.7	"	"
4th class	0.85	"	"
5th class	1.0	"	"

The special classes A, B, C, and D were cancelled, and the two rates A and B, based on the following scale, introduced instead, and from 1st April 1883 a third special class C:—

	Class A, pies per maund per mile.	Class B, pies per maund per mile.	Class C, pies per maund per mile.
From 1 to 100 miles ...	0.35	0.525	0.35
From 101 to 200 miles ...	0.25	0.525	0.35
From 201 to 300 miles ...	0.15	0.30	0.25
From 301 to 400 miles ...	0.15	0.20	0.25
Over 400 miles ...	0.10	0.10	0.15

These reductions were estimated as equivalent to a surrender of from 13 to 15 lakhs of rupees in traffic receipts, but the net results have been satisfactory, owing to a great development of traffic.

Grain rates.

From the 1st January to the end of April 1883 the rates for grain and common seeds were as follows:—

	Per maund.		
	Rs.	A.	P.
From Delhi to Sabarmati
From Agra to Sabarmati

These rates were based on the special class A scale.

From 1st May 1883, in accordance with the orders of the Government of India, grain and common seeds were charged at the following rates:—

	Wheat per maund.			Other grain and seeds per maund.		
	Rs.	A.	P.	Rs.	A.	P.
From Delhi or Agra to Bombay

From other stations on this line, the charge to Bombay is calculated on the Rajputana-Malwa Railway's A class basis on the through distance. These rates are divided with the Bombay, Baroda, and Central India Railway in mileage proportion.

From 1st June 1883 the rates per maund for edible grains and common seeds, booked to Bombay *via* Khandwa from stations Neemuch to Rutlam (both inclusive) were reduced to—

R.-M. Railways.	G. I. P. Railway.			Total.		
	Rs.	A.	P.	Rs.	A.	P.
0 4 4	0	6	6	0	10	10

in order to make the route *via* Khandwa cheaper in proportion to distance, because from the 1st May 1883 the despatches to Bombay were being made *via* Sabarmati, which was the longer, but at the same time the cheaper route.

Ordinary tariff rates continued to apply in booking to Bombay *via* Khandwa from Nauganwan and stations south.

From 1st February 1883, the route *via* Achnera, Muttra, and Hathras Road was opened for goods traffic to and from stations on the East Indian and connected Railways.

In consequence of a corresponding reduction on the East Indian Railway in booking from Howrah, the following reductions in rates occurred on this Rail-

Kerosine oil.

way, in concert with the Bombay, Baroda, and Central India Railway, for the carriage of kerosine oil flashing at and above 73° Fahrenheit, Abel's test, booked from Bombay *via* Sabarmati:—

From 1st March 1883	{ At railway's risk	...	...	3rd class
	{ At owner's risk	...	...	2nd class
From 1st May 1883	{ At railway's risk	...	...	2nd class
	{ At owner's risk	...	...	1st class

And from 1st December the rates obtaining at the time for the traffic *via* Sabarmati were also applied to booking from Bombay *via* Khandwa.

Consequent on the low rates introduced by the Sind, Punjab, and Delhi and Indus Valley State Railways for the booking of iron and steel from Kurrachee, a similar reduction in rates was deemed necessary over the Rajputana and the Bombay, Baroda, and Central India Railways. With this object the special (class C) rate was adopted, with effect from 1st April 1883, on this Railway for the same traffic. In consequence of the Sind, Punjab, and Delhi and the Indus Valley and Kandahar State Railways having made a further reduction in the rates for

Iron and steel.

iron and steel from Kurrachee, a special rate of 11 annas per maund was quoted with effect from 1st July 1883, applicable to iron and steel booked from Bombay to stations Malakhera to Delhi.

Fibrous materials consigned for the manufacture of paper and gunny bags were also, with effect from the same date, classed under the new special class C.

Fibrous materials.

The following articles are also classified under the special class C (the special rate of 11 annas, above referred to, being also applicable to them), with effect from the date noted against each item :—

Spelter	...	...	...	1st December 1883.
Zinc in sheets, whether old or new	...	...	...	1st December 1883.
Iron washers	...	...	...	1st August 1883.
Rails, iron, old	...	...	...	1st February 1883.

CHAPTER VI.

PROVINCIAL STATE RAILWAYS.

CALCUTTA AND SOUTH-EASTERN STATE RAILWAY.

GAUGE 5' 6".

WORKS IN PROGRESS.

Of the works in progress during the year 1883-84, the following were the most important :—

- (1) Completion of the line from Mugra Hat to Diamond Harbour.
- (2) Erection of the Wellington crane in the Sealdah yard.
- (3) Improvements in the Canning Tramway Hotel Siding.
- (4) Laying of the carriage lay-by sidings in the permanent goods-shed.
- (5) Repairs to the girder bridge at Gurraah.

MINERAL RESOURCES.

The fuel used on the line was obtained from the Barakar mines of the Bengal Coal Company, and was delivered by the Company at the junction gate at Sealdah at the rate of Rs. 9-3-3 per ton.

The quantities used and the cost during the last three years is as follows, shewing a reduction in last year's consumption :—

Year.	MILEAGE.		CONSUMPTION.			AVERAGE COST.		
	Train.	Engine.	Total.	Per		Per ton.	Per	
				Train mile.	Engine mile.		Train mile.	Engine mile.
			Tons.	lbs.	lbs.	Rs.	As.	As.
1881-82	42,297	61,017	1,185-45	62-78	51-14	9-42	4-22	3-44
1882-83	61,380	71,108	1,542-10	68-60	49-38	9-59	4-02	3-32
1883-84	131,290	154,908	3,221-75	54-99	43-11	9-51	3-73	3-16

LINES OPEN FOR TRAFFIC.

The line from Calcutta to Canning, 28 miles, was open for traffic throughout the year, as also the section from Sonarpur to Mugra Hat, 15 miles, on the extension. The portion from Mugra Hat to Diamond Harbour, 12½ miles, was opened on 1st May 1883.

There was no interruption to traffic during the year under review. The following accident resulting in bodily injuries occurred :—

On the 11th May 1883, when No. 2 up train was entering Sonarpur station, the pointsman turned the train into the siding where No. 3 down train was standing. Four male and one female passenger received slight injuries, and some damage was done to rolling stock.

PERSONS EMPLOYED.

With the exception of a locomotive foreman, no Europeans are employed on the open line, the drivers, firemen, and traffic staff being all natives.

This Railway has no police establishment of its own. The police force of the 24-Pergunnahs do duty on the line.

Police.

An assistant surgeon is in medical charge of the line. Medicine is obtained from the Campbell Hospital. For Cancelling a subscription is paid for the charitable dispensary there, and the staff at that station receive medicine and medical aid from the dispensary.

Medical.

STORES.

The stores accounts for the year ending 31st December 1883, shows a total balance of Rs. 1,04,078 on the old line and Rs. 1,80,373 on the extension.

There are twelve engines on the line, one of which is condemned and will shortly be broken up.

Locomotives.

The following statement will show the number and description of vehicle stock on the line, with the additions and reductions effected during the year:—

Vehicle stock.

Particulars.	COACHING.									GOODS.												
	State saloon.	First class.	Composite.	Second class.	Third class.	Carrage trucks.	Produce wagons.	Horse boxes.	Passenger B. vans.	Covered goods wagons.	High-sided wagons.	Low-sided wagons.	Cattle vans.	Timber trucks.	Iron covered cylindrical.	Iron open cylindrical.	Tool van.	Iron covered goods.	10-ton covered goods.	Travelling crane.	Goods B. vans.	Travelling tanks.
Total stock on line on 31st December 1882	1	...	5	...	20	2	25	2	3	150	62	34	1	2	2	2	...	...	...	1	5	3
Additions during 1883	...	5	...	4	31	...	11	...	4	...	8	...	...	...	...	...	1	50	10	...	...	...
Total	1	5	5	4	51	2	36	2	7	150	70	36	1	2	2	2	1	50	10	1	5	3
Reduction during the same year	...	...	...	...	11	...	...	...	2	33	17	10	...	...	...	...	...	...	...	...	...	...
Total on the line on 31st December 1883	1	5	5	4	40	2	36	2	5	117	53	26	1	2	2	2	1	50	10	1	5	3

CAPITAL TRANSACTIONS.

There was no capital expenditure on the old line, but on the extension the expenditure amounted to Rs. 10,53,126 for the calendar year 1883.

REVENUE TRANSACTIONS.

The following statement shows the revenue transactions of 1883, as compared with those of 1882:—

Year.	Earnings.	Expenditure.	Net earnings.
	Rs.	Rs.	Rs.
1882	2,10,079	2,04,652	5,428
1883	2,95,380	1,62,383	1,32,997

TRAFFIC AND WORKING.

6,383 wooden sleepers were removed from the line and replaced with 2,201 pairs of cast-iron pot sleepers, 468 teak-wood sleepers, and 3,714 iron-wood sleepers. The entire lengths of the longitudinal sleepers of the running shed pits and a

Maintenance and renewal of permanent-way.

portion of the longitudinal sleepers of the Garia girder bridge were renewed; 83 rails were interchanged with those of sidings, 2,931 rails inverted between Calcutta and Canning, and 69,380 cubic feet of ballast spread on the line.

The road on the Diamond Harbour Extension was put into good running order by the end of December, and has been so maintained since, in spite of the short supply of ballast; 100 iron bowl sleepers and 20 of Denham's plate sleepers were renewed during the year, having been broken through deficient packing.

A new goods-shed, platform and siding were completed at Nazra and the engine-shed, tanks, water-column and ash-pit at Diamond Harbour. Two new flag-stations were put in hand at Chingriputta and Sangrampore and two temporary floating-stages were erected at Diamond Harbour and Gewankhally for the convenience of passengers passing to and fro in the ferry steamer *Midnapore*. Upwards of 30 lakhs of bricks were made and were being put into kilns for burning before the end of the year, to complete the ballasting to full section.

Repairs of stations and buildings.

One of the engines has undergone heavy repairs during the year.

The following table shows the average mileage run and cost of repairs which compares favorably with the previous year:—

Year.	Number of engines on the line.	Total engine mileage.	Total cost of repairs.		Miles run per engine.	Cost of repairs per engine per mile.		Remarks.
			Rs.	Rs.		Rs.	Rs.	
1882	1st-half	9	27,777	97,238*	10,804	3,086	3.50	* Including Rs. 65,029 being the value of four new engines.
	2nd-half	9	31,355	2,914	312	3,493	0.09	
1883	1st-half	12	60,022	2,935	246	6,068	0.03	
	2nd-half	12	77,704	4,257	354	8,033	0.04	

Besides the ordinary repairs to engines and vehicles, which were executed in the Calcutta and South-Eastern State Railway workshops during the year, there were eleven third class carriages converted into produce vendors' carriages, eight covered goods wagons converted into high-sided wagons, and one tool van into a covered goods wagon.

A steamer service was opened between Diamond Harbour and Gewankhally on and from 1st February 1884, and is worked by the steamer *Midnapore*, of which the nominal horse-power is 40 and registered tonnage 104 tons.

Steam-Boat Service.

On the opening of the extension to Diamond Harbour, on 1st May 1883, the train service was considerably increased, as an experimental measure.

Traffic Department.

Four through trains were run from Calcutta to Diamond Harbour and four from Diamond Harbour to Calcutta every day, with an additional train on Saturdays and Mondays. The section between Sonarpur and Canning was treated as a branch line, and an engine running between Sonarpur Junction and Canning worked two up and two down trains on this section. On 1st September 1883, however, the train service was reduced, only two down trains being run through to Diamond Harbour and two up from Diamond Harbour, with two down and two up trains to and from Barripore, and one down train to Canning and one up train thence. On 1st October 1883 this train service was slightly increased. From 1st February 1884 three down trains have been

running through to Diamond Harbour and three up trains from that station daily; one local train to and from Barripore, and one through train to Canning and one from that station.

This last mentioned arrangement seems to be satisfactory. There has been marked improvement in both coaching and goods traffic, as will be seen from the table given below :—

1882.	Description of traffic.					1883.
Rs.						Rs.
98,879	Coaching	...	...	...	...	2,00,810
50,944	Goods	...	...	...	...	72,632
562	Electric telegraph	...	...	...	...	711
59,707	Sundries	...	...	...	...	21,236
2,10,091				Total	...	2,95,379

RATES AND FARES.

The following additions and alterations were made during the year under review :—

- (1) Miscellaneous goods when carried in quantities not less than 5 tons, or 140 maunds, were charged for at a special rate of $\frac{1}{4}$ pie per maund per mile.
- (2) Monthly tickets at a fare and a third were issued at all stations from Calcutta to Barripore to all classes of passengers.

NALHATI STATE RAILWAY.

GAUGE 4' 0".

WORKS IN PROGRESS.

Amongst the works in progress during the year under review, the following were the most important :—

- (i) Thorough repairs to the Locomotive Foreman's bungalow at Nalhati.
- (ii) Relaying of the sidings at Azimgunge.
- (iii) Repairs to the roof of the running-shed.
- (iv) Repairs to bridges Nos. 2, 3, 27 and 30.

MINERAL RESOURCES.

During the year the coal used was supplied from the Sodepur mine of the Bengal Coal Company, and was delivered at Nalhati station at a cost of Rs. 8.37 per ton; the rate delivered into wagons at Sitarampur being Rs. 3.50 per ton.

The quantities used and the cost during the last three financial years is as follows, showing a marked reduction in the last year's consumption :—

Year.	Quantity.			Average rate per ton.	CONSUMPTION PER		COST PER	
					Train mile.	Engine mile.	Train mile.	Engine mile.
					lbs.	lbs.	As.	As.
1881-82	...	...	...	Rs.	lbs.	lbs.	As.	As.
1882-83	403	6	0	8.23	27.33	25.15	1.60	1.48
1882-83	432	4	0	8.64	22.27	19.07	1.41	1.20
1883-84	347	14	2	8.81	18.04	14.75	1.19	0.92

LINES OPEN FOR TRAFFIC.

During the year under notice the line from Nalhati to Azimgunge, 27½ miles in length, was open, and traffic was carried without interruption. No accident of a serious nature occurred during 1883-84.

PERSONS EMPLOYED.

There are two East Indians on the line. The one is the Locomotive Foreman and the other is a Guard: the rest are all natives.

There is no railway school. Some of the children of the employés receive education in the local school at Azimgunge.

Schools.

This railway has no police force of its own: the district police staff do duty on the line.

Police.

A native doctor is in medical charge, and there is an out-door dispensary at Nalhati.

Medical.

STORES.

The stores accounts for the year ending 31st December 1883 show a balance of Rs. 19,999.

The engine and vehicle stock on 31st December 1883 was as follows:—

Statement of rolling stock for the half-year ending 31st December 1883.

Description.	1	2	3	4	5	6	7	8	9	10	11	12
	Total stock authorized.	Total stock constructed against authorization up to the last day of the previous half-year.	Additions to stock during the half-year.	Reduction of stock.	Total stock on the list at end of the half-year.	Actual stock in running order on the last day of the half-year.	REPAIRS AND RENEWALS.						Stock condemned in this and previous half-year awaiting replacement.
							Number of vehicles repaired during the half-year.	Number of vehicles renewed during the half-year.	Number of vehicles undergoing or awaiting repairs on the last day of the half-year.	Number of vehicles undergoing or awaiting renewals on the last day of the half-year.	Average number undergoing repairs and renewals at any one time.	
Engines—												
Tank	...	4	...	...	4	3	4	...	1	...	1.28	...
Total	...	4	...	...	4	3	4	...	1	...	1.28	...
Coaching vehicles—												
First class carriages	...	2	...	...	2	2	...	...	...	...	...	...
Composite carriages
Second class carriages	...	1	...	...	1	1	...	...	...	...	...	...
Third class carriages	...	6	...	...	6	5	5	...	...	6.1	0.22	...
Horse-box	...	1	...	...	1	...	...	...	...	6.1	...	...
Total	...	10	...	...	12	10	5	...	...	2	0.22	...
Goods vehicles—												
Covered goods wagons	...	15	...	...	15	15	2	...	...	...	0.26	...
Open or low-sided wagons	...	9	...	...	9	9	1	...	...	...	0.01	...
Total	...	24	...	...	24	24	3	...	...	...	0.27	...

(a) Two composite carriages, Nos. 459 and 460, constructed in the Saidpur workshop in accordance with Chief Engineer, Bengal's No. 4054 R.A., dated 23rd December 1882.

(b) Condemned carriages (not to be replaced).

(c) Mails carried in a covered goods wagon which has been running as a temporary guards van.

(d) Half first class and half second class compartments.

CAPITAL TRANSACTIONS.

The only capital expenditure incurred was in the construction of additional stock for this line in the Saidpur workshop.

REVENUE TRANSACTIONS.

The following statement shows the Revenue transactions :—

	Earnings. Rs.	Expenditure. Rs.	Profits. Rs.
1883	80,973	56,379	24,594
1882	71,674	52,357	19,317

TRAFFIC AND WORKING.

ENGINEERING DEPARTMENT.

The permanent-way, bridges and culverts, stations and buildings, were maintained in good working order. Some 1,088 sleepers were renewed, five sets of points and crossings were relaid, three-fourth miles of 41½ lb. rails were laid on the line, some 10,000 cubic feet of ballast were put on the road.

LOCOMOTIVE DEPARTMENT.

It will be seen from the following table that the running expenses of the line compare favorably with the previous year, and other expenses with the exception of maintenance and renewals have been considerably reduced :—

	1882.		1883.	
	Per train mile.	Per engine mile.	Per train mile.	Per engine mile.
	As.	As.	As.	As.
Running expenses	0.58	0.47	0.58	0.45
Fuel	1.62	1.33	1.27	0.99
Water	0.35	0.29	0.23	0.18
Oil, tallow, and other stores	0.21	0.17	0.20	0.16
Maintenance and renewals	0.82	0.67	1.11	0.86
Total Locomotive Department expenses	4.44	3.62	4.29	3.34

The following table shows the average mileage run and cost of repairs, which, it will be found, are slightly in excess of those of the previous year :—

Engine repairs.

	Number of locomotives on the line.	Total engine mileage.	Average mileage per engine.	Total cost of repairs.	Average cost per engine.	Average cost per engine per mile.
				Rs.	Rs.	As.
First half, 1882	4	24,510	6,127	1,187	296	0.77
Second half, 1882	4	25,310	6,327	905	226	0.57
First half, 1883	4	26,336	6,584	1,448	362	0.88
Second half, 1883	4	26,603	6,651	1,423	356	0.85

CARRIAGE AND WAGON DEPARTMENT.

The following statement shows the cost of repairs to vehicles, &c., per train mile, which compares favorably with that of the previous year :—

	PER TOTAL TRAIN MILE.	
	1882.	1883.
	As.	As.
Repairs to coaching vehicles	0.33	0.40
Repairs to goods vehicles	0.24	0.15
Cleaning carriages and wagons, &c.	0.17	0.14
Total Carriage and Wagon Department expenses	1.28	1.09

TRAFFIC DEPARTMENT.

There was no alteration in the train service. The following table shows the earnings under different heads as compared with the previous year:—

1882.		1883.
Rs.		Rs.
46,013	Coaching	51,623
24,334	Goods	27,275
780	Electric telegraph	1,440
547	Sundries	635
71,674	Total	80,973

There is an improvement in both passenger and goods traffic. This is partly due to the bathing *mela* and partly to the International Exhibition at Calcutta.

RATES AND FARES.

Amongst the changes made the following may be noticed:—

1. The minimum of handling charges was fixed at 1 anna.
2. On through consignments, weighing 50 maunds and under, a terminal charge of 8 annas was introduced.

NORTHERN BENGAL STATE RAILWAY.

METRE GAUGE.

WORKS IN PROGRESS.

At Parbatipur two blocks of double storied quarters were built for the station staff.

Staff quarters.

At Saidpur two double storied houses for subordinates were built, and two more were nearly completed. The Manager's house was finished and a new double storied officer's house commenced. Five blocks containing 26 rooms were built for the native station staff.

At Sara a single storied officer's house was commenced.

Station machinery.

At Siliguri the watering arrangements for the Darjeeling-Himalayan Railway were completed.

LINES UNDER CONSTRUCTION AND SURVEY.

PARBATIPUR-DINAGEPORE RAILWAY.

Of the branch line from Parbatipur to Dinagepore, 9 miles, from Parbatipur to Chirirbandar, were opened for traffic on 1st July 1883.

The remaining 10 miles to Dinagepore were nearly completed at the close of the financial year, and were opened for traffic on the 16th May 1884. The progress made during the year in the construction of this Section was as follows:—

Earthwork.

Earthwork completed.

Level-crossings.

Twenty-one gate lodges, and houses for 6 permanent-way gangs were built.

About 175,000 cubic feet of shingle ballast were procured from the Mahanadi river at Siliguri of which 21,000 cubic feet were spread. About 11,500 cubic

Ballasting.

feet of sand and 156,000 cubic feet of brick ballast were also spread.

The laying of the rails was completed during the year under review, with the exception of the triangle at Dinagepore station.

Permanent-way.

All the large bridges, namely, the Jaboona, Issamati, Akra, Kakra and Atrai, had been completed, with the exception of the footway of the Kakra, and the stone protection of the piers and abutments of the Kakra and Atrai.

Major Bridges.

Minor Bridges.

Twenty-two small bridges were completed during the year.

At Chirirbandar and Kaugaon the station buildings were completed and corrugated iron goods-sheds nearly finished. At Dinagepore a latrine was built and the station building was nearly completed.

Stations and offices.

Quarters for the staff at Chirirbandar, Kaugaon and Dinagepore were completed, with the exception of the doors which in a few cases had not yet been fitted.

Staff quarters.

PORADAHA SECTION EXTENSION.

Owing to the silting of the channel to the existing ghât at Damukdia, it was found necessary to extend the Poradaha Section of the Northern Bengal State Railway northwards about 6 miles to a ghât nearly opposite to Sara on the left bank of the Ganges. The survey was commenced in August and the extension was opened for passenger traffic on the 11th December.

The progress made during the year on the construction of this extension was as under:—

The Earthwork was finished with the exception of the embankment across the Bammuni Khall at the 14th mile, which was crossed by a diversion while the embankment was being made.

Earthwork.

Staff quarters.

Temporary houses, 14 for pointsmen, 11 for gate-keepers and 3 for permanent-way gangs, were built.

Ballasting.

About 1,150,000 bricks were burnt for ballast.

Permanent way.

The laying of the permanent-way had been completed.

At old Damukdia a rest-house was built. At new Damukdia ghât a rest-house, 2 transhipment offices, a waiting room for 1st and 2nd class passengers, 2 goods-sheds, a station house, a lamp room and ticket office, a dispensary, a store godown and two telegraph offices, all of a temporary description, were built.

Stations and offices.

Staff quarters.

The following temporary quarters for the staff were built at the new ghât:—

A running bungalow for guards, and one house each for the Assistant Traffic Superintendent, guards, shunters, ghât inspector and native station master, besides quarters for the clerks, signallers, policemen and jemadars and other menials, quarters for the locomotive foreman, drivers, and the medical staff, and a running bungalow for drivers.

SULTANPUR-BOGRA SURVEY.

The preliminary survey for a branch line from Sultanpur station, on the Northern Bengal State Railway, to Bogra, a distance of 26 miles, was made and submitted with the estimates and usual report.

FUEL USED.

The fuel used on the line during the year under review was obtained, as in the previous year, from the Barakar mines of the Bengal Coal Company at a cost of Rs. 8-5-6 per ton delivered at Shamnuggar on the Eastern Bengal Railway.

The Makum coal fields have recently been opened under the management of the Assam Trading Company who tendered for the supply of coal required for this Railway during the current financial year; but their rates were too high for acceptance without previous trial. Sample consignments have, however, been ordered for trial on the steamers and locomotives.

From the following table it will be observed that in the year's consumption a reduction of 1.14 lbs. per train mile has been made, as compared with the previous year. On the total train mileage of 680,553, this represents a saving of 346½ tons or Rs. 4,070 during the financial year:—

Year.	AVERAGE COST.			AVERAGE CONSUMPTION.	
	Per ton.	Per train mile.	Per engine mile.	Per train mile.	Per engine mile.
	Rs.	As.	As.	lbs.	lbs.
1880-81	12.72	2.98	2.18	32.88	28.88
1881-82	11.95	2.72	2.40	32.01	28.02
1882-83	11.83	2.80	2.30	32.24	29.13
1883-84	11.35	2.52	2.22	31.10	27.46

During the year drivers and firemen received Rs. 945 as premia for economical use of coal.

LINES OPEN FOR TRAFFIC.

Owing to the opening of 9 miles of the Dinageporc-Parbatipur Railway on the first July 1883, the mean mileage of metre gauge line worked during the financial year was 236½ miles; and owing to the opening of the extension of the Poradaha Section on the 11th December 1883, the mean mileage of broad gauge line worked by the Eastern Bengal Railway Company was 14½ miles.

There were no accidents resulting in death, and 4 only which resulted in bodily injury, 2 being very slight. None of the other accidents were of a serious nature.

Accidents.

PERSONS EMPLOYED.

Excluding those employed in the workshops, 76 Europeans and Eurasians and 2,397 natives were employed during the year under review, against 71 Europeans and Eurasians and 2,051 natives employed during the previous financial year.

The depositors in the provident Institution numbered 379 on the 31st March 1883. Of these 4 were independent voluntary depositors having no compulsory account. The remaining 375 were compulsory depositors and 53 of these were also voluntary depositors.

The voluntary contributions amounted to Rs. 6,298 and the compulsory to Rs. 30,276. Rs. 17,343 also were given by way of bonus, making a total of Rs. 53,917 for the calendar year.

By the 31st March 1884 the number of members had increased to 391, and the total amount deposited to Rs. 75,429, of which Rs. 27,512 had been granted as bonus.

No alteration has been made in the medical establishment during the year under review. Five dispensaries were working at the close of the year. The Civil Hospital Assistant at Chirirbandar has establishment for out-door patients only; the in-door patients are sent to Saidpur for treatment.

Medical Department.

The other dispensaries receive both in-door and out-door patients. The medicines are supplied from the Saidpur hospital.

The total number of patients treated was 10,313 against 9,160 treated during the previous year.

STORES.

There has been a slight increase in the staff required for this department as the extensions of the line have added considerably to the work.

Locomotives.

The locomotive stock was the same as at the close of the previous year.

The following statement shows that the yearly mileage of the engines has exceeded that of any former year. The reason of the mileage of the F class engines being in excess of that of the E class is that the former have been used almost exclusively on the goods trains between Sara and Saidpur, and never on shorter runs or in shunting.

		MILEAGE.								
		E class, 29 engines.	F class, 7 engines.	AVERAGE PER		Average per engine per annum on whole stock.	E CLASS, 29 ENGINES		F CLASS, 7 ENGINES.	
				E class, 29 engines.	F class, 7 engines.		Maximum.	Minimum.	Maximum.	Minimum.
1881	1st-half	227,701	49,305	7,347	7,013	7,291	15,026	216	10,672	3,105
	2nd-half	210,131	79,662	8,250	10,094	8,633	15,127	182	13,432	2,093
1882	1st-half	265,418	75,790	9,152	10,827	9,478	19,309	1,359	12,419	9,118
	2nd-half	250,435	77,197	9,950	11,026	10,134	17,859	420	14,336	9,067
1883	1st-half	299,794	100,079	10,372	14,297	11,107	17,063	610	16,479	12,140
	2nd-half	284,821	103,183	9,821	14,749	10,778	17,025	791	15,787	13,107

Six first class carriages have been converted, two into composites and four into second class carriages. Twelve low-sided trucks have been converted into open jute trucks and four of the latter into covered goods wagons.

Vehicle stock.

During the current year it is intended to make a trial on a small scale of lighting carriages by electricity.

A first class carriage of improved design, and having three compartments, each of nearly the same capacity as that of the broad gauge stock of the East Indian Railway, has been placed on the line, and another is under construction in the Workshops at Saidpur.

Indents for four first class carriages on six wheels of similar design but of two compartments, also for ten intermediate class carriages of an improved type, and twenty third class carriages have been submitted. Only fifteen of the large iron jute wagons, indented for in October 1881, have during the year arrived in the country. Seventy-five more of these jute wagons and 100 iron covered goods will, it is hoped, be provided during the current year.

CAPITAL TRANSACTIONS.

The capital expended on final heads during the year was Rs. 7,51,610. The total capital outlay including suspense to the end of December 1883, was Rs. 2,20,47,731.

Of this sum Rs. 9,05,773 was expended on the Parbatipur-Dinagepore branch of the Northern Bengal State Railway.

REVENUE TRANSACTIONS.

The subjoined table shows the financial results of the working of the Northern Bengal State Railway during last 4 calendar years :—

Year.	Miles open.	Train miles.	Gross earnings.	Working expenses.	Percentage of expenses to earnings.	FINANCIAL RESULTS.		PER TRAIN MILE.		
						Net profits.	Percentage of profits on capital expended.	Gross earnings.	Working expenses.	Profits.
			Rs.	Rs.		Rs.		Rs.	Rs.	Rs.
1880	213	510,372	16,12,891	9,60,231	60.10	6,43,510	3.20	2.98	1.70	1.10
1881	243	521,323	18,43,600	9,44,573	51.22	8,99,317	4.41	3.53	1.81	1.73
1882	243	615,090	21,45,010	10,52,357	49.04	10,93,553	5.23	3.49	1.71	1.78
1883	247	603,231	22,91,192	11,29,821	49.20	11,65,371	5.41	3.31	1.63	1.68

* Includes 13 miles of broad gauge line worked by the Eastern Bengal Railway.

From the above table it will be observed that there has been an increase in the gross earnings of Rs. 1,48,282, and that the net earnings gave a return of 5.41 per cent. including the capital expended on the open section of the Parbatipur-Dinagore extension, for which the Government of Bengal do not pay interest to the Government of India.

The gross earnings and increase in them during the year 1883 were obtained as follows :—

Heads of traffic.					Receipts during 1883.		Increase during 1883.	
					Rs.		Rs.	
Coaching	...	...	...	...	6,15,714		45,051	
Goods	...	...	...	...	13,20,180		80,913	
Telegraph	...	...	...	...	8,146			
Sundries	...	...	...	...	1,09,663		14,623	
Steam Boat	...	...	...	...	2,10,159		7,695	
Total	...	...	...	...	22,91,192		1,48,282	

TRAFFIC AND WORKING.

The subjoined table gives the number of Passengers and weight of goods booked between the Northern Bengal State Railway and the Eastern Bengal Railway, and will serve to show the value of the former as a feeder to the latter :—

Year.	PASSENGERS.				Goods.	
	To Northern Bengal State Railway from Eastern Bengal Railway.		From Northern Bengal State Railway to Eastern Bengal Railway.		To Northern Bengal State Railway from Eastern Bengal Railway.	From Northern Bengal State Railway to Eastern Bengal Railway.
	No.	No.	Mds.	Mds.		
1878	11,206½	9,126	2,11,223	5,30,220		
1879	11,526	27,194	5,16,998	11,30,296		
1880	49,611½	39,531	7,56,112	15,72,703		
1881	57,752	50,978½	9,15,261	22,09,996		
1882	66,954	56,796½	10,77,512	26,59,010		
1883	80,615½	70,248	12,06,159	27,89,781		
Total	230,705½	253,574	46,83,295	1,08,95,606		
Grand Total	534,309½		1,55,78,211			

The above table shows a considerable increase in passenger traffic and a fair increase in that of goods during the last calendar year.

The following table shows the traffic receipts and the percentages of earnings under the several main heads of accounts during the last four years :—

Main Heads.	1880.		1881.		1882.		1883.	
	Earnings.	Percentage of gross Earnings.	Earnings.	Percentage of gross Earnings.	Earnings.	Percentage of gross Earnings.	Earnings.	Percentage of gross Earnings.
	Rs.		Rs.		Rs.		Rs.	
Coaching traffic ...	5,32,237	33·0	5,36,915	29·1	5,70,693	26·5	6,15,744	29·8
Goods ...	8,07,999	50·1	10,30,935	56·9	12,30,269	57·7	13,29,179	57·0
Total traffic ...	13,40,236	83·1	15,67,850	86·0	18,00,962	84·2	19,45,923	84·4
Steam-boat earnings ...	1,63,504	10·1	1,92,709	10·5	2,32,764	10·8	2,40,459	10·5
Sundries, including Telegraph ...	1,00,681	6·8	83,331	4·5	1,03,187	5·0	1,17,519	5·1
Grand total ...	16,12,501	100	18,43,890	100	21,45,910	100	22,94,192	100

It will be observed that the percentages of main heads to gross earnings are nearly the same during the last two calendar years.

From the following table it will be seen that the percentages of the working expenses of the Traffic Department, as well as general charges to the gross earnings, are gradually decreasing, although in the percentage of the total expenses there has been little change as compared with the previous year, owing partly no doubt to the opening of the Parbatipur-Dinagapore Section, and partly probably to the reduction of fares and rates hereafter mentioned :—

Main Heads.	1880.		1881.		1882.		1883.	
	Expendi- ture.	Percentage of gross earnings.	Expendi- ture.	Percentage of gross earnings.	Expendi- ture.	Percentage of gross earnings.	Expendi- ture.	Percentage of gross earnings.
	Rs.		Rs.		Rs.		Rs.	
Maintenance ...	1,00,453	11·8	2,10,299	11·4	2,24,404	10·4	2,57,131	11·2
Locomotive expenses ...	2,68,529	16·0	2,68,540	14·6	3,09,456	14·4	3,39,405	14·8
Carriage and Wagon expenses ...	37,580	2·3	40,503	2·2	50,639	2·4	59,330	2·6
Traffic expenses ...	1,63,640	10·1	1,46,808	7·9	1,57,104	7·3	1,63,849	7·1
General charges ...	1,87,936	11·6	1,60,325	8·7	1,77,572	8·3	1,41,595	6·2
Steam Boat service ...	1,14,906	7·1	1,00,121	5·4	1,14,475	5·3	1,44,765	6·3
Miscellaneous charges ...	15,268	1·1	18,997	1·0	19,707	0·9	23,725	1·0
Total working expenses ...	9,69,292	60·0	9,44,574	51·2	10,52,357	49·0	11,28,820	49·2

ENGINEERING DEPARTMENT.

The average cost of maintenance per mile of line maintained amounted to Rs. 83-11-0½ per mensem during the year under review as compared with Rs. 81-4-4 during the year 1882.

The average cost per train mile during 1883 was 5·93 annas against 5·84 during the previous year.

Out of 121,145 rails laid in the line, 852 were renewed, and out of 514,916 transverse timber sleepers and 23,397 iron and steel sleepers laid, 25,267 of timber and 8 of iron were relaid during the year under review.

LOCOMOTIVE DEPARTMENT.

There is a reduction in the expenses per train mile of the Locomotive Department during the year under review as compared with the two previous years.

The following table shows the number of miles run and the expenditure per mile :—

Year.	Total train miles.	Total engine miles.	EXPENDITURE PER	
			Train mile.	Engine mile.
			Annas.	Annas.
1880	540,372	616,404	7-65	6-70
1881	521,923	587,859	8-23	7-31
1882	615,090	707,830	8-02	6-07
1883	693,231	787,877	7-80	6-87

The following table shows the cost of repairs per engine per mile run for the last four years :—

Engine repairs.

Year.	No. of locomotives on line.	Total engine mileage.	Total cost of repairs.		Miles run per engine.	Cost of repairs per engine per mile.	
			Rs.	Rs.		As.	As.
1880	1st-half	36	317,770	10,917	303-25	8,827	0-55
	2nd-half	40	298,724	7,463	186-57	7,469	0-40
1881	1st-half	38	277,066	7,888	207-58	7,291	0-46
	2nd-half	36	310,793	14,253	390-63	8,783	0-71
1882	1st-half	36	341,208	16,872	468-04	9,478	0-78
	2nd-half	36	366,622	17,749	493-02	10,184	0-77
1883	1st-half	36	399,873	25,100	697-22	16,107	1-00
	2nd-half	36	388,004	26,068	724-11	10,777	1-07

The repairs have necessarily been heavy. The boilers of the greater part of the engines have been lifted out of the frames, and a number of stays and tubes have been replaced.

The failures of engines have not been more frequent than during the previous year notwithstanding the average increased mileage run by each engine.

CARRIAGE AND WAGON DEPARTMENT.

The cost of repairs has increased owing to the effort which has been made to complete the painting of the whole stock. Nearly every vehicle has been taken off its frame in order that the iron work might be scaled and repainted. This was found especially necessary in the case of wagons used for carrying salt.

The following table compares the working expenses during the last 4 years :—

Year.	Total train miles.	Total vehicle miles.	Expenditure per	
			train mile.	1,000 vehicle miles.
			As.	Rs.
1880	540,372	11,531,416	1-14	3-53
1881	521,923	11,926,568	1-24	3-42
1882	615,090	14,578,819	1-32	3-49
1883	693,231	16,775,883	1-37	3-56

The cost of repairs during the last four years is compared below :—

Year.	Coaching vehicles.	Goods vehicles.	Total.	Per train mile.
	Rs.	Rs.	Rs.	As.
1880	8,590	6,457	15,047	0.44
1881	10,347	5,705	16,052	0.49
1882	14,704	10,441	25,145	0.66
1883	15,324	15,548	30,872	0.71

The want of sheds at Sara and Saidpur, to protect the carriages not actually running from the weather, is much felt, and the damage resulting from the exposure is such that the paint is completely perished in two years. This avoidable cause of damage will, it is hoped, be rectified during the current year.

The demands on the workshops are steadily on the increase. In addition to the work carried out for the home line the following vehicles were turned out for foreign railways :—

Two composite carriages for the Nalhati State Railway.

Six first class and 22 third class carriages and 37 covered goods wagons for the Tirhoot State Railway.

In addition to the above, 119 vehicles are now being constructed for various foreign lines.

The number of hands employed has considerably increased, and further additions to the workshops may be necessary during the next 2 or 3 years.

Several new machines have been fixed to meet extra requirements. The overhead cranes have been erected in position. They are not yet in use, as the road girders sent out for them are not suitable, and new ones have been indented for.

TRAFFIC DEPARTMENT.

The following table compares the working of the Traffic Department during the last four years :—

Year.	Traffic earnings.	Traffic expenses.	PER TRAIN MILE.		Percentage of traffic expenditure to earnings.
			Traffic earnings.	Traffic expenses.	
	Rs.	Rs.	Rs.	As.	
1880	13,40,236	1,63,640	2.48	4.84	12.2
1881	15,67,850	1,45,808	3.00	4.47	9.3
1882	16,09,959	1,57,104	2.94	4.09	8.7
1883	19,35,923	1,63,849	2.74	3.68	8.4

In the following tables the various kinds of coaching and goods traffic are compared with those of the previous year :—

Coaching traffic.

Description of coaching traffic.	1882.		1883.		INCREASE.		DECREASE.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		Rs.		Rs.		Rs.		Rs.
First class ...	4,221	48,328	4,740½	48,737	519½	409	...	...
Second class ...	7,756½	37,607	7,906	37,012	149½	...	...	595
Intermediate class ...	14,845	34,040	17,401	37,158	2,556	3,118	...	...
Third class ...	657,801½	3,78,325	727,307	420,555	69,505½	42,230	...	...
Total of all classes ...	684,624	4,98,300	757,354½	543,462	72,730½	45,162	...	...
Other coaching traffic ...	...	72,393	...	72,282	...	...	...	111
Total coaching receipts ...	...	5,70,693	...	615,744	...	45,051	...	...

Goods traffic.

Description of goods traffic.	1882.		1883.		INCREASE.		DECREASE.	
	Weight.	Amount.	Weight.	Amount.	Weight.	Amount.	Weight.	Amount.
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
General merchandise ...	162,089	11,60,240	174,271	12,18,131	12,182	57,891	...	...
Military stores ...	188	2,977	194	2,959	6	...	...	18
Railway materials for construction ...	4,430	9,737	43,408	35,447	38,978	25,710	...	...
Coal for the public and construction ...	3,253	17,232	3,510	17,784	257	552	...	...
Railway revenue purposes ...	13,878	31,187	6,942	27,878	...	...	6,936	8,300
Revenue stores ...	6,284	16,057	9,792	15,478	3,508	...	...	579
Total goods ...	190,122	12,37,430	238,117	13,17,677	47,995	80,217	...	...
Other goods receipts ...	...	1,836	...	2,502	...	666	...	...
Total goods receipts ...	...	12,39,266	...	13,20,179	...	80,913	...	...

The following statement shows the weight of the principal commodities which have passed over the line during the last two years, and the increase or decrease during the year under review :—

Articles.	1882.	1883.	Increase in 1883.	Decrease in 1883.
	Tons.	Tons.	Tons.	Tons.
Food grain and pulse ...	29,729	30,220	491	...
Gunny bags ...	9,658	10,241	583	...
Jute ...	56,651	62,631	5,980	...
Piece-goods ...	5,090	5,415	325	...
Salt ...	17,300	20,335	2,945	...
Tea ...	5,779	6,003	224	...
Tobacco ...	12,393	14,010	1,617	...
Miscellaneous ...	53,432	89,262	35,830	...
Total	190,122	238,117	47,995	...

STEAM-BOAT SERVICE.

The gradual silting up of the channel to the old station at Damukdia not only necessitated constant changes in the position of the ghât, which was in itself a cause of much trouble, but rendered the passage of the steamers most difficult and somewhat dangerous on account of the liability to grounding of the vessels.

On the completion of the extension northwards, the ghât was moved to the new station almost opposite Sara, by which the ferry run was reduced from about 9 miles to a little over 1 mile.

The steamers and flats have all undergone heavy repairs and especially the steamer *Vampire*.

As both steamers are frequently required to be in commission at the same time it was found necessary to equip them both. Formerly there was only one set of equipments which was used alternately in each steamer when in commission.

The Flotilla employed during the year consisted of the following vessels ;—

Name and distinguishing mark of vessels.	HORSE-POWER.		Registered tonnage.	Remarks.
	Nominal.	Actual.		
<i>Osprey</i> , paddle-steamer	93	...	138	
<i>Vampire</i> , paddle-steamer	93	...	138	
<i>Isia</i> , flat	...	...	391	Landing stage and booking office at Sara ghât.
5 Flats Nos. A I. II. III. V. and VI.	...	...	260	
4 Flats Nos. B I. II. III. and IV.	...	...	95	B. III is used as a landing stage and booking office at Damukdia.
1 Flat No. C II.	...	...	51	

The new flat of 330 tons freight, constructed in Calcutta by Messrs. Marillier and Edwards, was ready for delivery.

The earnings of the steam boat service have increased about $3\frac{1}{2}$ per cent. The earnings during the year under review amounted to Rs. 2,40,459 against Rs. 2,32,764 during the previous year. The expenses have increased from Rs. 1,14,475 to Rs. 1,44,785. This is due to the increase in the length of the run caused by the silting up of the channel to the old ghât, and the heavier repairs which had to be executed during the year under review.

RATES AND FARES.

The more important alterations in fares and rates made during the year 1883 for the carriage of passengers and goods were as follows :—

- (1) On and from the 1st June 1883, the system of issuing first, second and intermediate class monthly and weekly return tickets was introduced.
- (2) On and from the same date the rate for kerosine oil was reduced from second to first class rates.
- (3) On and from the 1st July 1883, the third class fares by all trains, except those carrying the mails, were reduced from $2\frac{1}{2}$ pies per mile to $2\frac{1}{4}$ pies for the first 100 miles and under, and 2 pies for the remaining distance.
- (4) On and from the same date the charge for reserved accommodation was reduced to one fare only of the higher class in addition to the ordinary fares.
- (5) On and from the same date the following telescopic rates were introduced :—

Class A, comprising the following description of goods :—

Salt, upward edible grains and pulses and seeds. Coal and coke at owner's risk. Lime and cement at owner's risk. Oil cakes at owner's risk.	} For 1st 100 miles $\frac{1}{2}$ pie per maund per mile. For next 100 miles $\frac{1}{4}$ pie per maund per mile.

Class B, comprising the following description of goods:—

Downward edible grains and pulses and seeds. Bishpat, tobacco and sugar in double bags both upward and downward. } For 1st 100 miles $\frac{1}{4}$ th pie per maund per mile. For next 100 miles $\frac{1}{3}$ th pie per maund per mile.

Class C, comprising all other kinds of unmanufactured tobacco upward and downward, unscrewed jute and sugar in single bags. } For 1st 100 miles $\frac{1}{2}$ pie per maund per mile. For next 100 miles $\frac{1}{4}$ pie per maund per mile.

(6) On and from the 1st July the ferry charge for special class goods, carried over 100 miles on the Northern Bengal State Railway, was reduced from 6 to 3 pies per maund.

KAUNIA-DHARLLA LIGHT RAILWAY.

GAUGE 2' 6".

WORKS IN PROGRESS.

The progress made during the financial year 1883-84 was as follows:—

A trolley line on the 2' 6" gauge, $4\frac{3}{4}$ miles in length, was laid from the left bank of the Dharlla to the Brahmaputra river, and as arrangements have been made for the necessary rolling stock this line is now being made suitable for running trains at a low speed; but a branch of about $\frac{3}{4}$ mile will be required to a ghât higher up the Brahmaputra which is used when this river is high.

A shed was erected over the temporary platform on the left bank of the Teesta; the temporary goods-shed at Magalhat was extended; and the station house at Kurigram was dismantled and rebuilt

The Locomotive foreman's quarters near the Teesta and the Machinery inspector's quarters at Dhubri were completed.

FUEL USED.

The coal for locomotives was supplied by the Bengal Coal Company from their mines at Barakar, at the rate of Rs. 11-12-0 per ton delivered at Damukdia. Owing to the rate for carriage over the Northern Bengal State Railway having been reduced on the 1st April 1883, this coal has since been issued at Rs. 17 per ton, and the average cost was Rs. 18·79 during the calendar year against Rs. 20·58 during 1882, or Rs. 1·79 cheaper. This and the smaller consumption of 2 lbs. per train mile has resulted in the cost per train mile being reduced 17 per cent., from 3·38 annas during 1882 to 2·81 annas during the calendar year under review.

The following table compares the cost and consumption of fuel during the financial year under review and the previous year:—

Year.	MILEAGE.		COAL CONSUMED.			COST.		
	Train.	Engine.	Total.	Per		Per ton.	Per	
				Train mile.	Engine mile.		Train mile.	Engine mile.
			Tons.	lbs.	lbs.	Rs.	As.	As.
1882-83	25,608	28,953	256·67	22·45	19·85	20·13	3·23	2·86
1883-84	23,592	25,215	211·05	20·46	18·74	17·00	2·43	2·27

LINES OPEN FOR TRAFFIC.

A description of the journey, when the rivers are low, from Kaunia, the terminal station of the Rungpore Branch of the Northern Bengal State Railway, to Dhubri, was given in the last Administration Report. This journey has been considerably improved by the construction of the 2' 6" gauge line mentioned above, which now enables 1st and 2nd class passengers with their baggage and the mails to be carried by trolley between the Dharlla and the Brahmaputra rivers, and will early in the current year enable all the passengers to be carried by train. This portion of line was formally opened for passenger traffic on the 10th July 1884.

The construction of a bridge over the Dharlla for use during the dry season was found too expensive, but when the works now in progress on this extension of the Kaunia-Dharlla Railway are completed, the journey will, it is hoped, be found much less trying and be shortened by one hour.

A temporary line was laid to a chur about three-quarters of a mile lower down on the left bank of the Teesta, whence passengers and goods are carried direct from one bank to the other by steamer and boats, and so two of the four changes, which were necessary last year at this river, are avoided.

During the year under review there were no accidents resulting in death, and 2 only resulting in bodily injury.

Accidents.

PERSONS EMPLOYED.

The number of Europeans and Eurasians employed during the year 1883-84 was 3, and of Natives 267, as compared with 3 Europeans and Eurasians and 214 Natives employed during the previous year.

STORES.

There are 4 engines on the line, as in the previous year, and they have been similarly utilised. Certain improvements, which have been made to these engines, have resulted in an average saving of about 20 per cent. in the consumption of fuel.

Rolling Stock.

There have been no additions to the carriage stock since the 31st March 1883. The iron work for 25 jute trucks has been received from England. About 12 of these trucks had been erected in the Saidpur shops and the rest will soon be completed. The tare of these trucks is only 2 tons, and, as they will carry 5 tons and are very capacious, they will prove a valuable addition to the rolling stock of this line, and especially for the conveyance of jute.

A small engine and 3 vehicles exhibited by Messrs. Dick & Co. at the Calcutta Exhibition has been purchased for working the new 2' 6" line from Jatrapur to Dharlla. Five 3rd class bogie carriages of the same type as those at present on the line are in course of construction for the same purpose, and with some of the new jute wagons will give nearly sufficient rolling stock for present use. These 3rd class carriages are also of a paying type weighing 2 tons 9 cwt. and carrying 48 passengers.

CAPITAL TRANSACTIONS.

The capital expenditure excluding suspense up to the 31st December 1883, on the Railway and steam boat service, was Rs. 8,86,693 against Rs. 8,41,170 at the end of the previous calendar year.

The net profits amounted to Rs. 30,386 during the year 1883, and so gave, after being opened for traffic about $2\frac{1}{2}$ years, a return of 3.41 per cent. on the total capital outlay, against 0.62 per cent. during the first full year.

REVENUE TRANSACTIONS.

The financial results of working during the years 1882 and 1883 were as below :—

Year.	Miles of railway open.	Train mileage.	Gross earnings.	Expenditure.	Percentage of expenses to earnings.	FINANCIAL RESULTS.	
						Net profit.	Percentage on Capital outlay.
1882	32.28	21,236	Ra. 97,688	Rs. 92,418	94.64	Rs. 5,240	0.62
1883	32.28	24,020	1,29,473	99,087	76.53	30,384	3.11

TRAFFIC AND WORKING.

The difficulties met with during the year 1882 in maintaining the services between the Dharlla and Brahmaputra Rivers were not experienced during the year under review. The extension of the line has effectually prevented a recurrence of the inconvenience arising from the channels of the Dharlla drying up and becoming unnavigable.

The following table shows the earnings under the different main heads and the increase in each during the last year :—

Main Heads.	1882.	1883.	INCREASE.	
			Amount.	Per cent.
	Rs.	Rs.	Rs.	
Coaching traffic	34,216	42,307	8,091	23.5
Goods traffic	7,355	12,091	4,736	64.4
Steam-boat service	55,801	74,357	18,556	33.3
Sundries including Telegraph	286	718	432	151.0
Total	97,688	1,29,473	31,785	32.5

The working expenses of the different departments were as follows :—

Heads.	1882.	1883.	INCREASE OR DECREASE.	
			Amount.	Per cent.
	Rs.	Rs.	Rs.	
Maintenance	12,966	12,545	-421	-3.2
Locomotive expenses	11,200	12,353	+1,053	+9.4
Carriage and Wagon expenses	2,613	3,125	+512	+19.0
Traffic expenses	5,938	8,551	+2,613	+44.0
General charges	6,214	8,288	+2,074	+33.4
Steam-boat service	53,506	54,173	+667	+1.2
Miscellaneous expenditure	11	152	+141	+1,291.8
Total	92,418	99,087	+6,669	+7.2

ENGINEERING DEPARTMENT.

The cost of maintenance during the year 1883 was Rs. 32.38 per mile per month, and Rs. 0.52 per train mile.

LOCOMOTIVE DEPARTMENT.

The expenses of the Locomotive Department amounted to Rs. 0.51 per train mile during the year, of which Rs. 0.11 were expended in maintenance and renewals of engines.

CARRIAGE AND WAGON DEPARTMENT.

The expenditure of this department was Rs. 0·13 per train mile for 1883, of which Rs. 0·05 was incurred in repairs and renewals of vehicles.

TRAFFIC DEPARTMENT.

The details of the coaching traffic were as follows :—

Particulars.	1882.		1883.		INCREASE		DECREASE	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		Rs.		Rs.		Rs.		Rs.
First class ...	640	2,159	813	2,576	173	417	...	...
Second class ...	1,879	2,963	1,509	2,219	...	...	370	744
Third class ...	57,963	24,131	73,818	32,204	15,855	8,073	...	...
Total ...	60,482	29,253	76,140	36,999	15,658	7,746	...	...
Other Coaching Traffic ...	...	4,093	...	5,308	...	815	...	...
Total Coaching Receipts	...	34,246	...	42,307	...	8,061	...	...

The earnings contributed by the goods traffic were small, though, as noted above, 61·4 per cent. more than those of the previous year. The total receipts from this source were Rs. 12,091 against Rs. 7,355 during the year 1882. Rs. 11,795 of these earnings were received for the carriage of general merchandise.

STEAM-BOAT SERVICE.

The following table will show how the steamers and flats belonging to this Railway were employed during the year under review :—

Name and distinguishing number of vessels.	HORSE POWER.		Registered tonnage.	How employed.
	Nominal.	Actual.		
Lynx 568 ...	32	100	40	Running between Jatrapur and Dhubri on river Brahmaputra.
Fox 560 ...	32	100	40	Under repairs at Sara.
Condor 2 ...	24	67	42	Out of commission at Dhubri.
Empress ...	8	16	12	Running between Kaunia and Teesta on river Teesta.
Flat—C. I. ...	...	...	50	Ditto ditto.

In May 1883, the "Empress" was purchased from the Landing and Shipping Company, Calcutta, to replace the "Marion" which had been sold in December 1882, to the Dacca and Mymensing State Railway. She is not large or powerful enough for the work, having been procured because she was the only steamer of sufficiently light draft available. A more powerful steamer of about 12 to 14" draft is much required for this service.

The "Lynx" has been fitted with a counter which will be of much use in checking the consumption of coal.

In the subjoined table the expenditure on the ferry for the two last years is compared :—

Main Heads.	1882.		1883.	
	Expenses.	Percentage of Steam-boat earnings.	Expenses.	Percentage of Steam-boat earnings.
	Rs.		Rs.	
Working vessels ...	12,759	22·9	16,699	22·5
Repairs ...	8,063	14·4	5,515	7·4
Fuel ...	27,739	49·7	26,804	36·0
Stores ...	1,448	2·6	1,642	2·2
Steam traffic agencies ...	3,427	6·1	3,180	4·3
Miscellaneous ...	70	0·1	333	0·4
Total ...	53,506	95·9	54,173	72·8

The coal for the steamers was procured from the Belrooie mines of the new Beerbhoom Coal Company and cost Rs. 20·57 per ton against Rs. 21·37 during 1882.

A comparison of the consumption of coal for the years 1882, 1883 is given below :—

	1882.						1883.					
	Total Coal consumed.				Consumption per hour.	Average consumption per hour.	Total coal consumed.				Consumption per hour.	Average consumption per hour.
	Tons.	cwt.	qrs.	lbs.	Cwt.	Cwt.	Tons.	cwt.	qrs.	lbs.	Cwt.	Cwt.
Fox	902	13	3	14	5·59	3·59	724	18	2	16	4·98	2·55
Lynx	203	4	0	22	1·59		370	8	2	20	3·00	
Empress	...	...	...	...	...	...	89	16	1	15	0·80	
Condor	...	...	...	...	...	...	143	13	0	0	1·44	

RATES AND FARES.

On the 1st June 1883, the issue of return tickets for one week and one month, at $1\frac{1}{2}$ and $1\frac{1}{2}$ fares respectively, was introduced in both local and through booking of 1st and 2nd class passengers. No alteration in the rates for carriage of goods was made during 1883.

TIRHOOT STATE RAILWAY.

METRE GAUGE.

WORKS IN PROGRESS.

During the year under review, the following extensions of the line were under construction :—

Western Extension.—From Motihari to Bettiah, a distance of 27 miles

Mokameh Extension.—A substitution for the old Barrh Branch to Semaria ghât, 24 miles in length.

Hajeepore Extension.—From Mozufferpore to Hajeepore, a distance of 34 miles.

Gunduk Bridge Extension.—From Hajeepore to Sonopore, $2\frac{1}{2}$ miles.

Kosi Extension.—From Jhanjharpore to Gongararia, 14 miles.

The remainder of this section, Motihari to Bettiah, was opened to public traffic on the 20th December 1883. The station buildings and staff quarters were unfinished, but they are now practically completed. The ballasting of this portion is also well in hand.

Western Extension.

Mokameh Extension.

This was completed in November 1882 and inspected and passed for traffic in January 1883, but, owing to the non-completion by the East Indian Railway of the Ghât line on the Mokameh side of the river, this extension was not opened until 1st May 1883.

Hajeepore Extension.

This Extension was commenced in March 1883 and made good progress during the year under review, at the close of which the works were nearly three-fourths completed. The rails were laid within a few miles of Hajeepore, and only 14 out of 78 bridges (and these all small ones) remained to be put in

hand. Owing to very heavy rain at the commencement of June which flooded the whole country, the bridge foundations which had just been got ready for concrete to be put in, were flooded, and the work consequently thrown back, as the sites being mostly in the middle of jheels, could not be made dry again until some time after the rains.

It was hoped that this section would be opened for public traffic on 1st September 1884.

This line is $2\frac{1}{2}$ miles long, and branches off at Hajeeapore junction, and crossing the Gunduk river by a bridge of 8 spans of 250 feet, joins the Bengal and North-Western Railway at Sonopore. Immediately after crossing the Gunduk, on the Sonopore side, the line passes through the centre of a large plot of land on which the Sonopore fair is held. In order, therefore, to interfere as little as possible with the fair, and to allow free access from one side of the Railway to the other, the line will be carried on a viaduct over the site of the fair, which commences at the Sonopore abutment of the bridge. Brick burning for these works has been put in hand.

The sanction for this branch line, at an estimated cost of Rs. 14,24,114, was received in February last.

The Kosi Extension now forms part of the Assam-Bihar project, and runs from Jhanjharpore to the Kosi river, about 48 miles. The terminus for this Extension is not yet settled, and pending this the works on the first 14 miles only are in hand.

LINES UNDER SURVEY.

Seetamarhi Extension Survey. Survey operations were commenced in March 1883.

As it was a matter of controversy whether the line should be made from Kanti or Durbhanga to Seetamarhi, lines were run from both places and plans submitted.

A new survey party had however taken the field, and was locating a line from Muzafferpore to Seetamarhi direct, *via* or near Barye, to enable a connection to be made in future to Durbhanga.

FUEL.

The coal used on this Railway was supplied by the Bengal Coal Company from their Mines at Kurhurbaree, at the rate of Rs. 3-4-0 per ton, delivered into wagons at Giridhi.

The total consumption of coal during the year was 3,653 $\frac{1}{2}$ tons and the cost under this head was Rs. 41,591. The average consumption during the year has been 26.55lbs. per engine mile.

LINES OPEN FOR TRAFFIC.

During the year, the Eastern and Mokameh Extensions being completed and the Western Extension opened to Motihari, the length of open line was increased to 166 miles, and by the opening of the Bettiah Extension in December, it was further increased to 193 miles, at which figure the open mileage now stands. Very heavy rain fell in June (25 inches in 60 hours at Dulsing Serai) and as the new Mokameh Extension had hitherto had no rain on the bank, this portion of the line became impassable for traffic, owing to the sinking of the earthwork. Through booking was suspended, the mails being carried through on trollies. The line was put right within a week, and has been in good order since.

The Eastern and Western Extensions were also severely tested by very heavy floods in the month of August.

The velocity of the water through some of the bridges was very great, but the waterway allowed was sufficient to prevent any breach of the line. The result of the experience gained by the floods is that a few additional culverts have been allowed on the Western Extension, and the Bagmuttee river near Bilaspore station is being diverted. This river has been encroaching yearly on the station, in a direction at right angles to the Railway, but two cuts are being made between contiguous bends of the river which will divert the direction of the current away from the Railway. This work was expected to be ready before the rains.

The iron sleepers (Denham and Denham-Olpherts) supplied to this line are all tight to gauge, some being as much as $\frac{3}{8}$ " tight. Wherever the gauge is over $\frac{1}{8}$ " tight it is intended to lengthen the tie bars. The wooden sleepers in the road, especially on the section from Samastipur to Muzafferpore, are in a very bad way. They have been seven years in the road and will have to be renewed at once.

During the year a new iron foundry, locomotive foreman's office, paint shop and chimney were added to the locomotive shops at Samastipur, and a new engine-erecting shop was commenced.

Two new sets of married quarters and quarters for a school mistress were also completed at Samastipur.

At Muzaffarpur a new refreshment room, platform, overbridge and waiting-shed were constructed chargeable to Hajeehpore Extension. Quarters for the Manager's Personal Assistant were commenced, and material collected for three more sets of officers' quarters.

The central offices for the line which were sanctioned have been again postponed. The want of these is stated by the Manager to be most seriously felt as the different offices are now obliged to be scattered all over the line.

New cross-over roads were put down in the Durbhanga and Sakri yards, and an almost completely new yard was laid to the new Locomotive shop at Samastipur including lines for two carriage traversers.

PERSONS EMPLOYED.

The arrangement for the supply of the police force are in the hands of the Superintendents of Police of the respective districts through which the line passes, and in consequence the inconvenience and want of prompt action in dealing with police cases is said to be felt to a considerable degree.

There were, during the year, 58 constables employed on the line. The Manager reports that their work has not been satisfactorily carried out and thefts have increased.

A school has been started at Samastipur for the education of the children of the European and Eurasian employés.

Schools.

A night school has also been opened under the superintendence of the Assistant Locomotive Superintendent at Samastipur for the education of the workmen. The number of workmen and apprentices on the rolls is 20, and the cost of maintaining the school Rs. 140.

Arrangements are being made for starting a school at Samastipur for the education of children of native workmen and employés.

There is a hospital at Samastipur for the reception of the sick employés and passengers. The hospital is inspected periodically by the Civil Surgeon of Durbhanga.

Arrangements for Medical aid.

There is a Volunteer Company on this Railway consisting of 32 privates, 5 non-commissioned officers, and 2 officers. The Company is attached to the East

Volunteer Force.

Indian Railway for administrative purposes. The attendance at drill during the year has been good, and the figure of merit of individual firing has improved.

STORES.

The stores depôt at the present time consists of one main depôt at Samastipur, one sub-depôt at Mozufferpore, and one at Mokameh ghât; the one formerly attached to the Locomotive workshops at Samastipur was closed in the month of August 1883 as the main depôt is adjacent to the workshops. The stores are in the custody of the Storekeeper, who is assisted by three sub-storekeepers, one being at Samastipur main depôt, one at Mokameh ghât depôt, and one at Mozufferpore depôt. This last depôt was opened in March 1883 for facilitating the work of the Hajeeapore Extension.

At the end of December 1883 the balance value of stores amounted to Rs. 6,76,306.

The balance would have been further reduced if the construction works of the Hajeeapore Extension had been in full progress.

CAPITAL TRANSACTIONS.

	To end of 1883. Rs.	For 1883. Rs.
The total capital expenditure during 1883 amounts to	1,32,83,023	24,69,016
It may be divided into the following accounts :—		
	Rs.	Rs.
(1) Original line	65,42,353	3,41,710
(2) Extensions	51,84,330	5,92,097
(3) Hajeeapore Extension	15,56,340	15,35,209
Total	1,32,83,023	24,69,016
The interest for the year at 4 per cent. on the capital outlay amounts to		4,99,014
Net Revenue for the year		2,59,705
showing a net loss to Government of		2,39,309
Excluding the Hajeeapore Extension the interest would amount to		4,77,729
The Net Revenue being		2,59,705
showing a net loss to Government of		2,18,024

An amount of Rs. 1,81,743 still stands against the capital of the line on the Barrh branch, 3 miles, broad gauge. It is proposed to take up this line and sell the material and land.

REVENUE TRANSACTIONS.

The following table shows the financial results of the working of the year as compared with the previous year :—

Year.	Mean mileage worked.	Earnings.	Expenditure.	Net revenue.	Percentage of expenses to earnings.	Receipts per open mile per week.	Remarks.
		Rs.	Rs.	Rs.		Rs.	
1883	161.95	8,92,441	6,32,736	2,59,705	71	106	
1882	81.15	6,60,022	4,05,975	2,54,047	61	156	
	+80.80	+2,32,419	+2,26,761	+5,658	+10	—50	

The increases under earnings and expenses are due to the additional mileage open for traffic. There is a very noticeable reduction in the receipts per open mile per week, this is in part accounted for by the last 30 miles of the Western Extension having been opened for traffic just at the close of the year, that is on the 19th November 1883 for goods traffic, and on the 20th December 1883 for passenger traffic :—

	Rs.
The percentage of net earnings on capital outlay, including Hajee- pore Extension, amounts to	1·95
Ditto on capital outlay, excluding the Hajee- pore Extension	2·21
The gross earnings per train mile come to	2·32
Coaching receipts per passenger train mile	2·71
Goods receipts per goods train mile	1·69

The working expenses amount to Rs. 6,32,736 incurred under the following heads :—

Working Expenses.	Amount.	Per train mile.	Percentage of gross receipts.
	Rs.	Rs.	Rs.
Maintenance of way and works, &c.	1,19,511	·31	13·39
Locomotive expenses	1,73,348	·45	19·43
Carriage and wagon expenses	39,921	·10	4·47
Traffic expenses	98,012	·25	10·98
General charges	1,10,608	·29	12·39
Steam-boat service	81,195	·21	9·10
Special and Miscellaneous	10,146	·03	1·14
Total	6,32,736	1·61	70·90
Net Earnings	2,59,705	·68	29·10

The expenditure per mean mile worked and per mile of single track including sidings amounts to Rs. 3,907 and 3,450 respectively.

TRAFFIC AND WORKING.

There has been a steady increase of earnings under both coaching and goods during the year, and it is hoped that on the opening of the Hajee-
pore Extension the receipts will be considerably increased ; but the figure per mile per week is considerably less than last year.

The working expenses which amounted to Rs. 6,32,736 showed a considerable increase (Rs. 2,26,761) over those of 1882. This increase was chiefly due to the additional mileage open for traffic.

LOCOMOTIVE AND CARRIAGE AND WAGON DEPARTMENTS.

There are 1 A, 9 D, 4 E, 10 F and 5 O class engines at present running on the line, and 5 more O class engines under erection in the shops which will shortly be ready.

Six engines have had heavy repairs done to them, and have been repainted.

Six first class, 22 third class carriages, and 37 covered goods wagons, built at Saidpore, have been received, wheeled, and painted during the year.

Three second class carriages, 5 horse boxes, 1 tool-van, and 23 covered goods wagons have been built, and turned out from the shop at Samastipur, and 20 18-foot ballast wagons have been purchased from Messrs. Burn and Company.

An inspection carriage has also been commenced and will shortly be ready.

Three second class, and 2 third class carriages, 1 brake van, 5 ballast wagons and 1 timber Truck have been rebuilt, and 415 vehicles have had repairs done to them during the year.

FLOTILLA.

There were four steamers belonging to the Flotilla, *Eagle*, *Cormorant*, *Barh*, and *Sylph*, the latter being a screw launch. The *Barh* has been recently transferred to the Calcutta and South-Eastern Railway for use on the Diamond Harbour ferry. The *Sylph* is of very little use as she draws nearly 4 feet of water aft, and a new light draught launch is needed.

The *Cormorant* was received from the Dock yard, Calcutta, last November, and has been in constant work ever since. The *Eagle* has been laid up since the arrival of the *Cormorant* for necessary repairs and alterations.

The number of flats belonging to the Flotilla are—

A class 200 tons	...	...	...	...	5
B class 67 tons	...	...	...	...	4
C class 22 tons	...	...	...	...	2

Three of the 5 A class flats have been received from the Calcutta Dock yard during the year. These large flats are said to be unsuited to the traffic as nearly the whole of the load has to be put below deck instead of being on deck.

RATES AND FARES.

The principal changes in rates and fares, worthy of notice, are the assimilation of the classification of goods to that of the East Indian Railway.

And the issue of 3rd class return journey tickets at 1½ fare available for 5 days.

The following statement shews the number of these tickets which have been issued month by month since their introduction :—

3rd to 30th November 1883	...	...	...	3,453
December 1883	...	...	...	5,865½
January 1884	...	...	...	7,265½
February 1884	...	...	...	11,101½*
March 1884	...	...	...	8,636½

These figures show that this class of ticket is growing more and more in popular favor, as time goes on.

PROVINCIAL RAILWAYS IN THE NORTH-WESTERN PROVINCES AND OUDH.

LINES UNDER SURVEY.

LUCKNOW-SITAPUR-KHERI-AND SERAMOW RAILWAY.

Plans for a metre gauge line of railway from Lucknow through Sitapur and Kheri to Seramow, a distance of 124 miles, were prepared, and an estimate

* Increase is due to Maghpuurima bathing fair.

amounting to Rs. 51½ lakhs or Rs. 41,330 per mile, was submitted to the Government of India for sanction, together with the requisite statistics showing that the line of Railway would probably pay more than 4 per cent. within 5 years of its being opened for traffic.

Shortly after the plans and estimates were sent to the Government of India it was found that the line chosen in the neighbourhood of Lucknow was open to serious objection owing to the buildings for the terminal station interfering with the fire of the forts, which it is proposed to build in the Lucknow cantonments; the whole project was therefore referred back to the Government, North-Western Provinces, for consideration, whether it would not be better to adopt the broad gauge for the line and work it as a branch of the Oudh and Rohilkhand Railway and thus avoid the construction of any terminal buildings. A new alignment free from all interference with military dispositions within cantonments having been found, the estimates for the line on the metre gauge were again submitted to the Government of India for sanction, and are under consideration.

The works on the line are exceedingly light and will only involve the construction of 2 bridges of any size, *viz.*, one over the Goomti at Lucknow of 5 spans of 60 feet, and one over the Goon near Sitapur of 4 spans of 60 feet. The whole Railway could be constructed within 18 months of the receipt of orders to commence work.

BENARES-RAE BARELI SURVEY.

Orders to commence a survey for a line of metre gauge railway from Benares to Rae Bareli were issued in December, and a survey party immediately took the field. They had not, however, time to complete the work, owing to their services being required on the Cawnpore-Kalpi Railway, which has lately been sanctioned. 120 miles had however, been lined out and levelled, and sufficient had been done to show that the country was exceedingly easy from an engineering point of view, and that the line would pass through a very populous and well cultivated district which affords every prospect of giving large traffic to the proposed Railway.

BENARES-PALAMOW SURVEY.

The Government of the North-Western Provinces were unable to provide staff to continue the survey for the line from Moghal Sarai to Palamow during the year, the further investigation of this route was therefore transferred to a survey party acting under the orders of the Government of Bengal.

DEHRA DUN-HURDWAR RAILWAY.

Proposals have been received regarding the formation of a company for the construction of a Railway from Hurdwar to Dehra and Rajpore at the foot of the Mussoorie Hills, and permission to make a survey has been given to the representative of the projected company.

LINES UNDER CONSTRUCTION.

BAREILLY-PILIBHIT RAILWAY.

During the year the construction of a road bridge over the Deoha River near Pilibhit was sanctioned by the North-Western Provinces Government, and permission was given to use it as a railway bridge also. The opportunity was therefore taken to carry the railway 2 miles further on, and to place the terminus on the left bank of the river close to the city of Pilibhit. The construction of the bridge, which consists of 13 spans of 60 feet, was made over to the Railway Department, and work was commenced immediately after the close of the rainy season of 1883.

At the end of last year about $\frac{3}{4}$ of the bridging and earthwork on the first 4½ miles of this railway had been completed, and on the remainder of the line work had just been commenced. During the year under review

the works on the first four and a half miles, with the exception of the staff quarters, were practically completed and the rails laid. On the next $7\frac{1}{2}$ miles to Bhojapura, the junction with the Rohilkhand and Kumaon Railway, which were taken over from that company at the commencement of the year, the bank had been raised and widened, the culverts built and the rails laid. On the remaining 24 miles the following was the state of the works:—

Earthwork.	Earthwork had been practically completed, except at the Deoha bridge approaches.
Major bridges.	Nakuttia river bridge, 6 spans of 40 feet founded on wells 40 feet deep, had been completed, except the girders.
	Bygool river bridge, four spans of 40 feet founded on wells 40 feet deep, had been completed, except the girders and the masonry of one pier.
	Pungaillee river bridge, six spans of 40 feet founded on wells 40 feet deep, had been completed, except the girders.
	Absuria river bridge three spans of 40 feet founded on wells, 40 feet deep, had been completed, except the girders.
	Deoha river bridge thirteen spans of 60 feet founded on wells 50 feet deep. The wells had been sunk to an average depth of 37 feet and the well masonry had been nearly completed, affording good promise that the bridge would be finished before the approaching rains.
	The girders for all these bridges had arrived at Bombay and some were on their way up-country.

Minor bridges.	Were completed, with a few trifling exceptions.
Ballast and permanent-way.	Rails and sleepers sufficient for the whole line, had been delivered, and about 6 miles had been laid beyond the junction with the Rohilkhand and Kumaon Railway at Bhojapura, 12 miles from Bareilly.

Stations and offices.	These had been commenced but were rather backward owing to the want of bricks.
-----------------------	--

At the end of the year the general condition of the works offered reasonable grounds for hoping that the whole line, 36 miles long, including the bridge over the Deoha at Pilibhit, would be open for traffic during the current year.

CAWNPORE-KALPI RAILWAY.

Towards the close of the year, intimation was received from the Government of India that the Secretary of State had sanctioned the construction of the Railway from Cawnpore to Kalpi on the broad gauge, and the staff requisite for its construction were immediately ordered to join at Cawnpore, and work was to be commenced at the beginning of 1884-85.

LINES OPEN FOR TRAFFIC.

CAWNPORE-ACHNERA RAILWAY.

(Metre Gauge.)

In last year's report the Cawnpore-Achnera Railway was dealt with under six sections—

- (1) the Cawnpore and Farukhabad Railway, open for traffic, $86\frac{1}{2}$ miles;
- (2) the Cawnpore and Farukhabad Extension Railway, including the workshops at Fatehgarh, under construction to Hathras, 101 miles;
- (3) the Muttra-Hathras Railway open for traffic, 29 miles;
- (4) the Jumna Bridge under construction, 1 mile;
- (5) the Muttra-Achnera Railway, open for traffic, 23 miles;
- (6) the Soron Branch Railway, under construction, $9\frac{1}{2}$ miles,

but during the year these sections were all amalgamated into one concern with a total length of 250 miles.

WORKS IN PROGRESS.

CAWNPORE-FARUKHABAD SECTION.

On the Cawnpore and Farukhabad section the chief works of improvement of the line have been—

- the removal of all trees within 40 feet of the line;
- the addition of 8 gate houses and 90 posts and chains at level-crossings;
- the improvement of the city passenger station at Cawnpore, to which nearly all the passenger traffic now comes. This station has recently been made the chief station, all the offices having been moved to it and waiting-rooms and a waiting-shed have been added.

Several other smaller works of improvement have been carried out during the year such as the addition of a short loop siding (broad gauge) at the Hathras road transfer goods platforms. Moving out distant signals to 1,200 feet from points, &c.

CAWNPORE-FARUKHABAD EXTENSION SECTION.

Of the 101 miles of line which compose this section, 67 miles from Farukhabad to Kasganj, had been completed, and were opened for passenger traffic on the 14th April 1884. The remaining 34 miles were also well advanced, the only work remaining, being the erection of the girders of three bridges, 22 miles of platelaying and the quarters for the running staff at Kasganj; these were finished in the course of the next three months, and the whole line was opened through to Hathras on the 1st July 1884.

Of the rolling stock for working the line, sixteen O class engines had been delivered in India, and out of that number 6 had reached Cawnpore, and were in process of erection there; two hundred covered and twenty low-sided goods wagons had been erected in the Ajmere shops of the Rajputana-Malwa Railway, and had been delivered at Muttra, and the coaching stock was under construction at Cawnpore where about half the vehicles required, had been turned out of the shops.

Very little progress was made in the construction of the workshops at Fattegharh, because the proper span to adopt for the roofing had not been decided upon.

The only works undertaken were, the Locomotive Superintendent's house and offices, quarters for a European shop-foreman, a high service tank, levelling of the site of the shops, and the collection of material. All these works were well in hand, and were progressing satisfactorily at the end of the year. A considerable quantity of shop machinery had also been delivered. At the close of the year intimation was received that the indent for the columns and roofing for the shops had been approved of, and the work on the shops themselves will now be taken in hand at once.

MUTTRA-HATHRAS SECTION.

The Muttra-Hathras Section has been entirely relaid with 41½ lb. steel rails. This was begun before the close of 1882-83 and was finished in March 1884. Opportunity was taken during the relaying to realign several miles of the railway, removing the track further from the road and flattening and eliminating some curves.

Wire fencing has been completed along one side of the line. The fencing consists of three wires carried by stone posts 12 feet apart. The stone posts are 6" × 6" × 3" and are fixed into an earthen bank 2 feet high, above which they project 3 feet.

This Section has also been improved by the removal of all trees within 40 feet of the line and by the additions of 11 gate houses for level-crossings.

A plan for a new goods transfer platform at Hathras road, sufficient to meet the requirements of the greatly increased traffic, was prepared, and is under discussion with the East Indian Railway authorities.

JUMNA BRIDGE SECTION.

Very good progress was made on the Jumna bridge during the year, and the following works had been executed :—

The whole of the wells had been sunk to their full depth of 73 feet, the last 35 feet of which was through clay, and rested on a bed of block kunkur which was continuous across the river.

The stone superstructure of the piers and abutments was well in hand and gave promise of completion during May.

Of the seven spans of 150 feet the whole had been delivered at the site of the works, and six had been rivetted together, and were ready for lifting into place.

The Jumna bridge was expected to be completed and ready for traffic before the commencement of the rains, and was actually opened for traffic by the Lieutenant-Governor, North-Western Provinces and Oudh, on the 1st July 1884.

SORON BRANCH SECTION.

At the close of the year the following was the state of the works on this section :—

Earthwork.

The whole had been executed.

The bridge work had been practically completed except one span of 60 feet over the Fatehgarh branch of the Ganges canal, which was well in hand.

Bridgework.

About $\frac{3}{4}$ of the ballast had been delivered, and the rail fastenings and sleepers were ready, but no commencement could be made with the platelaying till the main line was open through from Kasganj to Hathras, because the rails were stacked at Hathras.

Ballast and permanent-way.

Stations and buildings.

The buildings required for the station at Soron had been about half completed.

The Soron Branch was expected to be opened for traffic about the 15th July 1884.

LINES UNDER SURVEY OR PROJECTED.

The construction of a branch line from Mandhana station, 12 miles from Cawnpore, to Bhitoor, $5\frac{1}{2}$ miles long, has been sanctioned by the Government of India, and its construction will be undertaken early in 1884-85. The total cost of the branch is estimated to be Rs. 1,70,000, half of which will be provided by the Soobedar of Bhitoor taking shares in the consolidated stock of the Cawnpore-Achnera Railway to the extent of Rs. 85,000 and the other half will be contributed by the Government, North-Western Provinces, from Provincial funds.

MINERAL RESOURCES.

There are no mineral resources on the line. The fuel used is coal brought from the Bengal coal mines by the East Indian Railway.

LINES OPEN FOR TRAFFIC.

The following sections of the Railway were open for traffic throughout the year:—

				Miles.
(1) Cawnpore to Farukhabad	...	...	...	86½
(2) Hathras Road to Muttra	...	...	...	29
(3) Muttra to Achnera	...	...	...	22½
		Total	...	138½

The above are laid on the metre gauge with steel rails 41½lbs. to the yard and cross wooden sleepers.

The line is for the most part unfenced, except where it runs alongside the metalled road and in the neighbourhood of villages or of the Railway stations.

PERSONS EMPLOYED.

The *Railway Police* of the line form part of the North-Western Provinces police force, and their cost is now borne by the Local Government

A *Railway School* for the instruction of Engine Drivers, who on these lines are all natives, has been open throughout the year; the results have been fairly satisfactory, especially amongst the younger hands, some of whom are making fair progress in reading English.

Out of the 27 Europeans employed on the open line, 17 have joined the volunteer corps.

CAPITAL TRANSACTIONS.

Commencing at the Cawnpore end of the line at which station the headquarters staff are located, the open length consisted during the year of 86½ miles, the portion which was formerly known as the Cawnpore-Farukhabad Railway.

On this length the capital expended during the year on final heads amounted to Rs. 9,945.

Under suspense there was a net reduction during the year of Rs. 24,958, leaving a balance of Rs. 52,999 at the end of the year, but as the accounts are now amalgamated a distinction in the depôt's store balances will not be maintained in the general books.

Next to the Cawnpore-Farukhabad Section and commencing at the Farukhabad end of the line, the Cawnpore and Farukhabad Extension intervenes.

This division extends from Farukhabad to Hathras, a distance of 101 miles and has a short branch of 9 miles, about midway, from Kasganj to Soron.

The capital final expenditure on this length during the year amounted to Rs. 14,75,795, while the net increase under suspense was Rs. 7,53,319. A small portion of the extension was open for goods traffic during the last month of the year, but the receipts therefrom were exceedingly small.

Next to the extension section, and commencing at Hathras, the Muttra-Hathras Section extends for 29 miles, having its Muttra terminus on the left bank of the Jumna. The capital final expenditure on this section during the year amounted to Rs. 1,54,028, by far the larger portion of this sum having been incurred on relaying the line with steel rails. Under suspense, there was a net decrease of Rs. 66,652.

The bridge across the Jumna, connecting the Muttra-Hathras with the Muttra-Achnera Railway, formed the Jumna bridge division, and the expenditure thereon during the year amounted to Rs. 9,60,260 including in this sum the value of a large quantity of rails which were lent to the bridge, but which have, since the close of the calendar year, been returned.

The capital final expenditure on the Muttra-Achnera Railway during 1883 amounted to Rs. 1,547, the reduction in suspense being Rs. 1,617, which finally closed the suspense account of this section.

REVENUE TRANSACTIONS.

On the Cawnpore and Farukhabad Section, the total coaching earnings of the year amounted to Rs. 1,80,267, against Rs. 1,85,366, in the previous year. The falling off is small, but appears to have been general and is probably due to the large passenger traffic on the occasion of the Kumbh Mag mela at Allahabad in 1882. The goods earnings of the year were Rs. 1,70,014, against Rs. 1,68,630, but there was a large decrease in the merchandise traffic, principally under grains and saltpetre, which amounted to Rs. 26,601. This loss was somewhat counterbalanced by increased traffic in piece-goods, and metals amounting to Rs. 9,531, and by the larger receipts on account of carriage of railway material, but for which the goods earnings of the year would have shown a falling off of about Rs. 17,000, or over 10 per cent.

The coaching earnings, Muttra-Hathras Section, amounted to Rs. 90,422 during 1883 as against Rs. 91,556 in 1882, and judging from the details, the coaching traffic of the line was almost stationary, there being a decrease of 21 first class passengers as compared with 1882, and increases of 70 and 1,813 in the second and third classes; but as the returns of 1882 were abnormally swelled by the Kumbh mela at Allahabad in that year, this seems to show that the passenger traffic is progressing steadily. As compared with 1882 there was an increase in the goods traffic of Rs. 13,218, the increase occurring mainly under grain and pulses, seeds and salt, 10,866 tons of which were handled in excess of the figures for 1882.

Taking together the working expenses of the Cawnpore-Farukhabad and Muttra-Hathras Sections, the total for the year amounts to Rs. 3,09,490, against Rs. 3,38,985 in 1882, this sum being 62·33 per cent. of the gross earnings, the working expenses in 1882 being 69·86 per cent.

The Muttra-Achnera Section forms the last length in the Cawnpore-Achnera Railway, and was worked during the whole of 1883 by the Rajputana-Malwa Railway. The earnings of the year amounted to Rs. 79,456, against Rs. 67,793 in 1882, and the expenses (including the Rajputana-Malwa Railway $\frac{1}{2}$ share of net earnings for working the line) amounted to Rs. 59,030, against Rs. 58,588 in the previous year, or 74·29 per cent.

The bonus distributed to depositors in the Provident Institution on the Cawnpore-Farukhabad and Muttra-Hathras lines during the year amounted to Rs. 755, the gross deposits in the same period being Rs. 2,516.

TRAFFIC AND WORKING.

The features in the traffic movements principally affecting these lines were the opening of a through route between Hathras road junction and the Rajputana Railway, by the construction of a temporary bridge at Muttra over the Jumna.

This bridge was first opened for a short time before the rains, and very little additional traffic was obtained by it, as the traders had hardly time to learn its existence before it had to be closed for the rains. It was again opened early in November and remained open till the end of the year, and a considerable quantity of goods has been transported by this route, including salt for Rohilkhand. There is every indication of a good traffic, between Rohilkhand and Bombay and Rajputana, by this route on the opening of the permanent bridge.

A section 18 miles long of the extension from Farukhabad to Kaimgunj was made available for goods traffic from 1st December 1883, but the result was unsatisfactory, a very small quantity of goods having been carried.

The Manager has put before the Local Government the question of the sufficiency of rolling stock to meet the wants of traffic, on the completion of communication from Cawnpore to Achnera, when a greater interchange of traffic with the Rajputana-Malwa Railway will occur, and has submitted estimates for additional goods and engine stock; 120 covered 10-ton bogie wagons and 20 low-sided 10-ton bogie trucks have been asked for, as well as 6 more O class engines.

The results of the working for the whole year are that—

3·12 per cent. was earned on a total capital outlay of Rs. 66,56,519 on the 138½ miles open.

The receipts per train mile average Rs. 2·66.

The net earnings per train mile average Rs. ·96.

And the working expenses amounted to 63·98 per cent of the receipts.

During the year under review, with head-quarters located at Cawnpore, the working of this Department included the Locomotive Department. Cawnpore-Farukhabad line, 86½ miles long, provided with a running-shed and a small temporary workshop at Cawnpore, and with a running shed at Farukhabad. Also the Muttra-Hathras line, 29 miles long, but separated from Cawnpore by 173 miles of the East Indian Railway. This short line is provided with a running-shed and a temporary workshop at Muttra and with a running-shed at Hathras junction.

Cawnpore workshops.—Seventeen new third class carriages for the extension, put in hand in July 1883, were turned out at the end of the year for painting.

Statement of locomotive engines on the two lines.

Classes and makers of engines.	No. in 1882.	No. in 1883.
E class by Neilson and Company	10	10
A class tank by Black, Hawthorn and Co.	2	2
A class tank by Naysmith, Wilson & Co.	4	4
Total	16	16

Statement of cost of Locomotive Department under the several sub-heads.

Sub-heads.	In 1882.		In 1883.	
	TRAIN MILEAGE 182,254.		TRAIN MILEAGE 179,973.	
	Amount Rs.	Cost in annas per train mile.	Amount Rs.	Cost in annas per train mile.
General Superintendence and Office	19,076	1·67	17,607	1·56
Running expenses (wages)	6,519	·57	7,400	·66
Fuel (coal)	44,004	3·86	38,732	3·42
Water	1,951	·17	2,022	·18
Oil, tallow and small stores	3,381	·30	2,532	·22
Maintenance and renewals	15,649	1·37	19,578	1·72
Unclassified expenditure	647	·06	1,853	·16
Total	91,227	8·00	80,844	7·92

Average consumption of coal, in lbs.

Railways.	1882.		1883.	
	Per train mile.	Per engine mile.	Per train mile.	Per engine mile.
Cawnpore-Farukhabad Railway	31.21	29.26	28.93	27.56
Muttra-Hathras Railway	24.54	21.64	26.28	21.82

Statement of native running staff employed.

Designation.	1882.		1883.	
	Number employed.	Salary.	Number employed.	Salary.
Engine drivers	13	Rs. 12 to 25	13	Rs. 17 to 28
Firemen	12	9 to 10	12	9 to 10
Khallasies	8	6	8	7
Cleaners	15	3 to 5	16	3 to 5

Carriage and Wagon Departments.

The following statement shows the total number of each class of vehicle on the two lines :—

Description of vehicles.	1882.		1883.		Remarks.
	Cawnpore-Farukhabad Railway.	Muttra-Hathras Railway.	Cawnpore-Farukhabad Railway.	Muttra-Hathras Railway.	
<i>Coaching stock.</i>					
First class carriages	6	1	6	1	* One 3rd class carriage received from Rajputana-Malwa Railway shops.
Composite, 1st and 2nd	4	3	4	3	
Second class	4	...	4	...	
Third class	72	24	73*	24	
Combined brake vans	10	4	10	4	
Horse boxes	2	...	2	...	
Total Coaching	98	32	99	32	
<i>Goods stock.</i>					
Covered goods wagons	148	54	148	178†	† 124 new covered goods wagons received from Rajputana-Malwa Railway shops.
Low-sided	58	19	58	19	
Cattle trucks	2	...	2	...	
Timber trucks	10	2	10	2	
Accident vans	1	...	1	...	
Travelling cranes	2	...	1	1	
Total Goods	221	75	220	200	
Grand Total	319	107	319	232	

During 1882 Sonai and Mendoo were opened as flag stations, but were closed in March and May respectively in 1883. Behana, Dounsalar, Gungoapore, and Yakotgunge which had been opened in 1881 were also closed in March and July 1883. Sarupa station was opened in March 1883 and is still used as a flag station, but it seems to be thought that this too will have to be closed. Kaimganj was opened for local goods traffic on 1st December 1883.

Several alterations as under were made in the timing of the trains on both sections of the line during 1883.

On and from 1st November 1883, the first up-mixed was timed to leave Cawnpore at 5-47 instead of at 8-0 as previously, and the second up-mixed left Cawnpore at 15-47 instead of at 12-23. The corresponding down trains were also altered to leave Farukhabad at 6-30 and 17-0, instead of at 6-38 and 13-13. This alteration is said to have been a convenience to the public. The alterations on the Muttra and Hathras Section were unimportant.

The amount paid for claims has been extraordinarily small; in the year 1882, Rs. 6-7-6 and in 1883 Rs. 80, the latter amount having been paid in one sum on account of some tents having been exchanged *en route*.

RATES AND FARES.

No alterations were made in the fares paid by passengers during the year, and the only important change in the goods rates was that by which the charge per 100 maunds for food grains over the Muttra-Hathras line was reduced from Rs. 5 to Rs. 3-10-0. This reduction was made on the 1st December when the temporary bridge over the Jumna was opened for through goods traffic to render the route from Allyghur *via* Muttra and Achnera to Rajputana cheaper than that *via* Agra, as it was also the shortest.

Reduced rates for several articles largely carried over the Railway have been sanctioned to come into force from the 1st April 1884.

GHAZIPUR-DILDARNAGAR RAILWAY.

The branch continued to be worked by the East Indian Railway throughout the year, but on terms far more favorable than those hitherto in force. By the new agreement the branch has been taken over by the East Indian Railway Company who treat it as part of their undertaking, and charge the North-Western Provinces Government $\frac{1}{2}$ the net earnings on account of the rolling stock supplied. By this arrangement the net earnings payable to Government amount to nearly 50 per cent. of the gross earnings instead of the 13 or 14 per cent. hitherto received.

STATE RAILWAYS IN THE CENTRAL PROVINCES.

NAGPUR-CHHATTISGARH RAILWAY.

METRE GAUGE.

WORKS IN PROGRESS.

All works of importance on the line were practically completed, and the line was in running order in 1882-83.

The progress of work in 1883-84 was as follows:—

To determine the position of the new bridge over the Kanhan river, borings were taken on both up and down stream sides of the present bridge; these borings were finished by the end of the year and projects for the new bridge were in hand and have since been submitted.

Earthwork was practically completed during 1882-83. In the current year 557,786 cubic feet earthwork, and 88,391 cubic feet rock cutting only was executed in making up slopes, &c. The widening out of the Kooadas river, near the tunnel at 111th mile, was also completed.

All the major bridges have been pitched with stone. Defects were found in the masonry of one 6 feet and one 12 feet culvert at mileage 21; the former was replaced by a 20-feet span bridge; the work of rebuilding the latter was taken in hand about the close of the official year.

Bridge work.

At the close of 1882-83, the tunnel at Darekasa was completed for the narrow gauge line. During 1883-84 the work of widening it out for a broad gauge line has been completed.

Tunnel.

An estimate for wire fencing the Raj-Nandgaon Extension was sanctioned in February 1884, but the material from England coming late, the work remained incomplete.

Fencing.

During his inspection in September last, the Deputy Consulting Engineer, Bombay, observed, and brought to the notice of the Government of India, the scantiness of ballast on the line. An estimate was called for and submitted to have the line properly ballasted; this, however, was not sanctioned during the year, but the work was taken in hand in anticipation of sanction.

Ballasting.

The station building at Dowhali and goods-sheds at Bhandara and Gondia were completed during the year.

Stations and offices.

Quarters for a locomotive foreman at Dongargarh were completed; the purchase and alteration of a pavilion at Dongargarh for the accommodation of the running staff was also effected. Late in the year sanction was received for quarters for the Workshop Foreman at Nagpur, and certain station staff quarters at Bhandara, Gudma, and Darekasa; but the progress made on these was small.

Staff quarters.

Want of quarters for the running staff at Dongargarh has been greatly felt. Men are now living in temporary sheds and tents. An estimate for 5 double quarters has lately been submitted; the work will be taken in hand shortly, and it is hoped these quarters will be ready before the busy season of 1885.

The supply of water for engines from the station wells being at certain places on the line insufficient during the hot weather, catch water tanks have been constructed at Tharsa, Bhandara, Tirora, and Amgaon.

Station machinery.

Six "O" class locomotives were received on the line from England about the end of January 1884, and were erected at once. Certain petty additions to these engines are necessary and will be carried out.

Rolling stock.

Eighty-six iron covered wagons were received from England and erected. With the exception of these, the other works under this head were petty additions and alterations to, or conversion and reclassification of, the stock.

Carriage and wagon stock.

MINERAL RESOURCES.

As reported last year there are no mineral resources along the line, except some iron slag found near Gondia station.

The coal used on this line is received from the Warora Colliery. The consumption for the year 1883 per train mile has been 58.83 lbs., costing 3.65 annas per train mile.

LINES OPEN FOR TRAFFIC.

The entire portion of the line, 146 miles, from Nagpur to Raj-Nandgaon, and the Tumsar branch, 3 miles, was open for traffic during the year. There has been no accident of any importance on the line.

PERSONS EMPLOYED.

The number of employes on the line as per numerical and casualty return of 30th September 1883 was—

Europeans	...	...	...	...	28
Eurasians	...	...	...	...	104
Natives	...	...	...	...	1,917
					2,049

The number of depositors of the *Provident Institution* on 31st March 1884 was :—

Voluntary	...	...	...	...	11
Compulsory	...	...	...	...	284

and the amount of deposit in the Institution was Rs. 31,679 (with interest.)

But this includes the security deposits made by some of the employes.

The *police* employed on this line is supplied from the Provincial staff, and is under the orders of the District Superintendents of Police.

The Civil Surgeon of Nagpur is the *Medical* officer of the line. His Assistant has charge of the Railway staff at head-quarters. An hospital assistant is engaged to look into simpler cases on the line. All these men are paid from the Provincial resources.

Since August last an Assistant Surgeon has been employed and posted at Dongargarh station, (126 miles), his pay and allowance being charged to the Railway, but he is under the orders of the Civil Surgeon, Nagpur.

During the year two Companies of *Volunteers* have been formed: these are attached as Railway Companies to the Nagpur Corps, under the same Commandant. The total number of men as per nominal roll is 112.

There are no *schools* attached to the Railway.

STORES.

The following statement shows the store transactions for the year :—

Balance on 31st December 1882.	Receipts during 1883.	Total.	Issues during 1883.	Balance on 31st December 1883.
Rs.	Rs.	Rs.	Rs.	Rs.
2,66,647	5,24,984	7,91,631	5,15,569	2,76,062

The locomotive and vehicle stock of the line was as follows :—

	On 31st Dec. 1882.	On 31st Dec. 1883.
Locomotive engines	...	16
Reserved carriages	...	1
Composites	...	9
Carriages, 1st class	...	3
Carriages, 2nd class	...	4
Carriages, 3rd class	...	2
Carriages, 4th class	...	22
Horse boxes	...	4
Carriage trucks	...	3
Brake vans	...	18
Wagons, covered goods	...	278
Wagons, ballast	...	77
Wagons, low-sided iron	...	88
Timber trucks	...	8
Powder vans	...	1
Broad gauge low-sided	...	1
Travelling cranes	...	4

* Includes post office and brakes.

CAPITAL TRANSACTIONS.

The total capital expenditure on the line during the Calendar year 1883 was Rs. 5,79,202, of which Rs. 4,38,743 was outlay in India and Rs. 1,40,459 expenditure in England.

On 31st December 1883 there was an increase in suspense balance of Rs. 46,880 as compared with the balance at end of 1882. At the end of the financial year, however, this balance had been much reduced.

REVENUE TRANSACTIONS.

The total earnings of the year 1883 were Rs. 13,20,021, and total expenditure Rs. 6,36,161, giving a net profit of Rs. 6,83,860. The financial results of working during 1882 and 1883 are shown below :—

Year.	Mean Mileage open.	Train miles.	Gross earnings.	Working expenses.	Percentage of expenses to earnings.	FINANCIAL RESULTS.		PER TRAIN MILE.		
						Net profits.	Percentage of profits to capital expended.	Gross earnings.	Working expenses.	Profits.
1882	101.91	186,011	Rs. 6,04,386	Rs. 4,15,215	68.70	Rs. 1,89,171	2.09	Rs. 3.25	Rs. 2.24	Rs. 1.01
1883	149.00	348,101	13,20,021	6,36,161	48.19	6,83,860	7.09	3.79	1.83	1.96

TRAFFIC AND WORKING.

The total maintenance charges were Rs. 1,51,863 or 11.5 per cent. of the gross earnings, the cost of maintenance per mile per year was Rs. 1,019-3-5 and per month Rs. 84-14-11 : this is comparatively high, owing to the renewal of a large number of sleepers and supplying ballast on portions of the line not fully ballasted at the time of construction, and also to the charge to revenue of the reconstruction of a culvert at 21st mile.

The locomotive expenses during the year, per train mile, amounted to annas 10.6 against annas 10.88 in 1882.

In 1882 the repairs to wagons were heavy owing to bad usage in carrying rough materials for construction ; the expenditure in 1883 per train mile was 2.35 annas against 3.80 annas of 1882.

The following is a statement of the results of the passenger traffic as compared with 1882 :—

Class.	1882.		1883.	
	Number.	Amount.	Number.	Amount.
		Rs.		Rs.
First	2,622	3,330	2,750	4,316
Second	15,211½	6,113	13,539	6,016
Third	15,583	4,361	14,662	4,722
Fourth	557,909½	1,12,287	646,629½	1,53,555

RATES AND FARES.

The rate for carriage of grain, seeds and salt on this line has been reduced (except between Nagpur and Kamptee, where special rates are in force) to 9 pies per ton per mile including terminals, for distances over 100 miles, and 9½ pies for less than 100 miles. A further experimental reduction of these rates during the monsoons has also been sanctioned, viz., 8 pies and 8½ pies instead of 9 and 9½ above. With a view to encouraging the traffic in firewood, bamboos, and rafters during the slack months, when traffic is more needed, the rates, during the monsoon, have been reduced. Firewood to 4½ and bamboos and rafters to 6 pies per ton per mile.

The other changes in rates are trifling. There was no alteration in passenger fares.

WARDHA COAL STATE RAILWAY (INCLUDING WARORA COLLIERIES).

GAUGE 5' 6".

WORKS IN PROGRESS.

The principal works in progress during the year were the finishing up of the Attock engines, and sinking and fitting up No. 5 pit at the Warora Colliery.

On the No. 5 pit, the work of sinking down to No. 3 seam was completed in January 1884, and towards the end of March the head frame work was under construction.

A block of staff quarters for Colliery employés and a new store room were put in hand during the year.

No other work of any importance was under construction.

LINES UNDER SURVEY OR PROJECTED.

The extension of the line from Warora to Balarpur to join the projected extension northwards of the Nizam's Railway has been under survey; the expenditure incurred on this work amounted to Rs. 8,562.

MINERAL RESOURCES.

The Warora Colliery was worked uninterruptedly during the year, the quantity of coal raised was 98,663 tons, being greater than in any year since the opening of the mines.

The fire in No. 2 seam which broke out in 1882, has been blocked up and is now confined behind the fire walls. At times fire made its appearance near the No. 2 pit, but was at once checked by the Assistant Mining Engineer in charge, and no serious result ensued.

There has been a change in the Colliery establishment during the year, Mr. Atkinson, Assistant Mining Engineer, who joined the Colliery on 22nd December 1882, died on 1st July 1883, when, at the request of the Chief Commissioner, Mr. Maughan, the Manager of the Nurbudda Coal and Iron Company, inspected the Mines. The services of Mr. Donkin, Assistant Mining Engineer of the above Company were also secured, and he was in charge of the works till the arrival of Mr. C. Z. Bunning from England in October 1883.

The following is a statement of coal raised during each month of 1883-84 as compared with the quantities in 1882-83 :—

Months.	1883-84.			1882-83.		
	Tons.	Cwt.	Qrs.	Tons.	Cwt.	Qrs.
April	10,339	10	...	7,223	10	...
May	6,858	10	...	8,146	15	...
June	7,316	10	...	6,724	13	2
July	7,980	5	...	400	2	...
August	6,876	5	...	4,409	...	...
September	6,175	10	...	4,000	10	...
October	2,521	10	...	5,683	10	...
November	8,853	15	...	6,769	1	...
December	9,299	...	...	7,512	15	...
January	11,199	...	...	9,882	15	...
February	11,209	15	...	9,423	15	...
March	10,033	10	...	10,210	10	...
	98,663	...	...	80,416	16	2

Of the coal raised during 1883-84, the—

				Tons.
Great Indian Peninsula Company took	...	...	...	51,910
Nagpur and Chhattisgarh State Railway	...	...	...	11,341
Empress' Mill, Nagpur	...	...	...	8,972
Hingunghât Mill Company	...	...	...	4,420
Budneira Manufacturing Company	...	...	...	4,608
Wardha Coal State Railway and Warora Colliery and private customers	...	...	...	14,623

The cost of raising the above quantity of coal was Rs. 2,95,168 giving a rate of Rs. 2.99 per ton of coal raised.

From 1st April to 31st December 1883, coal was sold to private customers at the following rates, viz. :—

Unscreened coal at Rs. 7-8-0 per ton, and slack or small coal at Rs. 4 per ton with a rebate of Re. 1 per ton of unscreened, and Re. 0-8-0 per ton of slack coal, if more than 10,000 and 5,000 tons respectively were taken by any one party during 12 months.

This system worked well and largely increased the receipts of the Colliery.

Orders have since been received from the Government of India to reduce the issue rate of coal as follows :—

							TO CUSTOMERS TAKING					
							Over 5,000 tons.			5,000 tons or less.		
							Rs.	A.	P.	Rs.	A.	P.
Large coal	...	...	...	...	...	...	4	8	0	5	8	0
Small coal	...	...	...	...	...	...	3	0	0	3	8	0

The sale of unscreened coal being abolished.

The average consumption of coal on this line during the year 1883 was 103.39 lbs. per train mile.

LINES OPEN FOR TRAFFIC.

The entire length of 45 miles was open for traffic during the year and worked without serious accident of any kind.

PERSONS EMPLOYED.

The total number of employés on the Railway (Colliery excluded) as per last numerical return, dated 30th September 1883, was :—

Europeans	...	...	...	...	...	6
Eurasians	...	...	...	...	...	12
Natives	...	...	...	...	...	383
Total						401

The police arrangements are under the District Superintendents of Police, Chanda and Wardha.

There are no schools connected with this line.

Steps have been taken for the formation of a Volunteer Corps at Warora; 27 men have volunteered to join, they have been attached to B Company of the Nagpur Volunteer Corps.

The Medical officer in charge is a Native Assistant Surgeon.

STORES.

The Store Department is under the Assistant Manager.

The following statement shows the store transactions for the year :—

Balance on 1st January 1883.	Receipts during 1883.	Total.	Issues during 1883.	Balance on 1st January 1884.
1,45,652	1,60,863	3,06,515	1,72,595	1,33,920

The rolling stock on the line at the commencement and end of the year was as follows :—

	1st January 1883.	1st January 1884.
Locomotive engines	6	7
Carriages, composite	2	3
Carriages, 3rd class	3	3
Carriages, 4th class	4	6
Brake vans	6	8
Covered goods wagons	35	42
Medium-sided 10-ton coal wagons	120	120
Low-sided iron trucks	59	59

CAPITAL TRANSACTIONS.

The total capital expenditure on the line for the calendar year 1883 was Rs. 3,79,790, of which Rs. 3,70,502 is outlay in India, and Rs. 9,288 expenditure in England.

The heavy Indian outlay is due to a write-back, under orders of the Government of India, of Rs. 2,67,535 from Revenue on account of major works of the colliery, formerly charged to the latter head; the balance is for rolling stock, and sidings to No. 5 shaft.

REVENUE TRANSACTIONS.

The total earnings for the year 1883, including colliery receipts, were Rs. 7,64,702 and expenditure Rs. 1,75,320, giving a net profit of Rs. 5,89,382.

The financial results of the working of the railway and colliery during 1882 and 1883 are given below :—

Year.	Miles open.	Train miles.	Gross earnings.	Working expenses.	Percentage of expenses to earnings.	FINANCIAL RESULTS.		PER TRAIN MILE.		
						Net earnings.	Percentage of net earnings to capital expenditure.	Gross earnings.	Working expenses.	Net earnings.
1882 ...	45	77,687	Rs. 5,95,623	Rs. 4,97,336	83.49	Rs. 98,287	1.63	Rs. 7.67	Rs. 6.40	Rs. 1.27
1883 ...	45	78,955	7,64,702	1,75,320	22.92	5,89,382	9.22	9.69	2.22	7.47

The very favorable result obtained in 1883 is due to the write-back from Revenue to Capital of Rs. 2,67,535 before stated; without this the figures would be:—

Year.	Miles open.	Train miles.	Gross earnings.	Working expenses.	Percentage of expenses to earnings.	FINANCIAL RESULTS.		PER TRAIN MILE.		
						Net earnings.	Percentage of net earnings to capital expenditure.	Gross earnings.	Work. ing ex-penses.	Net earnings.
						Rs.	Rs.	Rs.	Rs.	Rs.
1883 ...	45	78,955	7,64,702	4,42,855	57.91	3,21,847	5.03	9.69	5.61	4.03

TRAFFIC AND WORKING.

17. The following statement shows the passenger traffic during 1883 as compared with that of 1882.

Class.	1882.		1883.	
	No.	Amount.	No.	Amount.
		Rs.		Rs.
First ...	478½	997	402½	911
Second ...	438	498	712	836
Third ...	2,214	1,302	1,910½	1,181
Fourth ...	113,312	28,825	126,617½	32,608

RATES AND FARES.

With the exception of a few very slight changes made in goods rates, to assimilate them with those on the Great Indian Peninsula Railway, there have been no alterations in either passenger fares or goods rates during the year.

BURMA STATE RAILWAYS.

METRE GAUGE.

WORKS IN PROGRESS.

Sixty-three timber bridges have been replaced by wrought iron girder bridges with brick abutments and piers, and a large number of bricks have been manufactured for rebuilding bridges in the year 1884-85.

Waiting sheds for third class passengers were completed at twelve stations, and increased siding accommodation was supplied at four stations.

LINES OPEN FOR TRAFFIC.

The total length of the Sittang Valley Railway from Rangoon to Toungoo is 166 miles, and will probably be completed in April 1885. The first section from Rangoon to Pegu, distance 46 miles, was opened for traffic on the 26th of February 1884, and goods trains ran over 92 miles, or between Rangoon and Nyaunglebin, on and from the 4th of February of the same year. This line was further opened for passenger traffic between Pegu and Pyuntaga, 41 miles, in July 1884. The open length of the Irrawaddy Valley line from Rangoon to Prome was, as in the preceding year, 161 miles.

PERSONS EMPLOYED.

Order has been kept on the platforms at the stations by constables of the Provincial *Police* force, who attend the arrival and departure of trains.

Enquiries into police cases and detection of theft have been conducted by an Extra Assistant Superintendent of Police and 7 Sergeants who are attached to the railway for this purpose.

Up to date no *Railway School* has been opened. The children of the employés were educated at the schools in Rangoon, and at the Mission schools along the line.

The *Volunteer* movement was as popular amongst the employés as in the previous year; 202 men were enrolled, of whom 91 were extra efficient, and 70 efficient.

The *medical* service consisted of 3 hospital assistants, who travel along the line and visit the railway servants in the different departments.

If any servant is sick and requires special attendance, he is removed to the nearest hospital in the civil stations of Rangoon, Tharrawaddy or Prome.

STORES.

The Stores Department is administered from Rangoon. The stores of the Irrawaddy and Sittang lines were amalgamated with effect from the 1st April 1883.

All stores that can be obtained locally are purchased in Rangoon. Other stores are procured on indent from the Secretary of State through the Director General of Railways. These stores arrive in Rangoon direct from England.

The value of the stores in hand at the end of the calendar year was Rs. 13,52,477.

On the 31st March 1884 the locomotive and vehicle stock consisted of—

3 A class engines.	30 brake vans.
24 E class engines.	986 covered goods.
17 F class engines.	50 high-sided or cattle trucks.
7 1st class carriages.	110 low-sided trucks.
12 composite, 1st and 2nd.	50 iron fuel trucks.
14 2nd class carriages.	125 ballast wagons.
119 3rd class carriages.	6 powder vans.
8 horse boxes.	70 timber trucks.
15 luggage vans.	2 plank wagons.

CAPITAL TRANSACTIONS.

The Capital outlay during the year ended 31st December 1883 on the system of State Railways in British Burma is noted below :—

	Irrawaddy Railway.	Sittang Railway.	Total.
	Rs.	Rs.	Rs.
Preliminary expenses	...	...	...
Land	...	15,440	15,440
Construction of line	2,91,810	16,15,101	19,06,911
Ballast and permanent-way	-141	6,05,505	6,05,364
Stations and buildings	29,419	2,25,739	2,55,158
Plant	-4,412	67,909	63,497
Rolling stock	1,80,408	4,74,181	6,54,589
Establishment	8,056	2,65,284	2,73,340
Total Final Heads	5,05,140	32,89,159	37,94,299
Suspense	-6,27,070	9,75,038	3,47,968
Total	-1,21,930	42,64,197	41,42,267
Less Receipts on Capital Account	...	3,798	3,798
Total outlay	-1,21,930	42,60,399	41,38,469

The Capital outlay from commencement of operations to end of December 1883, is as classified under the following main heads of account :—

	Irrawaddy Railway.	Sittang Rail- way.	Total.
	Rs.	Rs.	Rs.
Preliminary expenses	56,589	2,30,796	2,87,385
Land	1,96,121	53,779	2,49,900
Construction of line	33,74,754	28,20,532	61,95,286
Ballast and permanent-way	42,84,697	19,53,764	62,38,461
Stations and buildings	18,96,267	5,63,317	24,59,584
Plant	4,05,612	2,40,283	6,45,925
Rolling stock	19,05,436	4,77,511	23,82,947
Establishment	10,74,639	6,17,292	16,91,931
Total Final Heads	1,31,94,145	69,75,274	2,01,51,419
Suspense ... ..	...	18,37,360	18,37,360
Total	1,31,94,145	87,94,634	2,19,88,779
Less Receipts on Capital Account	6,240	4,850	11,090
Total outlay	1,31,87,905	87,89,784	2,19,77,689

On the Irrawaddy line the bulk of the expenditure during the year has been incurred in the renewal of bridgework, and in providing additional rolling stock, the need for which has been much felt.

The suspense balances at the debit of the Irrawaddy Railway were during the year transferred to the Sittang Valley line by order of the Government of India and henceforth the outlay on the Irrawaddy line will be recorded against final heads alone.

Considerable outlay appears in the workshop suspense account for rolling stock in progress at the end of December 1883, and the following details of the progress of outlay on locomotive and carriage and wagon stock are recorded in the Suspense Account of the Locomotive Department.

	Rs.
Erection of 5 F class engines for the Irrawaddy Railway	91,076
Erection of 8 F class engines for the Sittang Railway	5,438
Erection of 8 first class carriages for the Sittang Railway	21,500
Erection of 8 composite carriages for the Sittang Railway	20,626
Erection of 50 third class carriages for the Sittang Railway	1,02,920
Erection of 50 short covered goods wagons for the Sittang Railway	58
Total	2,41,618

The balance at the debit of stores was Rs. 11,69,582, which includes the value of large quantities of materials and fittings for rolling stock that has yet to be erected for the Sittang Valley Railway.

A considerable amount—Rs. 1,82,895—remained unadjusted at the end of December 1883, in the account "Stores in Transit." The greater portion of the outstanding has, however, since been charged off in the accounts of the 4th Division. The delay in adjustment of these store issues was due to the difficulty and delay in sending permanent-way and other materials up the Sittang river in country boats for delivery in the 4th Division.

The Revenue transactions relate to the Rangoon and Irrawaddy Valley State Railway a length of 161 miles, besides 4 miles of Suburban lines which are worked as sidings of the Rangoon Terminus.

TRAFFIC AND WORKING.

In the following table a comparison is made between the outlay on Working Expenses. Revenue Account in 1882 and 1883, and the principal differences are explained in notes subjoined :—

Heads of Account.	Outlay in 1882.	Outlay in 1883.	DIFFERENCE.	
			More in 1883.	Less in 1883.
	Rs.	Rs.	Rs.	Rs.
Maintenance	2,51,896	2,56,635	4,739	...
Locomotive Expenses	2,64,438	2,91,625	30,187	...
Carriage and Wagon expenses	47,608	72,729	25,121	...
Traffic expenses	2,45,896	2,55,937	10,041	...
General charges	1,19,861	1,17,614	...	2,247
Steam-bout service	...	...	...	...
Special and Miscellaneous expenditure	15,561	12,980	...	2,581
Total	9,45,260	10,10,520	65,260	...

In the first-half of 1883 there was a considerable increase over the figures of the corresponding previous half-year chiefly on account of temporary issues of permanent-way materials and exceptionally heavy charges for bridgework, but in the second-half of the year the expenses for permanent-way fell short of the charges for the corresponding previous half-year by about Rs. 20,000 due to smaller requirements for temporary diversions of the line. The result shows that in 1883 the expenses under maintenance of way, works, and stations exceeded the expenses for 1882 by Rs. 4,739 only, or 1·88 per cent.

The increased expense under Abstract B is attributable, to a great extent to the increased train mileage due to the local train service. Fuel and wages connected with the working of locomotive engines, cost Rs. 27,680 more than in the previous year. Increased price of fuel is also partly accountable for the excess. The cost per train mile of Locomotive expenses in 1883 was however less than in 1882 by anna 0·39.

In the first-half of the year considerable repairs were executed to the coaching stock, and owing to the condition of the vehicles a thorough overhauling was necessary. This caused an excess over the corresponding period of the previous year of Rs. 10,949. A good deal of outlay was also incurred during the calendar year on new minor works required in the Carriage and Wagon Department, which were undertaken on estimates specially sanctioned by the Manager. This outlay shows an increase of Rs. 14,793 as compared with the expenditure on minor works in 1882.

Under fuel, lighting, water and general stores, an increased outlay of Rs. 3,841 has taken place, due to increased mileage of trains, and to providing additional station fittings and replacing old ones. For printing, stationery and tickets the increased expenditure has been Rs. 4,288, and is due to the provision of passenger tickets for the Sittang Railway, and to a fresh equipment for the Irrawaddy line, on the occasion of the alteration in passenger fares in October 1883 noticed on the next page. The cost of printing a supply of station books and forms for the Sittang Valley Railway also partly accounts for the excess.

The decrease in the total expenses recorded against this Abstract is Rs. 2,247 and does not appear to call for any special remark. The reduction in outlay amounts to 1·87 per cent.

The contribution to the State Railway Provident Institution, debited in this Abstract, fell short of the figure for 1882 by Rs. 3,592. This decrease is ascribed to only half per cent. of the net earnings for 1883, having been distributed amongst depositors as the earnings of that period did not amount to $4\frac{1}{2}$ per cent. on Capital outlay. In the previous year one per cent. on net earnings, which exceeded the percentage fixed by the Government of India, was charged against this Abstract.

The total decrease in special and miscellaneous expenditure is 16.59 per cent.

Earnings.

The following is a comparison of the earnings for the years 1882 and 1883:—

	1882.	1883.	More in 1883.	Less in 1883.
Coaching	8,16,029	8,64,552	48,523	...
Goods	7,36,315	6,75,298	...	61,017
Electric Telegraph	6,274	6,299	25	...
Sundries	17,072	16,738	...	334
Total	15,75,690	15,62,887	...	12,803

The increase of 5.95 per cent. in the receipts from coaching traffic is a satisfactory feature. The passenger carrying business is steadily increasing, and, during the year under review, this may be attributed to the more favorable rates for travelling by local trains and to the local train service itself. The increase in the number of passengers who made use of the railway during the year is 18.66 per cent. as compared with the previous year, and the increase per cent. in the number of passengers who travelled one mile as compared with the year 1882 is 4.50.

There is a marked falling off of 8.29 per cent. in the goods traffic of the year, and this is principally due to the partial failure in the rice crops reaped along the line of railway in 1883, which affected to a considerable extent the trade of last year. The decrease in the quantity of rice moved was 18,809 tons which caused a loss to the railway revenue of about Rs. 85,788.

RATES AND FARES.

From the 1st October 1883 the principle of charging station to station rates was abolished, and a mileage basis introduced for passengers and goods. The object of this alteration was to simplify the rates. It was found that a want of uniformity existed in charges for passengers and goods from station to station, the distances between which varied considerably, and as the opening up of further portions of the railway was at hand, it was considered desirable to revise the old system of rates and fares. As the introduction of the mileage fare for passengers has caused a great reduction in the charges by suburban trains, with stations as a rule close together, a considerable increase has taken place in the number of third class passengers who avail themselves of the railway for travelling in the suburbs.

The revised rates for goods have not so far affected the traffic. The alteration was made at a dull time of an unusually dull season for trade, but there is little doubt that the mileage rates are better appreciated by the public than the station to station principle. As the bulk of the railway traffic is carried down to Rangoon, an effort has been made to attract to the Railway a greater share of goods carried inland to Prome and elsewhere, and a reduction of 25 per cent. was offered to the public on every full-wagon booked upwards from the terminus.

CHAPTER VII.

RAILWAYS IN NATIVE STATES.

H. H. The NIZAM'S STATE RAILWAY.

GAUGE 5' 6".

WORKS IN PROGRESS.

There were no works of importance executed during the year.

LINES UNDER SURVEY OR PROJECTED.

	Miles.
Hyderabad <i>via</i> Warangul and Singareni to Frontier near Bezwada ...	210
Warangul to Frontier near Chanda	180

A Company entitled 'His Highness the Nizam's Guaranteed State Railways Company' has been formed to take over the existing line and to extend it to the Singareni coal fields and to Bezwada on the Kistna river. A fresh survey of the extension is now being made by the Company's officers, and it is believed that construction will be commenced when the monsoon is over. A northern extension to Chanda to join the Nagpur-Bengal Railway will probably be constructed hereafter.

MINERAL RESOURCES.

Iron is found near Gangawaram, but not apparently in sufficient quantity to be of any commercial value or advantage to the Railway.

Iron.

The extensions will open out the extensive coal fields of Singareni, and should supply portions of the Madras and Great Indian Peninsula Railways with coal at lower rates than those at which it is now obtainable from England. Concerning this important question, the following is an extract from a memorandum submitted by Sirdar Diler-ud-Daola Bahadur, C.I.E., to the Minister of His Highness the Nizam's Government, on the 1st January 1883 :—

Singareni coal.

"Then with regard to the mining scheme, I shall confine myself only to one of the products, the existence of which has been conclusively established, although official reports show that steel, iron, and other minerals also exist. The Railway Secretary to the Madras Government, writing on the subject, states :—

'In 1879, 100 tons of Singareni coal were brought to Madras, and tested on the Madras Railway with satisfactory results, the useful effect being about 75 per cent. of that of patent fuel. The Locomotive Superintendent pronounced it to be good, serviceable fuel, and if means could be found to convey it cheaply to Madras, it could without doubt be economically used on the Madras and South Indian Railways. Further particulars are given in Volume XVIII, Part III, of the Memoirs of the Geological Survey of India, and are extracted from Government Orders furnished to the author by the Consulting Engineer for Railways, Madras.'

"From Ball's *Geology of India*, we learn that the most important coal fields are those at Singareni. One of the seams proved by boring was found to be 3½ feet thick, and consisted of solid coal. An assay of a sample gave—

	Per cent.
Fixed carbon	60.0
Volatile	23.0
Moisture	6.0
Ashes	11.0
	100

"The coal is considered a most serviceable fuel, and it is estimated that between the basins of Singareni and Kamaram 30,000,000 tons are available. When such is the testimony of disinterested British officials as placed on public record, it seems impossible that any mining operations should prove otherwise than remunerative in the highest degree, both to the Government and the concessionaires."

Wood fuel is now used on His Highness the Nizam's State Railway, and is obtained from forests along the line between the 43rd and 70th miles, the price averaging Rs. 3-8-0 per ton. The total consumption during the year was 9,315 tons, and per train-mile 69·45lbs., as compared with 79·27lbs. in the previous year. The reduction has been affected by a more careful selection of the timber, and by giving premia to the drivers for economy.

LINES OPEN FOR TRAFFIC.

The open line runs from Wádi junction on the Great Indian Peninsula Railway to Hyderabad, 115 miles, with a branch, 6 miles in length, from the Hussain Sagár junction ($111\frac{1}{2}$ miles from Wadi) to Secunderabad.

There were no accidents of importance during the year.

A land slip occurred at the 49th mile which caused some anxiety for a time, but the traffic was worked throughout without interruption.

PERSONS EMPLOYED.

There are 24 Europeans, 65 East Indians, and 1,264 Natives employed on the Railway.

As there are no Railway Schools, the employés' children are educated in the various schools at Secunderabad and Chudderghaut. Those at the former station are mostly instructed at the High School to which the railway makes a monthly contribution of 4 annas for each railway child attending.

The Railway Police are charged direct to His Highness the Nizam's Government, and are under the orders of the Judicial Superintendent of Railways in His Highness' Dominions. There were few cases of theft during the year, and the amount paid in compensation for goods lost or damaged was Rs. 491.

Every encouragement has been given to the Volunteers, of whom there are now 76 in the Railway Company of the Hyderabad Rifles, and, on the last annual inspection of the Corps, the Commandant made a special reference to the smartness and efficiency of this Company.

The Medical Department, which is under the orders of the Staff Surgeon of the Hyderabad Subsidiary Force, Secunderabad, assisted by an Apothecary, calls for no special remarks. The health of the Railway employés has been good throughout the year.

On the 31st December there were 27 voluntary and 155 compulsory depositors in the Provident Institution, and the total amount deposited was Rs. 24,512.

STORES.

The transactions in stores have been as follows :—

	Rs.
Value of stores in stock on 31st December 1882	73,410
Receipts during the year	2,71,554
Total	<u>3,44,964</u>
Issues during the year	2,60,665
Balance on 31st December 1883	<u>84,299</u>

The increase is due to the receipt of a large quantity of engine duplicates from England, which are only being charged off as issued.

The rolling stock on the line consists of—

Description.			Stock in hand, 1st January 1883.	Stock in hand, 1st January 1884.
<i>Engines</i>	...	{ H class engines	9	9
		{ 4-wheel coupled	1	0
		Total	10	9
<i>Coaching</i>	...	{ 1st class carriages	7	7
		{ Composite carriages	1	2
		{ 2nd class carriages	5	4
		{ 3rd class carriages	26	26
		{ Postal composites	6	6
		{ Brake vans	4	4
		{ Horse boxes	7	5
		{ Carriage trucks	2	2
	{ Luggage vans	1	1	
	Total	59	57	
<i>Goods</i>	...	{ Covered goods	44	55
		{ High-sided	60	60
		{ Goods brake vans	12	12
		{ Travelling crane	1	1
		{ Accident van	1	1
		{ Travelling water tank	0	1
	Total	118	130	

The above stock includes 2 new 1st class carriages and 4 covered goods wagons, the former constructed in the Railway workshops, the latter obtained from the Indus Valley State Railway.

More engines, 3rd class carriages, and goods wagons, are said to be urgently wanted to meet the requirements of the traffic.

CAPITAL TRANSACTIONS.

The capital outlay of the year has been Rs. 55,766, of which Rs. 11,258 was incurred on rolling stock and Rs. 30,531 under Suspense account.

REVENUE TRANSACTIONS.

The gross earnings of the Railway for the year 1883 were Rs. 8,53,520, and the working expenses Rs. 6,15,588, the net earnings being Rs. 2,37,932 against

Rs. 3,75,100 in the previous year. The figures of the preceding five years, as compared with those of the year under review, are given in the following statement :—

Year.	EARNINGS.				Working expenses.	Net earnings.	Percentage of net earnings on Capital outlay.
	Coaching.	Goods.	Miscellaneous.	Total.			
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1878 ...	2,62,213	5,27,413	2,097	7,91,753	6,79,906	1,11,847	0.96
1879 ...	3,00,358	3,81,622	12,420	6,94,400	6,04,475	89,925	0.77
1880 ...	3,08,771	3,79,944	14,001	7,02,716	4,78,406	2,24,310	1.84
1881 ...	2,95,196	4,43,951	17,687	7,56,834	4,64,059	2,92,775	2.39
1882 ...	3,44,291	4,95,234	19,892	8,59,417	4,84,317	3,75,100	3.07
1883 ...	3,77,127	4,61,577	14,816	8,53,520	6,15,538	2,37,932	1.94

TRAFFIC AND WORKING.

The coaching receipts were Rs. 3,77,127 as compared with Rs. 3,44,291 for 1882, and there was a satisfactory increase in numbers and receipts, as shown

Coaching.

below :—

Passengers.	FOR THE YEAR 1882.						FOR THE YEAR 1883.					
	LOCAL.		FOREIGN.		TOTAL.		LOCAL.		FOREIGN.		TOTAL.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
1st class ...	1,409	4,707	1,631	15,176	3,040	19,883	1,609	6,635	2,007	18,949	3,616	24,984
2nd class...	6,963	8,450	11,328	32,104	18,291	40,554	7,755	9,150	9,251	26,985	17,006	36,185
3rd class...	332,373	1,72,260	47,380	59,010	379,753	2,31,270	346,763	1,69,579	57,638	65,123	404,401	2,34,702
Total ...	340,745	1,85,417	60,339	1,06,290	401,084	2,91,707	356,127	1,84,764	68,896	1,11,057	425,023	2,95,821

The coaching receipts show a decrease from 2.38 to 2.29 per train-mile for the year, but for the half-year ended 31st December, compared with the corresponding period of 1882, there is an increase from 2.23 to 2.35, and further improvements in the traffic may be expected when the convenience and requirements of the passengers are more fully met. Passenger waiting-sheds are being provided at the most important stations, and there has been a great improvement in the carriage accommodation.

Carriages, horses, dogs, &c., carried for the public, show a satisfactory increase, and under parcels the weight carried has increased from 43,880 to 337,463 ton miles, and the receipts from Rs. 14,416 to Rs. 39,068; this being due to the introduction of the lower rates under the Conference Rules.

Importance is now attached to fully advertising the railway rates and fares, especially in the vernacular, and tables have now been exhibited at all the Railway stations, and issued to His Highness the Nizam's officials to be posted at the Post Offices, Civil Courts, and Police stations. This will bring the Railway more prominently before the public, and also help to check any attempts to demand higher fares than are due.

All the lamps have been renewed, and, instead of the partial darkness which was formerly so much complained of, every carriage is now provided with a bright and unfailing light, and this change has been effected without any increased expenditure in oil. Coconut oil is still largely used on the railway, but steps are being taken to gradually introduce kerosine oil in all fixed lamps, including the signals at stations.

The goods receipts do not compare as favourably as the coaching receipts with the previous year, having fallen from Rs. 4,95,233 to Rs. 4,61,575.

Goods traffic.

The fluctuations are unimportant with the exception of the decrease of Rs. 19,464 in cotton manufactured, which is now carried as parcels under the new Conference Rules, and for which coaching receipts show a corresponding increase. Owing to the short supply of rolling stock, the railway is said to have been unable to meet the demand for carriage of firewood and stone, and the rates are too low to permit of stock being hired for the purpose. The increase in railway materials is due to the heavy renewals of permanent-way, and to revenue stores carried by ballast train having been omitted in previous years.

The Manager remarks that "it is disappointing that the goods traffic on this Railway should show no signs of improvement, when on other Indian Railways it is developing so rapidly. There should be some causes to account for this. The line in the first instance has been badly located, avoiding the general direction of the traffic and most important places, and passes for a long length through jungles, from which beyond small supplies of firewood, nothing can be expected. Feeder roads are greatly needed to open up the district and enable produce to be brought to the railway cheaply and expeditiously, at all seasons of the year. The outward rates are too high to attract the traffic, and cannot be reduced without the cooperation of the Great Indian Peninsula Railway Company, who are opposed to reductions. Local tolls and taxes must also tend to check the traffic." And adds that "he has since ascertained that, in addition to the custom dues, many stations are situated on land owned by landlords who appear to have the right to levy tolls on all goods at their discretion, and in some instances these are reported to amount to 5 or 6 annas per maund, or equal to 200 miles of transport by the railway."

The expenditure during the year has been 72·12 per cent. of the gross earnings, distributed between the different departments as shown below:—

		Engineering expenses.	Locomotive expenses.	Carriage and Wagon expenses.	Traffic expenses.	General charges.	Miscellaneous expenses.	Total expenditure.
1882	Amount	Rs. 1,32,237	1,30,338	42,431	81,121	60,859	34,302	4,84,318
	Percentage on total earnings	...	15·39	15·16	4·94	9·78	7·09	3·99	66·36
1883	Amount	Rs. 2,38,176	1,24,175	83,072	86,369	60,197	23,598	6,15,587
	Percentage on total earnings	...	27·90	14·55	9·73	10·12	7·05	2·76	72·12
Increase	...	1,05,939	...	40,641	2,248	...	...	1,31,269
Decrease	...	...	6,163	...	...	692	10,704	...

The expenditure in this department has been very heavy, chiefly owing to extensive renewals of permanent-way. Engineering Department. 17,347 sleepers, 3,224 yards of rails, and 850,000 cubic feet of ballast were laid in the road during the year, and the banks, where of black cotton soil, have been greatly improved by a careful dressing with *moorum*. The road stood the heavy rains during August much better than was expected, and when the whole of the ballast collected is put down

and the pot sleepers relifted, it is hoped that the strength of the gangs may be very much reduced.

Labour is scarce in the district and there is considerable difficulty in obtaining suitable men for gangmen. Owing to the want of more engine power on the line and the scarcity of wagons, there has been a short supply of ballast trains, and for these reasons all the work contemplated was not carried out. Many of the stations and buildings received thorough repairs during the year, and the station machinery was also overhauled.

A Mail Office, consisting of two rooms, was built on the Secunderabad platform at a cost of Rs. 1,500, this amount being provided by the Postal Department. Similar accommodation is to be provided at Hyderabad.

There were 10 engines on the books on the 1st January 1883, *viz.* 9 H class engines by Dubbs & Company, and an old engine by Slaughter Gruning & Company of Bristol. The latter was a 6-wheel engine, and not at all suited to the sharp curves on the railway, and was therefore taken out of running and condemned.

Locomotive Department.

The engine mileages during the year were—

Engine Number.	1883.		Total.
	1st-half.	2nd-half.	
174	10,649½	16,633	27,282½
175	16,367½	2,257	18,624½
176	19,962½	18,771	38,733½
177	10,079½	21,338½	31,417½
178	21,639½	20,877½	42,517
179	19,911½	16,687½	36,599
180	19,715½	19,432½	39,147½
181	20,233½	20,872½	41,106½
182	14,342½	20,905½	35,248
Average per engine	16,989	17,531	34,520

Engines Nos. 174, 175, 177 and 182 were thoroughly repaired during the year and minor repairs were done to the others.

The cost of working the department per train-mile has been—

	1882.		1883.	
	1st-half.	2nd-half.	1st-half.	2nd-half.
	Annas.	Annas.	Annas.	Annas.
General superintendence	0·61	0·59	0·40	0·40
Running expenses	1·95	1·87	2·02	1·81
Fuel	2·78	2·10	1·60	1·82
Water	0·32	0·31	0·30	0·23
Oil, tallow, and other stores	0·27	0·26	0·22	0·20
Maintenance and renewals	1·08	1·30	1·35	2·04
Unclassified expenditure	0·13	0·37	0·49	0·29
Total	7·14	6·80	6·38	6·79

The satisfactory reduction in the cost of fuel has been obtained by a more careful selection of the timber for fuel, a better system of check on the issues, and by giving premia to the drivers for a saving in consumption.

Water is still a source of great trouble in the hot weather; the Secunderabad supply is insufficient, and at Wadi and Chittapur it fails entirely, necessitating a supply being obtained in tanks from Nawandgi, a distance of 33 miles from Wadi.

A smiths' shop has been added to the Locomotive workshops, and there have been several important additions of machinery, but a complete re-arrangement of the shops, shafting, and tools is said to be required to put the shops in proper working order.

In referring to the working of this department during the year, it is necessary to offer some explanation of the heavy outlay, considering the small quantity of rolling stock the line possesses. With the exception of

5 first class carriages,	|	45 covered goods,
7 brake vans,		40 high-sided open wagons,

the whole of the stock is old and was purchased second hand from different lines in India, and, until these have been renewed, the expenditure must be abnormally high. The following were rebuilt during the year:—

15 third class carriages.
3 second class carriages.
11 ten-ton covered goods.

and besides these 2 first class carriages, 2 carriage trucks and 6 covered goods wagons were nearly completed. Twelve covered goods wagons remain to be rebuilt, for which the timber has been received and the ironwork ordered, 4 medium open wagons are still wanted to replace 4 condemned ones, and the low-sided wagons, which are only fit to run in ballast trains, will be set aside for this purpose.

The carriage stock wheels are very much worn and are being condemned, serviceable ones from the goods stock being placed under them, whilst new ten ton wheels are being fitted to the wagons.

Except turning up the wheels, which is still done in the Hyderabad shops, all the repairs and renewals have been executed in the railway workshops.

RATES AND FARES.

There have been no important changes in the rates and fares, but with a view to meet the wants of the Hyderabad nobles, a reduction in the rate for special trains, from Rs. 5 to Rs. 3 per mile, is under consideration, and will probably be introduced during the current year.

The export traffic now forms only 25 per cent. of the whole, and the small proportion of outward traffic causes much light and unproductive mileage. It is therefore desirable that every encouragement should be offered by introducing low fares and increased facilities of despatch to attract a larger outward traffic; but as the chief exports are in grain and seeds, which are sent through to Bombay for shipment, any reduction that could be made in the rates on His Highness the Nizam's State Railway would not affect the through traffic, unless the Great Indian Peninsula Railway made similar reductions; and for the present, until the line is extended, no alterations can be usefully made.

MYSORE STATE RAILWAY.

METRE GAUGE.

LINES UNDER CONSTRUCTION.

BANGALORE-TUMKUR SECTION.

At the end of the year the works on this section were well advanced.

Earthwork.—About 9-10ths had been completed.

All bridges were completed, with the exception of copings to parapets and wing walls in No. 2 District.

Gates for all the crossings are ready and will shortly be erected.

An aloe fence was planted throughout the line.

The permanent line of telegraph was transferred from the Bangalore-Tumkur Road to the Railway line, and telegraphic communication is established at all stations.

In the first 21 miles ballasting was nearly completed, but from the 22nd mile to Tumkur, little or no ballasting was done. All cuttings are ballasted with broken stone and all banks with sand.

The permanent-way on the main line was laid throughout, excepting portions of the 21st and 38th miles, where temporary diversions were put in.

All of the 6 station buildings were completed. Latrines, platforms, &c., were in progress.

Locomotive.—In lieu of 3 N class engines, 3 A class engines were taken over from the open line for Rs. 41,413 : a further indent for 6 N class engines will shortly be sent to England.

The underframes and fittings for the carriage and wagon stock were received from England, and erection will be carried out partly in the Railway workshops and partly by contractors.

The percentage of establishment, on a total outlay of Rs. 14,75,421 on works, is 4.61, and on construction in India alone (Rs. 7,57,506) 8.98.

The line, 43 miles in length, was completed and opened for traffic in August 1884.

TUMKUR-TIPTUR LINE.

The plans and estimates for the extension from Tumkur to Tiptur, 44 miles, were accepted by the Government of India in January 1884. The estimate amounts to Rs. 19,84,960 or Rs. 45,185 per mile.

A portion of this project, *viz.*, from Tumkur to Gubbi (11 miles), was in progress of construction. It has been arranged to utilize the savings on the Bangalore-Tumkur estimate, and a surplus stock of permanent-way material.

LINES UNDER SURVEY.

MYSORE-NANJANGUD LINE.

The detailed plans and estimates for this line, 14½ miles in length, were prepared during the year and were ready for submission.

TIPTUR-BIRUR LINE.

Survey parties were detailed for the proposed line from Tiptur to Birur, 45 miles, in April 1883, and the preliminary survey was completed in October 1883. The survey was then continued towards Shimoga till December 1883, when the Mysore Durbar decided to carry the work for a through line from Birur towards Harihar by Ajjampur and Davangere, (77 miles.) The survey was well advanced at the close of the financial year.

OPEN LINE.

WORKS IN PROGRESS.

The principal works in progress during the official year 1883-84 were as follows :—

A line 1¼ miles long was laid from the Railway terminus at Bangalore to the market in the native city. It was opened for goods traffic on the 1st July 1883.

The brick piers of the beam bridge at mile 81 having shown signs of failure, a stone bridge of ten 12-foot arches was constructed and opened to traffic on 1st October 1883.

A stone bridge at 41st mile was completed and opened to traffic on 21st May 1883.

A new station house was constructed at Seringapatam Fort Station to accommodate the traffic.

The goods-shed accommodation at Mysore was increased. A goods-shed was also built at French Rocks Station.

The machinery for the shops having arrived from England, the greater part of it was erected during the year. A steam pump was erected for the watering arrangements at Bangalore city station.

Gate-keepers' huts were constructed along the line and staff quarters built for the Station Masters at Bidadi, Closepet and Maddur. Quarters were also constructed for the pointsmen at Mysore.

Fifteen timber trucks and 8 covered goods wagons were erected and handed over to traffic.

MINERAL RESOURCES.

No mineral resources have been developed. Wood fuel is used on this line, and is purchased from the Forest Department at about Rs. 7 per ton, delivered on the line.

LINES OPEN TO TRAFFIC.

The length open to traffic is 87 miles.

The floods during the year were low and caused no damage of any importance. The goods line opened between the Bangalore city station and the native city appears to have encouraged the development of local traffic.

PERSONS EMPLOYED.

The *Railway school* was moved close to the staff quarters, and a new school mistress employed. The attendance of the children became more regular during the year. The *medical attendance* continued the same as specified in last year's report.

The employment of natives as firemen and guards continued to receive attention. Eight natives of Mysore were attached as apprentices to the Locomotive shops to receive practical training, and arrangements made for their receiving theoretical instruction. A similar number of probationers were entertained as signallers by the Traffic Department.

STORES.

Twenty-five spans of iron bridge work, which had been purchased from England, but not utilized owing to the substitution of stone arches, were sold to the Bellary-Kistna State Railway.

CAPITAL TRANSACTIONS.

The capital expenditure on final heads up to 31st December 1883 was Rs. 40,52,528.

During the calendar year 1883, Rs. 3,42,012 were spent, which include adjustments for erection of rolling stock.

REVENUE TRANSACTIONS.

The earnings and expenditure during the two half-years of 1882 and 1883 are shown in the following table :—

Period.	Miles open.	Train-Miles.	Gross Earnings.	Working Expenses.	Percentage of Expenses to Earnings.	Financial results.		Per train-mile.		
						Net profit.	Percentage of Profit on Capital expended.	Gross Earnings.	Working Expenses.	Profits.
			Rs.	Rs.		Rs.		Rs.	Rs.	Rs.
1st-half of 1882 ...	86	50,279	1,29,998	* 64,737	49.80	65,261	1.62	2.60	1.29	1.31
2nd-half of 1882 ...	86	51,200	1,58,393	1,20,159	75.86	38,234	0.86	3.09	2.35	0.74
1st-half of 1883 ...	86	43,694	1,39,555	1,14,515	82.06	25,040	0.58	3.19	2.62	0.57
2nd-half of 1883 ...	87	44,428	1,63,340	88,704	54.31	74,636	1.73	3.68	2.0	1.68

* Maintenance charged to Capital.

TRAFFIC AND WORKING.

The *passenger traffic* increased during the year. There was a falling off in the *goods traffic*, owing to a decreased carriage of grain, the smaller movement of which was probably due to the crops in the Province having been universally good.

			1882.	1883.
			Rs.	Rs.
Passenger traffic	...	...	1,75,752	1,91,862
Goods traffic	...	...	92,519	90,109
			1882.	1883.
			Tons.	Tons.
Grain carried	...	...	4,466	2,999
			Rs.	Rs.
			19,420	7,797

RATES AND FARES.

The division of goods into three classes was abandoned and the goods classification on the Mysore State Railway was generally assimilated with that in force on the Madras Railway.

All terminal charges and hammallage were abolished. The rates for country produce were also lowered in the 2nd-half of 1883 and the results at the end of the year were as follows :—

			Tons.	Rs.
2nd-half of 1882	...	...	3,096	10,331
2nd-half of 1883	...	...	9,664	25,434

The increase appears to be encouraging.

Through booking of parcels with all railways in India was introduced from 1st April 1883, and through booking of goods with all railways was to be introduced on 1st June 1884.

JODHPORE RAILWAY.

METRE GAUGE.

WORKS IN PROGRESS.

An extension of 25 miles from Pali to the Luni river was commenced in April 1883, and was opened for traffic in June 1884. The line is generally a surface one, there are only 6 culverts, and the earthwork is very light. The Luni and Guia Bala rivers are to be crossed by masonry causeways which had been commenced.

LINES UNDER SURVEY OR PROJECTED.

The survey of a further extension of the Railway up to Jodhpore, a distance of 21 miles, had been made, and the estimate sanctioned. This work will probably be completed by the end of the present year.

LINES OPEN FOR TRAFFIC.

The length of line open for traffic at the end of the year was 18½ miles, from Karchi on the Rajputana-Malwa Railway to Pali.

There was no serious interruption of traffic owing to floods during the year; the rains were light and arrangements have been made for passing water over the line which seem to work satisfactorily. There was never more than 18 inches of water over the rails in the Khari river, which is crossed by a causeway, and the train was able to pass through this.

There are no regular railway police, Durbar sepoy perform the duties of guards at stations.

STORES.

With a few unimportant exceptions, only stores for current use were in hand on the 31st December, to the value of Rs. 2,870. The Railway owned no locomotives, but had two on hire from the Rajputana-Malwa Railway. The following is a list of rolling stock on the line :—

First class carriages	...	...	...	2
Second class carriages	...	...	...	2
Third class carriages	...	...	...	10
14 feet covered goods wagons	...	...	...	30
Low-sided wagons	...	...	...	20
Brake vans	...	...	...	3

TRAFFIC AND WORKING.

The Railway having only been opened for one complete year, no comparison can be made, with results obtained in previous periods. There was only one train each way a day, and it does not seem likely that traffic will increase much, unless the railway is carried on to Pachbadra, where it will tap the salt works.

The gross receipts amounted to Rs. 40,361, the working expenses were Rs. 17,251 and the net receipts Rs. 23,110. The percentage of expenditure to receipts was 42.74, and the profits realized 4.62 per cent. on a total capital outlay of Rs. 4,99,866 on the length open for traffic.

CHAPTER VIII.
ASSISTED RAILWAY COMPANIES.

DARJEELING-HIMALAYAN RAILWAY.

GAUGE 2' 0".

WORKS IN PROGRESS.

The principal works in progress during the year were those in connection with the completion of the improvement of the gradients, and were as follows:—

- (1) *Loop No. 1, on the 12th mile.*—The landslip which blocked the line at the end of May was cleared, and through traffic resumed on the 3rd October 1883. Whilst the line was blocked at this point through communication was not interrupted, the traffic being worked over a temporary reverse.
- (2) *Loop No. 2, on the 14th mile.*—The bridge at this loop was opened for traffic on the 8th October, and the lower approach on the 23rd January 1884.
- (3) *Loop No. 3, on the 16th mile.*—This was opened for traffic on the 28th March 1884.
- (4) *Reversing-station No. 1, on the 17th mile.*—The lower approach to this reverse was opened on the 11th April 1884, and the upper approach on the 4th May 1884.

In addition to the above, several minor improvements have been carried out on the 12th mile, and the works contemplated to improve the gradients have been finally completed. Two large goods-sheds to meet the increasing traffic have been erected, one at Siliguri and the other at Darjeeling.

MINERAL RESOURCES.

The mineral resources of this Railway are practically *nil*. The fuel used is coal supplied by the Barakar Coal Company, which costs Rs. 19 per ton, delivered at Siliguri.

LINES OPENED FOR TRAFFIC.

Now that the works to be executed in improving the gradients have been completed, the line has been re-measured, and the total length from Siliguri to Darjeeling has been found to be 50·75 miles.

The line was open for traffic throughout the year 1883, with the exception of eight days during May, sixteen days during June, and five days during August, when the line was blocked for goods traffic by slips, which occurred for the most part below Tindaria.

PERSONS EMPLOYED.

As compared with the establishment employed during the previous year, the following reduction in the engineering establishment has been made. The maintenance and construction of the line is now placed under one Resident Engineer stationed at Tindaria, assisted by two Sub-Assistant Engineers, one of whom is stationed at Tindaria, the other at Darjeeling. The number of European permanent-way inspectors has been reduced from five to three, and a native head mistree has been put in charge of the lower or level section of

the Railway. In addition to these, one European supervisor, and one European and two native overseers are employed.

From the 1st September 1883 a Native Assistant Surgeon has been placed in medical charge of the whole line.

STORES.

The balance of stores on the 31st December 1883 was Rs. 46,475, as compared with Rs. 44,641 for the previous year.

List of engine and vehicle stock employed.

Description.	Number on 31st December 1882.	Total on 31st December 1883.
	No.	No.
Engines	15	15
First-class carriages ... ..	...	...
Second-class carriages ... ..	...	...
Third-class carriages	18	21
Composite carriages	7	7
Total	25	28
Miscellaneous passenger vehicles	3	3
Goods vehicles	81	81
Brake-vans ... ..	...	...

CAPITAL TRANSACTIONS.

The existing capital of the line is now Rs. 17,50,000, and debentures Rs. 8,00,000. Powers have been sought from the shareholders, and it is intended to increase the capital by a further sum of Rs. 2,50,000, of which amount Rs. 30,000 will be incorporated into capital from profits, and the balance raised by debentures as required.

The total capital outlay to the 31st December 1883 is Rs. 26,04,304, or an average cost per mile of Rs. 51,316, the expenditure during the year under review having been Rs. 2,48,192.

REVENUE TRANSACTIONS.

The total earnings and expenditure during the year under review compare as follows with those of the previous year:—

Year.	Gross earnings.	Expenditure.	Net earnings.	Percentage of expenditure to gross earnings.	Percentage of net earnings to total capital outlay.	Train-mileage.
	Rs.	Rs.	Rs.			
1882	3,66,474	2,44,490	1,21,984	66.72	5.17	141,724
1883	4,21,914	2,66,219	1,55,725	63.11	5.98	138,843

With a decrease in the train-mileage of 2.03 per cent., the gross earnings have increased 15.13 per cent., whilst the expenditure has increased by 8.88 per cent.

The details of the gross earnings and working expenses for the two years under comparison are given below—

	1882.		1883.		Remarks.
	Amount.	Per train-mile.	Amount.	Per train-mile.	
<i>Earnings.</i>					
	Rs.	Rs.	Rs.	Rs.	
Coaching ...	1,48,829	4.80	1,45,720	3.99	Per passenger train mile. Per goods train mile.
Goods ...	2,11,166	2.00	2,66,468	2.60	
Telegraph ...	2,114	...	3,960	...	
Sundries ...	4,865	...	5,796	...	
Total ...	3,66,474	2.58	4,21,944	3.04	
<i>Expenditure.</i>					
Maintenance ...	46,915	.33	53,126	.38	
Locomotive ...	96,571	.68	1,01,659	.73	
Carriage and Wagon ...	18,827	.13	22,901	.16	
Traffic ...	36,516	.25	44,504	.32	
General charges ...	32,222	.22	34,416	.25	
Special and Miscellaneous ...	13,439	.09	9,583	.07	
Total ...	2,44,490	1.70	2,66,219	1.91	

The earnings show an increase of Re. .46, whilst the expenditure shows an increase of Re. .21 per train-mile. The coaching traffic shows the earnings per train-mile as Rs. 3.99 per mile, but it is to be noted that, as a rule, a load of at least 200 maunds of goods is carried through by the up-passenger train throughout the year, and a similar load of goods is carried downwards when it is available.

TRAFFIC AND WORKING.

The passenger and goods traffic for the year under review compares as follows with that of the previous year:—

Traffic.	1882.		1883.		INCREASE.		DECREASE.	
	Number.	Receipts.	Number.	Receipts.	Number.	Receipts.	Number.	Receipts.
Coaching ...	Passengers.	Rs.	Passengers.	Rs.	Passengers.	Rs.	Passengers.	Rs.
	27,811½	1,48,829	28,000	1,45,720	257½	.....	.....	3,109
Goods ...	Mds.		Mds.		Mds.		Mds.	
	4,01,374	2,11,166	4,71,503	2,66,468	70,129	55,302	.....	.....

The decrease in coaching traffic is due to a falling off in the 1st and 2nd class passenger traffic. During the period under review, 49 first and 914½ second class passengers have been carried less than during the previous year. The third class traffic has increased by 1,220 passengers. The receipts for luggage traffic show a decrease of Rs. 1,817, and for parcels traffic an increase of Rs. 3,386.

The goods traffic has increased 17.47 per cent. in weight carried, and 26.19 per cent. in amount earned.

RATES AND FARES.

The issue of local return tickets at a fare-and-a-half for the double journey has been given effect to from the 18th April 1883, and the issue of monthly and

Coaching.

weekly through return tickets at a fare-and-a-half and a fare-and-a-third from the 1st June 1883.

The rates in force on this Railway are as follows :—

Goods. Upwards rates—1st class, 3 pie per maund } plus one anna per maund terminal and
2nd class, 4 pie per maund } handling charge.
3rd class, 5 pie per maund }

The downwards rates are 20 per cent. less than the upwards rates.

In addition to the above, special local rates have been sanctioned for the carriage of firewood and rough sawn timber, &c., viz.,—

Rs. 1-8-0 per 100 maunds per mile for firewood.

Rs. 2-8-0 per 100 maunds per mile for rough sawn timber.

Minerals, edible grains, potatoes, raw sugar, salt, tobacco and vegetable oils, are carried at special rates.

BENGAL CENTRAL RAILWAY.

GAUGE 5' 6".

This Railway consists of two sections, viz. :—

	Miles.
Ranaghat, on the Eastern Bengal Railway, <i>via</i> Bongong and Jessore to Khulna	82½
Dum-Dum on the Eastern Bengal Railway, <i>via</i> Baraset to Bongong	43
Total	125½

Construction was commenced in March 1881. In its contract with the Secretary of State the Company is guaranteed a return on its Capital Outlay (not exceeding £1,250,000) of £4 per cent. per annum during construction, or until June 1886. The Railway has been completed and the various sections were opened for traffic on the following dates :—

Ranaghat to Bongong, 20½ miles, on 16th October 1882.

Dum-Dum to Dattapukur, 14½ miles, on 2nd April 1883.

Dattapukur to Gobardanga, 17 miles, on 7th December 1883.

Bongong to Khulna, 62 miles, on 16th February 1884.

Gobardanga to Bongong, 11½ miles, on 22nd April 1884.

The line is maintained by the Bengal Central Railway Company and worked by the Eastern Bengal Railway Company, which receives half the gross receipts, subject to a minimum payment of Rs. 50 per mile open per week.

	£
The amount of capital authorised to be raised on 31st Decem- ber 1883 was	1,000,000
The amount actually raised was	650,000
And the amount withdrawn	647,104

The capital outlay on the 52 miles open for traffic amounted on the 31st December 1883 to Rs. 28,30,516 being at the rate of Rs. 54,433 per mile.

The gross earnings amounted to Rs. 1,07,954 and the expenditure to Rs. 1,47,344. So that the line was worked during 1883 at a loss of Rs. 39,390.

The coaching receipts amounted to Rs. 83,389 and the goods receipts to only Rs. 15,865, but it should be borne in mind that the traffic on this line has to compete with, and to supersede, the old established water routes, which will, of course, take time, and that the railway was only partially open for traffic during the year under review, the financial results of which are therefore no criterion of the traffic that may be expected in future years.

The property of the Eastern Bengal Railway Company was taken over by the State on the 1st July 1884, and it has been arranged that the Eastern Bengal Railway, the Calcutta and South-Eastern Railway, and the Poradaha Branch of the Northern Bengal Railway should from that date be united under

one Government management. The Bengal Central Railway hitherto worked by the Eastern Bengal Railway Company is from that date to be worked by State Agency under the same management as the new Eastern Bengal Railway system, subject to arrangements now under consideration by the Secretary of State and the Board of Directors of the Bengal Central Railway Company. Except that the maintenance of way and works will be kept separate, the terms for working the Bengal Central Railway by the Eastern Bengal Railway system will probably be very similar to those under which the State Branches are worked by the East Indian Railway.

ASSAM RAILWAY.

METRE GAUGE.

WORKS IN PROGRESS.

The works on this line are now nearly completed, and the railway should very shortly be opened for public traffic along its entire length.

MINERAL RESOURCES.

The mineral resources of the Assam Railways and Trading Company are said to be practically inexhaustible as far as coal is concerned; the present output is only 450 tons per week, though it is hoped to increase this to 3,000 tons in course of time. Until the Makum coal was obtainable, wood, cut in the adjacent forest, was used for fuel for the locomotives, but now a plentiful supply of coal is always obtainable from the Company's own mines.

LINES OPEN FOR TRAFFIC.

The only length of the line open for traffic during the year was from the Steamer Ghât to Makum Junction, 38½ miles, but additional lengths to Dum-Duma of 8 miles, and a branch to the collieries at Margherita of 23 miles, were opened in May 1884. The line between Dum-Duma and Talup, 8 miles, is open for goods traffic, and is expected to be very shortly opened for passenger traffic.

PERSONS EMPLOYED.

The number of employés during the last year has been as follows:—

<i>Europeans—</i>				
At collieries	...	...	...	24
On railways	...	...	...	47
				71
<i>Native imported labour—</i>				
At collieries	...	...	...	1,475
On railways	...	...	...	1,154
				2,629
<i>Local labour—</i>				
ASSAMIES—				
At collieries	...	...	...	30
On railways	...	...	...	150
NAGAS—				
At collieries	...	...	...	40
				220
			Carried over	2,920
				2,920

	Brought forward	...	...	2,920
CACHARIMS AND NIPALIS—				
At collieries	...	...	...	420
On railways	...	...	...	357
Time-expired garden labourers, on Railways			...	330
				1,107
Average per day	...	...	Total	4,027

The *Volunteer* force with which the Railway is connected, is the Lakhimpore Volunteer Rifle Corps, a mixed corps of officials, planters and Railway employes. The Railway Company contributed to the corps on the 31st March in all 18 members. Arrangements are being made to form a separate company of Railway servants, which company will probably number some 50 members. Captain Beauclerk, the Joint Auditor of the Railway Company, is the Major Commandant of the Corps.

A European medical officer, has charge of all medical matters. This gentleman travels up and down the main line and to the collieries at Margherita, and has a working staff of 6 native doctors, and 6 compounders and dressers under his control, to be stationed at the different points, from time to time, where their services are most required.

The health of the miners and community generally has very considerably improved of late.

STORES.

The Stores Department is under the control of the Locomotive Superintendent, but the records and stores are quite distinct, and are under the immediate charge of an Assistant Storekeeper. The stores consist of Railway, Flotilla, and Colliery tools and plant and stores valued at Rs. 2,28,486.

The rolling stock on the line is as follows :—

Locomotive engines	...	...	...	12
Saloon carriage	...	...	...	1
Composite carriages	...	...	...	5
3rd class carriages	...	...	...	7
4th class carriages	...	...	...	30
Brake-vans	...	...	...	13
Wagons, covered, goods	...	...	...	10
Wagons, high-sided, coal	...	...	...	100
Wagons, low-sided	...	...	...	29
Timber trucks	...	...	...	29
Powder-van	...	...	...	1

CAPITAL TRANSACTIONS.

The Chief Engineer reports the total Capital expenditure under Final and Suspense heads during the year at Rs. 31,50,000. Of this, a sum of Rs. 18,00,000 has been charged to Railway Construction, making a total to that head of Rs. 35,50,000. The balance has been distributed over the Company's other concerns, Colliery and Flotilla.

REVENUE TRANSACTIONS.

The line was opened for traffic to Makum Junction on the 16th July 1883; the earnings and expenditure are consequently only for 5½ months.

				Rs.
Earnings	...	...	...	48,220
Expenditure	...	...	...	83,595
resulting in a loss of	...	...	...	—35,375

The loss was owing to the smallness of the coaching and goods traffic, to the infancy of the undertaking, to the shortness of the line, and to the fact of its not being yet open to the coal fields. The earnings averaged Rs. 50 per mile per week.

TRAFFIC AND WORKING.

This line was opened for public traffic on the 16th July last, to Makum Junction, a distance of $38\frac{3}{4}$ miles from the Lower Steamer Ghât.

The traffic has been carried on without interruption.

There are no towns on this opened portion of the line, with the exception of Dibrugarh, which is $3\frac{3}{4}$ miles from the Steamer Ghât on the Bramahputra River, and only a few very small villages.

With the exception of Lâhowâl ($10\frac{1}{4}$ miles) which is situated at the junction of the Jaipur road with the Sadya road, and which is used for the traffic of the few tea gardens on the Jaipur road, stations would be unnecessary but for the necessity of crossing stations for trains working on a single line. These crossing stations have been selected so as to serve the largest gardens on the road.

The crossing stations are—

Rihâbari	...	...	...	...	$3\frac{3}{4}$ (Dibrugarh).
Lâhowâl	...	...	...	...	$10\frac{1}{4}$
Chabna	...	...	...	...	$20\frac{1}{4}$
Panitola	...	...	...	...	27
Tinsukia	...	...	...	...	$33\frac{3}{4}$

Besides these stations, every garden, or level crossing, is considered a "roadside station," and certain trains stop to pick up or put down both coaching and goods traffic by appointment. Between Rihâbari and the junction there are no less than 11 of these roadside stations.

The condition upon which this roadside traffic is carried is that each garden shall have enough men ready to load or unload goods without causing unnecessary detention.

The total train-mileage during the half-year was 13,026; one mixed train in each direction sufficed for the traffic, except during the tea season, when, to save detention to the mixed train while loading up large consignments, a weekly train was run to pick up tea.

Coaching traffic.

The total number of passengers carried and the receipts were as follows:—

				No.	Rs.
1st class	...	...	...	745 $\frac{1}{2}$	1,710
2nd class	...	...	...	590	518
3rd class	...	...	...	20,512 $\frac{1}{2}$	11,819
			Total	21,848	14,077

The European population along the whole Sadya road, including Sadya itself, does not exceed 60, and few Natives travel first or second class.

Goods traffic.

The total quantity of goods carried, and the receipts, were as follows:—

				Tons.	Receipts. Rs.
General merchandise	...	...	...	3,539	30,233
Coal	...	...	...	312	2,174
Live stock	...	...	... No.	32	19
			Total	3,851	32,425

The line, when finished, will derive its earnings principally from coal, tea and grain, but on the 31st December the coal field at Makum had not been

reached, and all the coal carried was Bengal coal for the use of tea machinery.

The principal commodities carried were—

				Tons.	Receipts. Rs.
Grain and pulses	...	...	...	1,172	7,239
Tea	...	...	...	1,234	14,134
Coal	...	...	...	312	2,174
Coke	...	...	...	256	1,638
Provisions	...	...	...	116	1,304

Neither earnings nor working expenses for this part of the year can be accepted as reliable figures for estimates for the future.

When the line has been opened throughout, the "Locomotive" and "Carriage and Wagon" expenses per mile will be greatly reduced, and the present "General Charges" will nearly suffice for the whole line when opened.

DEOGHUR RAILWAY.

METRE GAUGE.

WORKS IN PROGRESS.

During the first-half of 1883, the Rohini Branch, $1\frac{1}{2}$ miles, and the East Indian Railway Junction Station were completed, and during the year the work of putting in one extra sleeper per rail was in progress.

All these works are now finished, and construction is practically closed.

MINERAL RESOURCES.

The coal used on the Railway is from Kurhurbaree and costs Rs. 5-4-0 per ton at Baidyanath Junction. The consumption per train-mile during the year was 25·33lbs. at a cost of 11·4 pics.

LINES OPENED FOR TRAFFIC.

The total mileage of the line is now $5\frac{1}{2}$ miles, the Rohini Branch, $1\frac{1}{2}$ miles, having been opened for traffic on 1st July 1883. The main line from Baidyanath Station on the East Indian Railway to Deoghur, 4 miles, was opened in December 1882. No serious accident occurred during the year.

PERSONS EMPLOYED.

The line is worked entirely by Natives, and supervision and inspection are done by members of the Managing Agent's firm. The number of Native employés was 65.

CAPITAL TRANSACTIONS.

The capital of the Company is Rs. 2,75,000. On 31st December 1883 the amount paid up was Rs. 2,75,000, and the expenditure Rs. 2,73,331.

REVENUE TRANSACTIONS.

The revenue and expenditure for the year were as follows :—

Revenue—				Rs.
Passengers	...	...	...	19,301
Goods	...	...	...	184
Sundries	...	...	...	154
				19,639

Expenditure—

		Rs.	Rs.
Maintenance of way, works and stations	...	2,126	
Locomotive expenses	...	4,073	
Carriage and wagon	...	904	
Traffic	...	3,943	
General charges	...	2,351	
		—	13,397
<i>Net revenue</i>	...	...	6,242

TRAFFIC AND WORKING.

The year 1883 is the first year in which the line was open, and there is no previous period with which to compare it, but during the present year (1884) there is a substantial increase in traffic as the following figures show:—

		1883.	1884.
		1st January to 31st March.	1st January to 29th March.
Number of passengers	...	41,745	56,098
Earnings (Rs.)	...	5,520 0 9	7,610 13 0

There was no goods traffic carried in 1883 during the first-half, and the amount earned by goods in 1884 has therefore been deducted from the amount of earnings in 1884 in the above figures.

There has been no special rush of pilgrims, and enquiries both in Calcutta and Deoghur are said to have elicited the information that the present year is an inauspicious one for pilgrims to Baidyanath.

RATES AND FARES.

There were no alterations in passenger fares during the year.

The goods rates, when booking was commenced on 1st July 1883, were Rs. 1-9-0 per 100 maunds for all goods and between any stations, but this has been reduced to Re. 1 per 100 maunds.

APPENDICES.

APPENDIX A.
STATISTICS OF INDIAN RAILWAYS (Part I)

Summary of the Revenue Accounts of Indian Railways for the half-year ended 30th June 1883.

No. I.

GENERAL RESULTS.

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	Gauge.	Capital expended. (<i>f</i>)	Mean mileage open.	Traffic train mileage.	Earnings.	Expenses.	Net earnings.
		Ft. In.	Rs.			Rs.	Rs.	Rs.
Broad Gauge.								
1	East Indian ...	5 6	33,90,36,916	(a)1,509 $\frac{3}{4}$	5,413,889	2,61,71,262	92,61,722	1,69,09,540
2	Great Indian Peninsula ...	5 6	25,29,92,701	(b)1,288 $\frac{1}{4}$	4,911,404	2,18,20,892	92,08,242	1,26,12,650
3	Sind, Punjab and Delhi ...	5 6	11,69,82,544	(c)700	1,589,057	62,71,216	35,82,419	26,88,797
4	Madras ...	5 6	11,16,33,336	861	941,719	33,65,901	21,15,717	12,50,184
5	Bombay, Baroda and Central India ...	5 6	8,54,94,530	460	1,120,389	71,57,624	27,02,709	44,54,915
6	Eastern Bengal (<i>h</i>) ...	5 6	3,46,36,017	(d)172 $\frac{1}{2}$	404,271	27,58,262	14,22,437	13,35,825
7	Oudh and Rohilkhand ...	5 6	5,88,55,141	547	723,638	29,32,605	15,58,411	13,74,195
8	Indus Valley and Kandahar ...	5 6	8,01,62,124	(e)659 $\frac{1}{2}$	1,077,852	39,88,150	20,95,886	18,92,264
9	Punjab Northern ...	5 6	7,13,20,596	421 $\frac{1}{2}$	469,925	15,87,051	12,82,777	3,04,274
10	Dhond-Manmad ...	5 6	1,00,30,922	144	(<i>g</i>)	4,50,153	3,40,731	1,09,422
11	Patna-Gya (<i>j</i>) ...	5 6	37,01,093	57 $\frac{1}{2}$	62,956	2,49,176	89,753	1,59,423
12	Nizam's ...	5 6	1,21,92,949	120 $\frac{1}{2}$	149,037	4,27,931	3,11,105	1,16,826
13	Calcutta and South-Eastern ...	5 6	(<i>f</i>)67,19,134	47 $\frac{1}{2}$	53,215	1,60,512	57,677	1,02,865
14	Khangaoon ...	5 6	4,92,570	8	5,792	48,149	27,739	20,410
15	Amraoti ...	5 6	4,34,338	6	4,314	71,176	33,313	37,863
16	Wardha Coal ...	5 6	52,76,171	45	42,739	1,87,965	88,364	99,601
17	Sindia ...	5 6	89,52,272	74 $\frac{1}{2}$	49,616	1,71,582	90,435	81,147
18	Ghazipur-Dildarnagar ...	5 6	6,93,057	12	9,719	30,364	14,996	15,368
19	Bhopal ...	5 6	5,85,947	11 $\frac{1}{2}$	(<i>g</i>)	13,451	19,592	-6,141
20	Bengal Central ...	5 6	52,75,474	35	(<i>h</i>)	43,669	59,114	-15,445
	Total ...	...	1,20,53,67,832	7,189$\frac{3}{4}$	17,020,562	7,79,07,122	3,43,63,139	4,35,43,983
Narrow Gauge.								
21	South Indian ...	Metre	4,32,21,542	663	780,152	19,14,955	12,35,672	6,79,283
22	Rajputana-Malwa ...	"	8,86,59,092	1,167 $\frac{1}{2}$	2,323,806	69,88,951	32,85,259	37,03,592
23	Rewari-Perozepore ...	"	27,23,820	88 $\frac{1}{2}$	78,027	1,16,995	70,155	46,840
24	Muttra-Achnera ...	"	6,25,788	23	(<i>k</i>)	39,728	28,372	11,356
25	Nagpur-Chhattisgarh ...	"	91,37,840	149	251,533	9,83,116	3,73,241	6,09,875
26	Rangoon and Irrawaddy Valley ...	"	1,30,99,746	161	325,400	9,63,813	5,45,114	4,18,699
27	Northern Bengal ...	"	2,05,38,929	230	352,900	11,87,288	5,76,070	6,11,218
28	Tirhoot ...	"	1,11,41,734	148 $\frac{1}{2}$	193,498	4,29,269	2,90,535	1,38,734
29	Cawnpore-Farukhabad ...	"	31,39,200	86 $\frac{1}{2}$	67,418	1,92,870	1,16,335	76,485
30	Bhavnagar-Goudal ...	"	86,75,353	193	170,494	5,87,694	3,08,181	2,79,513
31	Muttra-Hathras ...	"	11,28,318	29	22,395	66,136	40,336	25,800
32	Nallhati ...	Ft. In.	3,07,780	27 $\frac{1}{2}$	20,417	44,027	29,876	14,151
33	Gaekwar of Baroda's ...	2 6	12,53,590	59	36,329	93,320	58,382	34,938
34	Kannia-Dhurla ...	2 6	8,75,485	32 $\frac{1}{2}$	12,076	63,463	51,444	12,019
35	Mysore ...	Metre	40,23,980	85 $\frac{1}{2}$	43,694	1,39,555	1,14,516	25,039
	Total ...	...	20,85,52,197	3,143$\frac{1}{4}$	4,678,139	1,38,11,080	71,23,538	66,87,542
	GRAND TOTAL ...	...	1,41,39,20,029	10,333	21,698,701	9,17,18,202	4,14,86,677	5,02,31,525

a.—Includes 3 miles, the length of the Barrh Branch.

b.—Exclusive of 7 $\frac{1}{2}$ miles (Dadar Junction to Colaba, Bombay, Baroda and Central India Railway) worked over by the Company.

c.—Includes 13 miles of the East Indian Railway (from Ghaziabad to Delhi) worked over by the Company.

d.—Includes 13 miles, the length of the Damukdia Branch.

e.—Includes 7 miles, Modran to Muzaffarabad, Sind, Punjab and Delhi Railway) worked over by this Railway.

f.—Capital expended on open mileage charged to fund heads, inclusive of rolling-stock.

g.—Included with the Great Indian Peninsula Railway.

h.—Included with the Eastern Bengal Railway.

i.—Main line only.

j.—The figures of this line have been taken from the Revenue Account of the East Indian Railway.

k.—Worked by the Rajputana-Malwa Railway.

l.—Includes the amount received and expended for working the Bengal Central Railway.

N.B.—In cases where short lengths of railway are worked over by foreign railways, the mileage so worked over should be included in the length used for calculating earnings and expenses per mile of railway worked.

APPENDIX A—contd.
STATISTICS OF INDIAN RAILWAYS (Part D)—contd.

No. II.

SUMMARY OF EARNINGS.

[From No. VIII of Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	Coaching.	Goods.	Electric Telegraph.	Steam-boat.	Surplus.		Total.
						Receipts from other lines for hire, mileage and rents.	Other items.	
	<i>Broad Gauge.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1	East Indian ...	63,21,765	1,92,83,555	53,211	16,920	2,43,576	2,52,235	2,61,71,262
2	Great Indian Peninsula ...	34,15,433	1,81,57,421	25,898	...	63,708	1,58,432	2,18,20,893
3	Sind, Punjab and Delhi ...	17,43,463	41,53,124	11,568	300	3,22,323	40,438	62,71,216
4	Madras ...	13,66,455	19,14,983	11,829	...	26,874	45,760	33,65,001
5	Bombay, Baroda and Central India ...	18,44,116	52,04,066	17,584	...	43,927	47,931	71,57,024
6	Eastern Bengal ...	9,13,157	16,09,690	3,260	1,86,771	9,696	35,688	27,58,262
7	Oudh and Rohilkhand ...	10,35,935	16,30,871	8,927	...	1,52,628	1,04,245	20,32,006
8	Indus Valley and Kandahar ...	5,55,566	30,85,977	7,602	2,06,870	1,00,004	32,131	30,88,150
9	Punjab Northern ...	6,95,241	7,61,865	5,570	-6,880	94,164	37,091	15,87,051
10	Dhond and Manmad ...	2,00,812	2,48,002	677	...	...	662	4,50,153
11	Patna-Gya (a) ...	1,64,866	81,365	2,058	..	...	897	2,40,176
12	Nizam's ...	1,70,973	2,47,301	2,319	...	4,886	2,452	4,27,931
13	Calcutta and South-Eastern ...	1,02,223	38,336	348	...	16,523	3,112	1,60,542
14	Khamgaon ...	4,034	43,395	112	...	...	108	48,149
15	Amraoti ...	7,474	63,488	205	...	...	9	71,176
16	Wardha Coal ...	21,824	1,16,319	1,217	...	47,202	1,383	1,87,966
17	Sindia ...	99,836	67,263	4,159	...	...	324	1,71,582
18	Ghazipur-Dildarnagar ...	11,607	17,298	1,458	...	...	1	30,364
19	Bhopal ...	4,914	8,233	304	...	...	...	13,451
20	Bengal Central ...	34,817	6,697	306	...	1,829	20	43,660
	Total ...	1,87,14,531	5,67,39,749	1,58,612	4,03,981	11,27,340	7,62,909	7,79,07,122
	<i>Narrow Gauge.</i>							
21	South Indian ...	10,51,775	8,34,640	8,579	...	106	19,846	19,14,955
22	Rajputana-Malwa ...	19,68,240	49,35,396	15,976	...	14,663	54,576	69,88,851
23	Rewari-Ferozepore ...	17,548	98,650	723	...	...	74	1,16,995
24	Muttra-Achnera ...	27,636	10,623	1,435	...	...	34	39,728
25	Nagpur-Chhattisgarh ...	1,06,992	8,87,915	2,276	...	...	5,933	9,83,110
26	Rangoon and Irrawaddy Valley ...	4,71,813	4,80,319	2,568	...	...	9,113	9,63,813
27	Northern Bengal ...	3,05,984	6,81,037	3,841	1,31,491	4,543	60,392	11,87,298
28	Tirhoot ...	1,86,911	1,95,027	10,915	32,094	...	4,322	4,20,269
29	Cawnpore-Farukhabad ...	98,339	91,429	1,539	...	489	1,074	1,02,870
30	Bhavnagar-Gondal ...	2,38,256	3,41,089	5,618	...	...	2,731	5,87,694
31	Muttra-Hathras ...	43,236	20,923	1,011	...	664	302	66,136
32	Nalhati ...	28,044	14,781	711	...	...	491	44,027
33	Gaekwar of Baroda's ...	49,823	43,431	48	...	...	18	93,320
34	Kaunia-Dhuria ...	19,362	6,403	...	37,212	...	486	63,463
35	Mysore ...	1,00,204	36,898	718	...	...	1,735	1,39,555
	Total ...	47,14,163	86,58,570	55,958	2,00,797	20,465	1,61,127	1,38,11,060
	GRAND TOTAL ...	2,34,28,694	6,53,98,319	2,14,570	6,04,778	11,47,805	9,24,036	9,17,18,202

(a)—The figures of this line have been taken from the East Indian Railway Revenue Account.

APPEN
STATISTICS OF INDIAN
No.
DETAIL OF COACH
[From Abstract H of

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	PASSENGERS									
		FIRST CLASS.			SECOND CLASS.			THIRD OR INTERMEDIATE CLASS.			FOURTH
		Single journey fare.	Number.	Receipts.	Single journey fare.	Number.	Receipts.	Single journey fare.	Number.	Receipts.	Single journey fare.
	<i>Broad Gauge.</i>	Pies.		Rs.	Pies.		Rs.	Pies.		Rs.	Pies.
1	East Indian	18-00	24,799	2,50,505	9-00	81,670	3,22,762	4-50	213,093	1,99,967	2-50
2	Great Indian Peninsula	18-00	19,446	2,01,886	9-00	87,647	3,84,350	4-00	400,454	5,20,500	2-50
3	Sind, Punjab and Delhi	12-00	11,024	64,519	8-00	29,598	82,930	4-00	5,159	10,450	2-50
4	Madras	18-00	6,744	83,413	7-00	26,030	80,328	...	...	...	2-00 and 2-50
5	Bombay, Baroda and Central India	12-00	36,769	56,261	6-00	277,719	1,19,408	...	...	...	3-00
6	Eastern Bengal	12-00	18,064	32,679	6-00	36,529	27,998	4-50	202,165	1,14,040	3-00
7	Oudh and Rohilkhand ... ..	...	...	...	9-00	11,490	43,757	...	...	...	2-50
8	Indus Valley and Kandahar	12-00	1,726	12,467	8-00	4,909	16,097	...	...	...	2-50
9	Punjab Northern	12-00	3,355	20,353	8-00	10,876	28,136	3-50	5,244	7,237	2-50
10	Dhond and Manmad (a) ... ..	...	...	...	...	...	...	...	...	...	Worked by the Great
11	Patna-Gya (a) ... ..	...	...	...	...	...	...	...	...	...	Worked by the East
12	Nizam's	18-00	1,868	12,598	6-00	6,960	14,202	...	...	...	2-00
13	Calcutta and South-Eastern	18-00 and 13-50	549	979	9-00 and 6-75	4,719	3,058	3-00 and 2-25	478,706	84,830	2-40 and 1-80
14	Khamgaon (a) ... ..	...	...	...	...	...	...	...	...	...	Worked by the Great
15	Amraoti (a) ... ..	...	...	...	...	...	...	...	...	...	Worked by the Great
16	Wardha Coal	18-00	244	571	9-00	451	542	4-00	1,105	706	2-00
17	Sindia ... ..	...	...	...	...	...	...	...	...	...	Worked by the East
18	Ghazipur-Dildarnagar (a) ... ..	...	...	...	...	...	...	...	...	...	Worked by the East
19	Bhopal (a) ... ..	...	...	...	...	...	...	...	...	...	Worked by the Great
20	Bengal Central	12-00	681	464	6-00	5,234	1,292	4-50	8,765	2,683	3-00
	Total	Nil	125,269	7,36,695	Nil	583,832	11,24,860	Nil	1,314,691	9,40,463	Nil
	<i>Narrow Gauge.</i>										
21	South Indian	12-00	5,111	21,959	4-00	25,655	25,736	...	...	...	2-00
22	Rajputana-Malwa	18-00	7,916	67,055	9-00	22,607	60,381	3-00	38,908	44,005	2-00 and 2-66
23	Rewari-Ferozepore ... ..	...	...	...	...	...	...	...	...	...	...
24	Muttra-Achnera ... ..	...	...	...	...	...	...	...	...	...	Worked by the
25	Nagpur-Chhattisgarh	18-00	1,197	2,099	8-00	7,324	3,236	4-00	7,433	2,629	2-00
26	Rangoon and Irrawaddy Valley	14-90	2,428	7,260	7-45	9,617	11,298	...	...	...	2-98
27	Northern Bengal	18-00	2,183	23,894	9-00	3,414	17,242	4-50	8,117	18,507	2-50
28	Tirhoot	18-00	2,301	9,685	9-00	3,106	6,454	...	...	...	2-50
29	Cawnpore-Farukhabad	15-00	308	1,153	8-00	932	1,959	...	...	...	2-00
30	Bhavnagar-Gondal	12-00	1,130	3,836	6-00	6,240	8,526	...	...	...	2-50
31	Muttra-Hathras	15-00	214	544	8-00	708	678	...	...	...	2-00
32	Nalhati	18-00	415	1,077	6-00	2,033	1,768	...	...	...	3-00
33	Gackwar of Baroda's ... ..	...	...	...	7-00	2,079	1,447	...	...	...	3-00
34	Kaunia-Dhuria	36-00	339	1,196	18-00	712	1,072	...	...	...	6-00
35	Mysore	12-00	1,019	3,412	6-00	3,652	4,059	...	...	...	3-00
	Total	Nil	24,561	1,43,170	Nil	88,079	1,43,856	Nil	54,458	65,141	Nil
	GRAND TOTAL	Nil	149,830	8,79,865	Nil	671,911	12,68,716	Nil	1,369,149	10,05,604	Nil

(a) Detailed information not furnished. Hence a difference between the total
Note.—Season tickets included with the traffic

GERS.		TOTAL.		Miscellaneous, including parcel, luggage, &c.	Total.	Deductions.	Net total.	Railways.	No.
OR LOWEST CLASS.		Number.	Receipts.						
Number.	Receipts.	Number.	Receipts.	Rs.	Rs.	Rs.	Rs.		
5,943,736	Rs. 51,88,305	6,263,298	Rs. 59,61,539	6,36,611	65,98,150	278,388	63,21,765	<i>Broad Gauge.</i>	
2,999,580	20,04,306	3,507,127	31,11,542	5,21,125	36,32,667	2,17,331	34,15,433	East Indian ...	1
2,137,407	14,17,357	2,183,188	15,75,256	1,68,207	17,43,463	...	17,43,463	Great Indian Peninsula ...	2
2,210,125	10,37,916	2,242,899	12,01,657	1,64,798	13,66,455	...	13,66,455	Sind, Punjab and Delhi ...	3
4,314,241	14,74,526	4,623,729	16,50,195	1,93,921	18,44,116	...	18,44,116	Madras ...	4
1,233,559	6,64,041	1,490,317	8,38,758	74,399	9,13,157	...	9,13,157	Bombay, Baroda and Central India ...	5
1,402,582	9,28,274	1,414,072	9,72,031	63,904	10,35,935	...	10,35,935	Eastern Bengal ...	6
762,696	4,36,269	769,331	4,64,893	90,327	5,55,660	94	5,55,566	Oudh and Rohilkhand ...	7
979,356	5,62,650	998,831	6,18,376	76,865	6,95,241	...	6,95,241	Indus Valley and Kandahar ...	8
Indian Peninsula Railway	...	...	...	...	...	...	2,00,812	Punjab Northern ...	9
Indian Railway	...	...	...	...	...	...	1,64,866	Dhond and Manmad (a) ...	10
197,388	1,12,510	206,216	1,39,310	31,663	1,70,973	...	1,70,973	Patna-Gya (a) ...	11
85,641	10,107	569,615	99,024	3,199	1,02,223	...	1,02,223	Nizam's ...	12
Indian Peninsula Railway	...	...	...	...	...	...	4,034	Calcutta and South-Eastern ...	13
Indian Peninsula Railway	...	...	...	...	...	...	7,474	Khamgaon (a) ...	14
69,171	18,367	70,971	20,186	1,658	21,844	...	21,844	Amraoti (a) ...	15
Indian Railway	...	...	...	...	...	...	99,836	Wardha Coal ...	16
Indian Railway	...	...	...	...	...	...	11,607	Sindia (a) ...	17
Indian Peninsula Railway	...	...	...	...	...	...	4,914	Ghazipur-Dildarnagar (a) ...	18
148,771	29,253	163,451	33,692	1,125	34,817	...	34,817	Bhopal (a) ...	19
22,434,253	1,38,84,381	24,508,045	1,66,86,399	20,28,302	1,87,14,701	4,03,713	1,87,14,531	Bengal Central ...	20
2,555,159	9,52,448	2,585,925	10,00,143	52,041	10,52,184	409	10,51,775	<i>Narrow Gauge.</i>	
2,667,930	16,19,604	2,737,361	17,91,045	1,94,805	19,85,850	17,610	19,68,240	South Indian ...	21
...	...	...	...	...	...	...	17,548	Rajputana-Malwa ...	22
Rajputana-Malwa Railway	...	...	...	...	...	...	27,636	Rewari-Ferozapore (a) ...	23
355,906	87,763	371,860	95,727	11,265	1,06,992	...	1,06,992	Muttra-Achnera (a) ...	24
949,692	4,36,747	961,737	4,55,305	16,508	4,71,813	...	4,71,813	Nagpur-Chhattisgarh ...	25
348,501	2,12,549	362,215	2,72,192	33,792	3,05,984	...	3,05,984	Rangoon and Irrawaddy Valley ...	26
334,831	1,48,528	340,238	1,64,667	22,244	1,86,911	...	1,86,911	Northern Bengal ...	27
305,960	89,633	307,200	92,745	5,594	98,339	...	98,339	Tirhoot ...	28
364,243	2,06,667	371,613	2,19,029	19,227	2,38,256	...	2,38,256	Cawnpore-Farukhabad ...	29
196,007	40,131	196,929	41,353	1,883	43,236	...	43,236	Bhavnagar-Gondal ...	30
68,239	22,577	70,637	25,422	2,622	28,044	...	28,044	Muftra-Hathras ...	31
156,558	47,045	158,637	48,492	1,331	49,823	...	49,823	Nalhati ...	32
37,510	15,363	38,561	17,631	1,731	19,362	...	19,362	Gaekwar of Baroda's ...	33
168,793	84,830	173,464	92,301	7,903	1,00,204	...	1,00,204	Kaunia-Dhurla ...	34
8,509,329	39,63,885	8,676,427	43,16,052	3,70,946	46,86,998	18,019	47,14,163	Mysore ...	35
30,993,582	1,78,43,266	33,184,472	2,10,02,451	23,99,248	2,34,01,699	5,11,732	2,34,28,634	Total.	
								GRAND TOTAL.	

receipts under "Net total" and those arrived at by adding the receipts under the several sub-heads of the classes to which they belong.

APPEN
STATISTICS OF INDIAN
No.
DETAIL OF
[From Abstract I of

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	GENERAL MERCHANDISE.		MILITARY STORES.		RAILWAY MATERIALS AND REVENUE STORES, EXCEPT COAL.	
		Ton miles.	Receipts.	Ton miles.	Receipts.	Ton miles.	Receipts.
	<i>Broad Gauge.</i>		Rs.		Rs.		Rs.
1	East Indian	449,677,809	1,55,23,446	2,529,183	2,29,939	36,186,120	4,96,328
2	Great Indian Peninsula	357,760,748	1,76,69,406	1,062,246	1,03,949	15,496,771	2,93,277
3	Sind, Punjab and Delhi	101,909,387	37,71,072	606,501	58,728	5,789,071	1,64,144
4	Madras	38,910,984	18,16,381	415,761	40,693	1,998,392	41,094
5	Bombay, Baroda and Central India	98,702,240	48,56,340	154,986	13,273	3,061,217	79,015
6	Eastern Bengal	26,035,911	15,07,306	10,548	1,854	494,416	10,300
7	Oudh and Rohilkhand	48,545,557	15,06,237	91,341	8,032	3,647,615	60,796
8	Indus Valley and Kandahar	106,537,704	29,23,139	130,916	11,511	7,854,223	1,37,455
9	Punjab Northern	9,651,931	5,72,783	291,205	43,006	1,020,954	39,766
10	Dhond and Manmad (a) ... ..	...	...	...	...	...	...
11	Patna-Gya (a) ... ..	...	...	...	...	...	...
12	Nizam's	4,096,069	2,26,983	99,845	9,898	464,836	8,165
13	Calcutta and South-Eastern	645,479	28,720	...	...	106,746	3,858
14	Khamgaon (a) ... ..	...	...	...	...	...	...
15	Amraoti (a) ... ..	...	...	...	...	...	...
16	Wardha Coal	1,163,541	50,801	...	...	13,826	374
17	Sindia (a) ... ..	...	...	...	...	...	...
18	Ghazipur-Dildarnagar (a) ... ..	...	...	...	...	...	...
19	Bhopal (a) ... ..	...	...	...	...	...	...
20	Bengal Central ... ..	...	2,556	...	1	...	725
	Total	1,243,637,160	5,04,55,170	5,392,532	5,20,374	76,134,187	13,35,297
	<i>Narrow Gauge.</i>						
21	South Indian	17,941,135	7,64,348	49,937	3,716	2,293,431	53,020
22	Rajputana-Malwa	106,981,218	47,03,777	212,401	17,060	6,354,404	2,12,205
23	Rewari-Ferozepore (a) ... ..	...	...	...	...	...	...
24	Muttra-Achnera (a) ... ..	...	...	...	...	...	...
25	Nagpur-Chhattisgarh	15,537,089	8,48,928	2,703	258	92,237	3,169
26	Rangoon and Irrawaddy Valley	9,966,999	4,44,498	...	...	450,846	22,661
27	Northern Bengal	11,161,459	6,16,729	24,038	1,936	988,772	36,233
28	Tirhoot	2,982,363	1,37,729	2,152	255	929,429	33,021
29	Cawnpore-Farukhabad	1,522,500	74,635	37,090	5,405	360,438	4,900
30	Bhavnagar-Gondal	3,331,738	3,22,089	...	...	949,899	17,301
31	Muttra-Hathras	328,343	19,392	1,486	124	3,819	153
32	Nalhati	144,358	12,993	...	...	13,227	491
33	Gaskwar of Baroda's	557,420	42,568	...	...	18,695	526
34	Kaunia-Dhurla	50,836	6,940	75	22	94	6
35	Mysore	559,024	29,924	1,857	192	245,752	6,027
	Total	171,064,482	80,23,900	331,739	23,968	12,701,043	3,89,713
	GRAND TOTAL	1,414,701,642	5,84,79,070	5,724,271	5,49,342	88,835,230	17,25,010

(a) For difference in the total receipts under

DIX A—contd.

RAILWAYS (Part I)—contd.

IV.

GOODS TRAFFIC.

Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

MISCELLANEOUS.		Miscellaneous.	Total.	Deductions.	Net total.	Railways.	No.
Ton miles.	Receipts.						
	Rs.	Rs.	Rs.	Rs.	Rs.	<i>Broad Gauge.</i>	
135,308,918	31,29,677	70,314	1,94,49,704	1,66,149	1,92,83,555	East Indian	1
16,020,924	3,95,259	59,148	1,85,21,039	3,63,618	1,81,57,421	Great Indian Peninsula	2
6,030,715	1,42,497	16,683	41,53,124	...	41,53,124	Sind, Punjab and Delhi	3
53,430	1,876	14,939	19,14,983	...	19,14,983	Madras	4
6,918,071	1,40,851	1,14,588	52,04,067	1	52,04,066	Bombay, Baroda and Central India	5
2,441,646	83,223	7,007	16,09,690	...	16,09,690	Eastern Bengal	6
3,470,009	50,789	5,017	16,30,871	...	16,30,871	Oudh and Rohilkhand	7
424,714	9,922	5,656	30,87,683	1,706	30,85,977	Indus Valley and Kandahar	8
1,153,776	39,598	66,712	7,61,865	...	7,61,865	Punjab Northern	9
...	...	...	...	...	2,48,002	Dhond and Manmad (a)	10
...	...	...	...	...	81,365	Patna-Gya (a)	11
9,919	303	1,952	2,47,301	...	2,47,301	Nizam's	12
13,274	527	5,231	38,336	...	38,336	Calcutta and South-Eastern	13
...	...	...	...	...	43,895	Khumgaon (a)	14
...	...	...	...	...	63,488	Amratsi (a)	15
2,073,419	64,838	316	1,16,319	...	1,16,319	Wardha Coal	16
...	...	...	...	...	67,263	Sindia (a)	17
...	...	...	...	...	17,298	Ghazipur-Dildarnagar (a)	18
...	...	...	...	...	8,233	Bhopal (a)	19
...	3,412	3	6,697	...	6,697	Bengal Central	20
173,918,815	40,62,772	3,67,566	5,67,41,679	5,31,474	5,67,39,749	Total.	
474,349	10,120	3,445	8,34,649	...	8,34,649	<i>Narrow Gauge.</i>	
4,168,164	92,834	9,947	50,35,823	1,00,427	49,35,396	South Indian	21
...	...	...	...	...	98,650	Rajputana-Malwa	22
...	...	...	...	...	10,623	Rewari-Ferozepore (a)	23
491,809	12,989	2,571	8,67,915	...	8,67,915	Muttra-Achnera (a)	24
16,808	1,135	12,025	4,80,319	...	4,80,319	Nagpur-Chhattisgarh	25
743,989	24,787	1,352	6,81,037	...	6,81,037	Bangoon and Irrawaddy Valley	26
566,568	19,300	4,722	1,95,027	...	1,95,027	Northern Bengal	27
132,521	6,227	262	91,429	...	91,429	Tirhoot	28
57,438	1,254	495	3,41,089	...	3,41,089	Cawnpore-Farakhabad	29
23,254	1,054	200	20,923	...	20,923	Bhavnagar-Gondal	30
18,253	1,136	161	14,781	...	14,781	Muttra-Hathras	31
6,908	231	106	43,431	...	43,431	Nalhati	32
...	...	35	6,403	...	6,403	Gaekwar of Baroda's	33
5	1	754	36,898	...	36,898	Kaunia-Dhuria	34
6,700,066	1,71,068	36,075	86,49,724	1,00,427	86,53,570	Mysore	35
180,618,881	42,33,840	4,03,641	6,53,91,403	6,31,901	6,53,98,319	Total.	
						GRAND TOTAL	

"Net total," see note (a) at foot of Coaching abstract.

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	Maintenance of way, works and stations.	Locomotive expenses. +	Carriage and wagon expenses.	Traffic expenses.
	<i>Broad Gauge.</i>	Rs.	Rs.	Rs.	Rs.
1	East Indian	36,81,292	20,80,978	7,95,673	14,79,262
2	Great Indian Peninsula	21,53,173	35,35,123	13,72,866	12,94,447
3	Sind, Punjab and Delhi	7,53,249	18,92,490	3,56,398	5,10,951
4	Madras	5,47,174	6,45,057	3,19,333	3,50,425
5	Bombay, Baroda and Central India	7,58,071	8,85,082	3,47,703	3,73,574
6	Eastern Bengal	2,18,114	2,45,597	2,82,821	3,00,097
7	Oudh and Rohilkhand	3,43,882	5,09,915	1,70,479	2,73,408
8	Indus Valley and Kandahar	3,27,456	8,14,960	1,36,771	2,39,970
9	Punjab Northern	2,80,054	4,89,078	75,185	2,54,922
10	Dhond and Manmad ... ..	...	...	...	...
11	Patna-Gya (c)	35,682	20,158	7,699	14,328
12	Nizam's	1,24,894	59,439	41,558	43,379
13	Calcutta and South-Eastern	27,002	1,124	1,929	14,704
14	Khamgaon ... ..	...	...	...	...
15	Amraoti ... ..	...	...	...	...
16	Wardha Ceal	3,375	30,094	12,155	13,064
17	Sindia	27,891	13,881	5,302	10,298
18	Ghazipur-Dildarnagar	4,348	2,456	938	1,746
19	Bhopal	11,950	...	...	...
20	Bengal Central	22,680	...	35,988	...
	Total	93,20,287	1,07,25,432	39,62,798	51,74,575
	<i>Narrow Gauge.</i>				
21	South Indian	3,34,188	4,23,191	1,39,800	1,69,543
22	Rajputana-Malwa	6,34,719	15,45,140	2,54,528	4,85,382
23	Rewari-Ferozepore ... ..	...	45,508	5,976	10,864
24	Muttra-Achnera	5,971	11,327	1,841	3,562
25	Nagpur-Chhattisgarh	81,345	1,49,973	97,219	56,394
26	Rangoon and Irrawaddy Valley	1,50,382	1,54,668	42,168	1,33,243
27	Northern Bengal	1,37,402	1,78,082	27,534	82,200
28	Tirhoot	52,837	89,183	16,056	45,371
29	Cawnpore-Farukhabad	24,058	35,126	5,216	23,092
30	Bhavnagar-Gondal	67,212	85,173	20,138	60,374
31	Muttra-Hathras	6,677	12,594	2,484	9,042
32	Nalhati	14,060	5,510	1,335	3,784
33	Gaekwar of Baroda's	23,216	18,774	2,882	9,096
34	Kaunia-Dhurla	6,326	6,823	1,790	4,133
35	Mysore	34,653	32,143	8,209	15,859
	Total	15,73,046	27,93,215	5,67,176	11,11,929
	GRAND TOTAL	1,08,93,333	1,35,18,647	45,29,974	62,86,504

(a) The figures under the several heads of expenditure have not been furnished.
(b) The difference of Rs. 5,883 between the figures under the column "Total" and that obtained by
(c) The figures for this Railway have been taken from the East Indian Railway Revenue Account.

DIX A—contd.

RAILWAYS (Part I)—contd.

V.

EXPENSES.

Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

General charges.	Steam-boat service.	Special and miscellaneous expenses.	Total.	Railways.	No.
Rs.	Rs.	Rs.	Rs.	<i>Broad Gauge.</i>	
8,86,107	14,733	3,23,677	92,61,722	East Indian	1
5,63,534	...	2,89,099	92,08,242	Great Indian Peninsula	2
3,38,859	11,253	2,19,219	35,82,419	Sind, Punjab and Delhi	3
2,27,348	...	26,380	21,15,717	Madras	4
2,57,219	1,658	79,402	27,02,709	Bombay, Baroda and Central India	5
1,65,582	1,96,037	14,189	14,22,437	Eastern Bengal	6
2,01,396	...	59,331	15,58,411	Oudh and Rohilkhand	7
1,57,662	1,30,865	2,88,202	20,95,886	Indus Valley and Kandahar	8
1,25,072	-10,780	69,246	12,82,777	Punjab Northern	9
...	...	...	(a) 3,40,731	Dhond and Manmad	10
8,597	149	3,140	89,753	Patna-Gya (c)	11
30,009	...	11,826	3,11,105	Nizam's	12
11,809	...	1,109	57,677	Calcutta and South-Eastern	13
...	...	...	(a) 27,739	Khamgaon	14
...	...	...	(a) 33,313	Amraoti	15
22,599	...	7,077	88,364	Wardha Coal	16
5,920	(c) 102	27,041	90,435	Sindia	17
1,048	(c) 18	4,442	14,996	Ghazipur-Dildarnagar	18
1,760	...	...	(b) 19,592	Bhopal	19
446	...	...	59,114	Bengal Central	20
30,04,967	3,44,035	14,23,380	3,43,63,139	Total.	
				<i>Narrow Gauge.</i>	
1,64,604	...	4,346	12,35,672	South Indian	21
3,29,091	...	36,999	32,85,259	Rajputana-Malwa	22
7,570	...	237	70,155	Rewari-Ferozepore	23
2,483	...	3,188	28,372	Muttra-Achnera	24
40,553	...	7,757	3,73,241	Nagpur-Chhattisgarh	25
57,709	...	6,944	5,45,114	Rangoon and Irrawaddy Valley	26
67,537	75,146	8,169	5,76,070	Northern Bengal	27
48,713	36,572	1,803	2,90,535	Tirhoot	28
28,412	...	481	1,16,385	Cawnpore-Farukhabad	29
71,699	...	3,585	3,08,181	Bhavnagar-Gondal	30
7,097	...	2,442	40,336	Muttra-Hathras	31
5,032	...	155	29,876	Nalhati	32
4,424	...	...	58,382	Gaekwar of Baroda's	33
4,403	27,909	60	51,444	Kaunia-Dhurla	34
22,220	...	1,432	1,14,516	Mysore	35
8,61,547	1,39,627	76,998	71,23,538	Total.	
38,66,514	4,83,662	15,00,378	4,14,86,677	GRAND TOTAL.	

Adding the figures in the preceding columns is due to no charges having been shown under "Loco." "C. and W." and "Traffic."

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	General superintendence.	Maintenance of permanent-way.	Repairs of Bridges, &c.	Conservancy of rivers.
	<i>Broad Gauge.</i>	Rs.	Rs.	Rs.	Rs.
1	East Indian	3,51,708	38,56,412	1,78,182	...
2	Great Indian Peninsula	2,17,922	12,43,678	2,85,181	...
3	Sind, Punjab and Delhi	1,20,001	3,25,397	39,801	70,553
4	Madras	1,24,218	2,69,959	57,789	...
5	Bombay, Baroda and Central India	93,592	4,08,574	1,23,152	...
6	Eastern Bengal	33,746	1,10,655	16,202	...
7	Oudh and Rohilkhand	89,725	1,53,597	28,500	...
8	Indus Valley and Kandahar	81,720	1,35,837	3,1909	5,204
9	Punjab Northern	59,033	1,16,133	38,853	20,525
10	Dhond and Manmad ... ..	...	...	...	Worked by the Great
11	Patna-Gya ... ..	...	...	...	...
12	Nizam's	8,056	1,07,912	3,435	...
13	Calcutta and South-Eastern	1,626	19,888	2,696	70
14	Khamgaon ... ..	...	...	...	Worked by the Great
15	Amraoti ... ..	...	...	...	...
16	Wardha Coal	892	10,268	2,907	...
17	Sindia ... ..	...	...	...	...
18	Ghazipur-Dildarnagar ... ..	...	...	...	...
19	Bhopal	729	...	...	...
20	Bengal Central	6,030	16,247	166	...
	Total	11,88,998	67,74,557	8,08,773	96,352
	<i>Narrow Gauge.</i>				
21	South Indian	75,322	1,71,461	24,778	...
22	Rajputana-Malwa	1,17,233	3,18,354	46,879	91
23	Rewari-Ferozepore ... ..	...	...	...	Worked by the
24	Muttra-Achnera ... ..	...	...	...	...
25	Nagpur-Chhattisgarh	12,518	53,132	3,849	...
26	Rangoon and Irrawaddy Valley	23,105	73,443	25,792	78
27	Northern Bengal	22,662	75,287	6,100	98
28	Tirhoot	8,440	15,596	1,493	...
29	Cwn pore-Farukhabad	4,642	9,496	1,669	...
30	Bhavnagar-Gondal	10,019	37,343	4,723	...
31	Muttra-Hathras	1,818	2,116	839	...
32	Nalhati	621	7,860	209	...
33	Gackwar of Baroda's	3,940	14,949	2,539	...
34	Kaunia-Dhurla	1,359	3,649	401	149
35	Mysore	6,889	17,890	3,131	...
	Total	2,88,068	8,00,576	1,22,402	416
	GRAND TOTAL	14,77,066	75,75,133	9,31,175	96,768

(a) For difference in the total expenditure under
(b) Exclusive of the Patna-Gya, Sindia and

DIX A—contd.

RAILWAYS (Part I)—contd.

VI.

OF WAY, WORKS AND STATIONS.
of Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

Repairs of stations and buildings.	Other charges.	Total.	Deductions.	Net total.	Railways.	No.
Rs.	Rs.	Rs.	Rs.	Rs.	<i>Broad Gauge.</i>	
2,61,919	5,77,517	52,25,738	15,44,446	36,81,292	East Indian	1
1,65,589	2,98,340	22,10,710	57,537	21,53,173	Great Indian Peninsula	2
52,319	1,45,178	7,53,249	...	7,53,249	Sind, Punjab and Delhi	3
48,045	47,163	5,47,174	...	5,47,174	Madras	4
57,593	75,220	7,58,071	...	7,58,071	Bombay, Baroda and Central India	5
26,751	49,651	2,37,005	18,891	2,18,114	Eastern Bengal	6
25,208	46,852	3,43,882	...	3,43,882	Oudh and Rohilkhand	7
26,103	46,683	3,27,456	...	3,27,456	Indus Valley	8
27,245	18,265	2,80,054	...	2,80,054	Punjab Northern... ..	9
Indian Peninsula	Railway	...	...	...	Dhond and Manmad	10
...	...	...	...	(a) 35,682	Patna-Gya	11
2,452	3,039	1,24,894	...	1,24,894	Nizam's	12
545	2,177	27,002	...	27,002	Calcutta and South-Eastern	13
Indian Peninsula	Railway	...	...	...	} Khamgaon	14
...		Amraoti ... ..	16
705	-11,397	3,375	...	3,375	Wardha Coal	16
...	...	...	...	(a) 27,891	Sindia	17
...	...	...	...	(a) 4,348	Ghazipur-Dildarnagar	18
8	11,213	11,950	...	11,950	Bhopal	19
237	...	22,680	...	22,680	Bengal Central	20
6,94,659	13,09,901	(b) 1,08,73,240	16,20,874	93,20,287	Total.	
					<i>Narrow Gauge.</i>	
13,252	51,531	3,36,344	2,156	3,34,188	South Indian	21
75,644	82,489	6,40,690	5,971	6,34,719	Rajputana-Malwa	22
Rajputana-Malwa	Railway	...	...	...	Rewari-Ferozepore	23
...	...	...	...	5,971	Muttra-Achnera	24
2,435	9,411	81,345	...	81,345	Nagpur-Chhattisgarh	25
12,040	15,924	1,50,382	...	1,50,382	Rangoon and Irrawaddy Valley	26
21,577	11,878	1,37,402	...	1,37,402	Northern Bengal... ..	27
3,309	23,999	52,837	...	52,937	Tirhoot	28
1,068	7,190	24,065	7	24,058	Cawnpore-Farrukhabad	29
9,633	5,494	67,212	...	67,212	Bhavnagar-Gondal	30
637	1,777	6,687	10	6,677	Muttra-Hathras	31
432	4,938	14,060	...	14,060	Nalhati	32
1,242	546	23,216	...	23,216	Gackwar of Baroda's	33
564	204	6,326	...	6,326	Kannia-Dhurla	34
1,144	5,599	34,653	...	34,653	Mysore	35
1,42,977	2,20,780	15,75,219	8,144	15,73,046	Total.	
8,37,636	15,30,681	1,24,48,459	16,29,018	1,08,93,333	GRAND TOTAL.	

* Net total." vide note (a) at foot of Coaching Abstract.
Dildarnagar-Ghazipur State Railways figures.

APPEN
STATISTICS OF INDIAN
No.
DETAIL OF LOCO
[From Abstract B of

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	General superintendence.	Wages of drivers and firemen, fuelling, cleaning engines, &c.	Fuel.	Water.	Oil, tallow, and other stores.
		Rs.	Rs.	Rs.	Rs.	Rs.
<i>Broad Gauge.</i>						
1	East Indian	2,69,614	6,13,648	2,90,318	41,135	85,329
2	Great Indian Peninsula	1,75,706	8,55,900	12,91,514	79,079	1,09,903
3	Sind, Punjab and Delhi	73,860	1,85,080	5,62,345	17,198	34,794
4	Madras	48,282	1,40,066	2,20,099	9,106	11,762
5	Bombay, Baroda and Central India	48,024	1,75,191	3,69,339	17,386	18,593
6	Eastern Bengal	36,354	74,813	80,467	6,160	10,235
7	Oudh and Rohilkhand	54,819	69,673	2,08,028	6,204	15,877
8	Indus Valley and Kandahar	62,719	1,66,373	3,47,557	17,971	25,427
9	Punjab Northern	35,956	84,400	2,34,560	13,497	14,194
10	Dhond and Manmad ... ..	...	...	...	Included	with the Great
11	Patna-Gya ... ..	...	...	...	...	...
12	Nizam's	3,692	18,776	14,948	2,765	2,067
13	Calcutta and South-Eastern	2,093	2,349	13,050	857	912
14	Khamgaon ... ..	...	...	...	Included	with the Great
15	Amraoti ... ..	...	...	...	Included	with the Great
16	Wardha Coal	1,151	3,715	9,968	688	1,149
17	Sindia ... ..	...	...	...	...	...
18	Ghazipur-Dildarnagar ... ..	...	...	...	...	...
19	Bhopal ... ..	...	...	...	Included	with the Great
20	Bengal Central ... ..	...	...	...	Included	with the Eastern
	Total	8,12,270	23,89,984	36,42,193	2,12,046	3,30,242
<i>Narrow Gauge.</i>						
21	South Indian	34,626	81,763	1,44,295	7,454	10,075
22	Rajputana-Malwa	97,454	3,21,187	7,42,554	30,001	35,841
23	Rewari-Ferozepore ... ..	...	...	...	...	...
24	Muttra-Achnera ... ..	...	...	...	...	...
25	Nagpur-Chhattisgarh	11,445	30,667	56,713	3,470	10,473
26	Rangoon-Irrawaddy Valley	18,449	48,641	52,747	4,862	5,790
27	Northern Bengal	16,594	39,618	63,733	3,660	6,651
28	Tirhoot	8,580	26,554	33,004	2,387	5,275
29	Cawnpore-Farukhabad	6,818	2,904	14,400	719	789
30	Bhavnagar-Gondal	9,492	27,954	31,223	2,862	3,647
31	Muttra and Hathras	2,823	892	5,882	935	401
32	Nalhati	985	735	1,731	254	258
33	Gaekwar of Baroda's	456	2,940	8,875	1,017	446
34	Kaunia-Dhurla	1,134	745	2,392	364	249
35	Mysore	3,664	9,130	12,244	1,282	1,151
	Total	2,12,520	5,93,730	11,69,793	58,667	81,046
	GRAND TOTAL	10,24,790	29,83,714	48,11,986	2,70,713	4,11,288

(a) For difference in the total expenditure
(b) Exclusive of the Patna-Gya, Sindia, and
(c) Exclusive of the Rewari-Ferozepore and

DIX A—contd.
RAILWAYS (Part I)—contd.

VII.

MOTIVE EXPENSES.

Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

Maintenance and renewal of locomotive engines and machinery.	Other charges.	Total.	Deductions.	Net total.	Railways.	No.
Rs.	Rs.	Rs.	Rs.	Rs.	<i>Broad Gauge.</i>	
4,97,854	4,65,079	22,62,977	1,81,999	20,80,978	East Indian	1
6,02,836	4,20,185	35,35,123	...	35,35,123	Great Indian Peninsula	2
2,64,207	2,55,006	13,92,490	...	13,92,490	Sind, Punjab and Delhi	3
1,81,668	34,074	6,45,057	...	6,45,057	Madras	4
1,46,169	1,10,380	8,85,082	...	8,85,082	Bombay, Baroda and Central India	5
96,155	22,714	3,26,898	81,301	2,45,597	Eastern Bengal	6
1,05,680	49,634	5,09,915	...	5,09,915	Oudh and Rohilkhand	7
1,56,063	36,850	8,14,960	...	8,14,960	Indus Valley and Kandahar... ..	8
42,607	63,864	4,89,078	...	4,89,078	Punjab Northern	9
Indian Peninsula	Railway	...	...	...	Dhond and Manmad	10
...	...	...	...	(a) 20,158	Patna-Gya	11
12,601	4,590	59,439	...	59,439	Nizam's	12
2,935	155	22,351	21,227	1,124	Calcutta and South-Eastern	13
Indian Peninsula	Railway	...	...	...	Khamgaon	14
13,370	53	30,094	...	30,094	Amraoti	15
...	...	...	...	(a) 13,881	Wardha Coal	16
...	...	...	...	(a) 2,456	Sindia	17
Indian Peninsula	Railway	...	...	...	Ghazipur-Dildarnagar	18
Bengal Railway.	...	...	...	...	Bhopal	19
21,22,145	14,64,584	(b) 1,09,73,464	2,84,527	1,07,25,432	Bengal Central	20
					Total	
					<i>Narrow Gauge.</i>	
1,07,765	43,190	4,29,168	5,977	4,23,191	South Indian	21
2,54,977	1,19,961	16,01,975	56,835	15,45,140	Rajputana-Malwa	22
...	...	...	...	(a) 45,508	Bewari-Ferozepore	23
...	...	...	...	(a) 11,327	Muttra-Achnera	24
22,267	14,938	1,49,973	...	1,49,973	Nagpur-Chhattisgarh	25
22,307	1,872	1,54,668	...	1,54,668	Rangoon and Irrawaddy Valley	26
25,100	22,726	1,78,082	...	1,78,082	Northern Bengal	27
12,547	836	89,183	...	89,183	Tirhoot	28
8,254	1,533	35,417	291	35,126	Cawnpore-Farukhabad	29
8,061	1,934	85,173	...	85,173	Bhavnagar-Gondal	30
2,825	208	13,366	772	12,594	Muttra-Hathras	31
1,448	99	5,510	...	5,510	Nalhati	32
4,640	400	18,774	...	18,774	Gaekwar of Baroda's	33
1,823	116	6,823	...	6,823	Kaunia-Dhurla	34
4,306	366	32,143	...	32,143	Mysore	35
4,76,320	2,08,179	(c) 28,00,255	63,875	27,93,215	Total	
25,98,465	16,72,763	1,37,73,719	3,48,402	1,35,18,647	GRAND TOTAL.	

under "Net Total," vide note (a) at foot of the Coaching Abstract.
Ghazipur-Dildarnagar State Railways figures.
Muttra-Achnera Railways figures.

APPEN
STATISTICS OF INDIANNo.
DETAIL OF CARRIAGE AND
[From Abstract C of

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	General superintendence.	REPAIRS AND RENEWALS OF VEHICLES AND MACHINERY.		Cleaning and oiling.
			Coaching.	Goods.	
	<i>Broad Gauge.</i>	Rs.	Rs.	Rs.	Rs.
1	East Indian	71,892	2,57,816	4,07,649	34,354
2	Great Indian Peninsula	57,896	5,05,495	6,02,557	1,08,199
3	Sind, Punjab and Delhi	20,345	1,05,525	1,55,013	37,351
4	Madras	22,335	1,06,291	1,49,568	25,729
5	Bombay, Baroda and Central India	18,698	79,639	2,18,818	15,724
6	Eastern Bengal	9,987	41,663	2,41,149	10,473
7	Oudh and Rohilkhand	10,064	60,005	76,963	17,755
8	Indus Valley and Kandahar	13,775	35,477	59,239	25,795
9	Punjab Northern	5,746	14,493	41,147	13,655
10	Dhond and Manmad ... ..	...	...	...	Worked by the Great
11	Patna-Gya ... ..	...	...	...	Worked by the East
12	Nizam's... ..	3,727	12,907	22,145	2,752
13	Calcutta and South-Eastern	1,383	2,975	1,076	1,095
14	Khamgaon ... ..	...	...	...	Worked by the Great
15	Amraoti ... ..	...	...	...	Worked by the Great
16	Wardha Coal	960	255	8,747	2,191
17	Sindia ... ..	...	...	...	Worked by the East
18	Ghaziपुर-Dildarnagar ... ..	...	...	...	Worked by the East
19	Bhopal ... ..	...	...	...	Worked by the Great
20	Bengal Central ... ..	...	...	...	...
	Total	2,36,789	12,22,541	19,84,071	2,95,073
	<i>Narrow Gauge.</i>				
21	South Indian	10,334	34,258	79,080	11,358
22	Rajputana-Malwa	27,751	78,781	91,345	36,725
23	Bewari-Ferozepore ... ..	...	...	...	Worked by the Rajput
24	Muttra-Achnera ... ..	...	...	...	Worked by the Rajput
25	Nagpur-Chhattisgarh	4,576	3,608	19,194	3,051
26	Rangoon and Irrawaddy Valley... ..	6,150	17,921	2,482	4,582
27	Northern Bengal	7,184	6,557	7,947	4,253
28	Tirhoot	3,015	2,606	6,950	3,485
29	Cawnpore and Farukhabad	1,031	1,941	1,489	716
30	Bhavnagar-Gondal	3,162	5,200	6,450	5,316
31	Muttra-Hathras	467	1,531	622	139
32	Nalhati	493	406	247	189
33	Gaekwar of Baroda's	162	213	2,177	340
34	Kaunia-Dhurla	634	571	278	306
35	Mysore	3,570	1,431	1,363	1,845
	Total	68,519	1,55,024	2,19,624	72,305
	GRAND TOTAL	3,05,307	13,77,565	22,03,695	3,67,373

(a) Vide note (a) at foot of the
(b) Exclusive of the Patna-Gya, Sindia
(c) Exclusive of the Bewari-Feroza

DIX A—contd.

RAILWAYS (Part I)—contd.

VIII.

WAGON EXPENSES.

Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

Other charges.	Total.	Deductions.	Net total.	Railways.	No.
Rs.	Rs.	Rs.	Rs.	<i>Broad Gauge.</i>	
42,425	8,14,136	18,463	7,95,673	East Indian	1
99,030	13,73,177	311	13,72,866	Great Indian Peninsula	3
38,164	3,56,398	...	3,56,398	Sind, Punjab and Delhi	3
16,427	3,20,350	1,017	3,19,333	Madras	4
14,824	3,47,703	...	3,47,703	Bombay, Baroda and Central India	5
79,453	3,82,705	99,884	2,82,821	Eastern Bengal	6
5,692	1,70,479	...	1,70,479	Oudh and Rohilkhand	7
2,485	1,36,771	...	1,36,771	Indus Valley and Kandahar	8
144	75,185	...	75,185	Punjab Northern	9
Indian Peninsula Railway	...	...	...	Dhond and Mauzad	10
Indian Railway	...	...	(a) 7,699	Patna-Gya	11
27	41,558	...	41,558	Nizam's	12
...	6,529	4,800	1,929	Calcutta and South-Eastern	13
Indian Peninsula Railway	...	...	...	Khamgaon	14
2	12,155	...	12,155	Amraoti	15
Indian Railway	...	...	(a) 5,302	Wardha Coal	16
Indian Peninsula Railway	...	...	(a) 938	Sindia	17
...	...	...	...	Ghazipur-Dildarnagar	18
...	...	...	(a) 35,988	Bhopal	19
...	...	...	...	Bengal Central	20
2,98,673	(b) 40,37,146	1,24,275	39,62,798	Total.	
6,553	1,41,583	1,763	1,39,800	<i>Narrow Gauge.</i>	
27,743	2,62,345	7,817	2,54,528	South Indian	21
ana-Malwa Railway	...	...	(a) 5,976	Rajputana-Malwa	22
6,790	37,219	...	(a) 1,841	Rewari-Ferozepore	23
11,033	42,168	...	37,219	Muttra-Achnera	24
1,593	27,534	...	42,168	Nagpur-Chhattisgarh	25
...	16,056	...	27,534	Rangoon and Irrawaddy Valley... ..	26
39	5,216	...	16,056	Northern Bengal	27
10	20,138	...	5,216	Tirhoot	28
...	2,759	275	20,138	Cawnpore-Farrukhabad	29
...	1,335	...	2,484	Bhavnagar-Gondal	30
...	2,882	...	1,335	Muttra-Hathras	31
1	1,790	...	2,882	Nalhati	32
...	8,209	...	2,882	Gaekwar of Baroda's	33
...	...	...	1,790	Kaunia-Dhuria	34
...	...	...	8,209	Mysore	35
53,762	(c) 5,69,234	9,875	5,67,176	Total.	
3,52,435	46,06,380	1,34,150	45,29,974	GRAND TOTAL.	

Cooching Abstract.
and Ghazipur-Dildarnagar State Railways figures.
pore and Muttra-Achnera Railways figures.

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	General superintendence.	Station staff.	Train staff.	Fuel, lighting and general stores.	Clothing.	Printing, stationery and tickets.	Charges for delivery and collection of goods.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
<i>Broad Gauge.</i>								
1	East Indian ...	1,93,506	8,21,053	2,89,401	90,791	15,568	72,420	...
2	Great Indian Peninsula ...	1,24,416	5,26,847	3,79,333	1,54,022	10,929	50,468	2,071
3	Sind, Punjab and Delhi ...	68,806	2,15,943	86,797	69,164	4,341	39,512	1,732
4	Madras ...	59,356	1,63,174	33,681	56,940	5,056	26,089	524
5	Bombay, Baroda and Central India.	44,150	2,02,782	34,396	55,274	6,575	24,280	1,413
6	Eastern Bengal ...	32,887	2,00,753	34,242	20,068	3,209	8,758	...
7	Oudh and Rohilkhand ...	34,844	1,54,376	33,005	19,313	3,834	14,410	769
8	Indus Valley and Kandahar ...	43,909	1,06,273	47,490	23,610	2,429	5,662	—18
9	Punjab Northern ...	37,998	81,269	37,775	27,320	349	7,831	...
10	Dhond and Manmad ...	...	...	...	...	...	Worked by	the Great
11	Patna-Gya ...	...	...	...	...	...	Worked by	the East
12	Nizam's ...	8,263	18,274	6,657	3,710	308	1,685	...
13	Calcutta and South-Eastern ...	1,593	7,911	1,195	2,905	222	626	...
14	Khamgaon ...	...	...	...	...	...	Worked by	the Great
15	Amraoti ...	...	...	...	...	...	Worked by	the Great
16	Wardha Coal ...	...	4,991	1,842	1,789	863	273	...
17	Sindia ...	...	...	...	...	...	Worked by	the East
18	Ghaziपुर-Dildarnagar ...	...	...	...	...	...	Worked by	the East
19	Bhopal ...	...	...	...	...	...	Worked by	the Great
20	Bengal Central ...	...	...	...	...	...	Worked by	the East
	Total ...	6,49,728	25,03,646	9,85,814	5,24,806	53,683	2,52,014	6,491
<i>Narrow Gauge.</i>								
21	South Indian ...	26,526	96,718	18,440	12,953	347	7,818	30
22	Rajputana-Malwa ...	76,590	2,47,812	78,707	62,733	8,342	19,545	...
23	Rewari-Ferozepore ...	...	...	...	...	...	Worked by	the Raj
24	Muttra-Achnera ...	...	...	...	...	...	Worked by	the Raj
25	Nagpur-Chhattisgarh ...	8,512	21,706	6,722	6,055	1,121	1,135	...
26	Rangoon and Irrawaddy Valley ...	16,504	76,820	13,634	11,075	1,432	8,330	...
27	Northern Bengal ...	11,795	46,768	8,843	10,565	691	2,284	...
28	Tirhoot ...	12,197	22,776	4,276	2,916	723	2,292	...
29	Cawnpore-Farukhabad ...	7,797	10,458	743	2,190	369	1,602	...
30	Bhavnagar-Gondal ...	9,995	22,413	6,101	5,389	148	9,548	...
31	Muttra-Hathras ...	3,108	4,406	263	293	88	671	...
32	Nalhati ...	643	1,492	984	331	61	18	...
33	Gaekwar of Baroda's ...	608	4,842	547	350	174	508	...
34	Kaunia-Dhurla ...	766	2,712	311	85	33	177	...
35	Mysore ...	4,692	4,993	2,078	698	44	583	...
	Total ...	1,79,823	5,63,916	1,41,049	1,05,633	13,573	54,511	30
	GRAND TOTAL ...	8,29,551	30,67,562	11,26,863	6,30,439	67,256	3,06,525	6,521

(a) Vide note (a) at foot of the
(b) Exclusive of the Patna-Gya, Sindia,
(c) Exclusive of the Rewari-Ferozepore.

DIX A—contd.

RAILWAYS (Part D)—contd.

IX.

TRAFFIC EXPENSES.

Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

Miscellaneous expenses.	Payments to other lines for expenses at joint stations.	Other charges.	Total.	Deductions.	Net total.	Railways.	No.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Broad Gauge.	
21,346	...	2,210	15,06,295	27,033	14,79,269	East Indian ...	1
6,489	24,279	15,593	12,94,447	...	12,94,447	Great Indian Peninsula ...	2
717	11,275	12,664	5,10,951	...	5,10,951	Sind, Punjab and Delhi ...	3
2,136	...	3,679	3,50,635	210	3,50,425	Madras ...	4
990	...	3,714	3,73,574	...	3,73,574	Bombay, Baroda and Central India ...	5
150	...	30	3,00,097	...	3,00,097	Eastern Bengal ...	6
310	10,601	1,946	2,73,408	...	2,73,408	Oudh and Rohilkhand ...	7
1,371	7,519	1,725	2,39,970	...	2,39,970	Indus Valley and Kandahar ...	8
1,284	2,696	48,500	2,54,922	...	2,54,922	Punjab Northern ...	9
Indian Peninsula Railway	...	...	...	...	...	Dhond and Manmad ...	10
Indian Railway	...	...	...	...	(a) 14,328	Patna-Gya ...	11
738	3,705	39	43,379	...	43,379	Nizam's ...	12
252	...	...	14,704	...	14,704	Calcutta and South-Eastern ...	13
Indian Peninsula Railway	...	...	...	...	...	Khamgaon ...	14
466	2,825	15	13,064	...	13,064	Amroti ...	15
Indian Railway	...	...	...	...	(a) 10,298	Wardha Coal ...	16
Indian Peninsula Railway	...	...	...	...	(a) 1,746	Sindia ...	17
ern Bengal Railway	...	...	...	...	...	Ghazipur-Dildarnagar ...	18
...	...	...	...	...	...	Bhopal ...	19
...	...	...	...	...	...	Bengal Central ...	20
36,249	72,900	90,115	(b) 51,75,446	27,243	51,74,575	Total	...
<i>Narrow Gauge.</i>							
1,088	...	5,701	1,69,571	28	1,69,543	South Indian ...	21
2,500	9,852	3,727	4,99,808	14,426	4,85,382	Rajputana-Malwa ...	22
putana-Malwa Railway	...	...	...	...	(a) 10,864	Rewari-Ferozepore ...	23
290	10,742	111	56,394	...	(a) 3,562	Muttra-Achnera ...	24
5,092	...	356	1,33,243	...	56,394	Nagpur-Chhattiagarh ...	25
771	...	483	82,200	...	1,33,243	Rangoon and Irrawaddy Valley ...	26
169	...	22	45,371	...	82,200	Northern Bengal ...	27
90	...	33	23,282	190	45,371	Tirhoot ...	28
1,139	2,631	3,010	60,374	...	23,092	Cawnpore-Farukhabad ...	29
40	81	2	9,042	...	60,374	Bhavnagar-Gondal ...	30
20	833	2	3,784	...	9,042	Muttra-Hathras ...	31
...	2,057	...	9,086	...	3,784	Nalhati ...	32
49	...	...	4,133	...	9,086	Gaekwar of Baroda's ...	33
116	2,636	19	15,859	...	4,133	Kannia-Dhuria ...	34
11,314	28,632	13,466	(c) 11,12,147	14,644	11,11,929	Total.	
47,563	1,01,732	1,03,581	62,87,593	41,887	62,86,504	GRAND TOTAL.	

Coaching Abstract.
and Ghazipur-Dildarnagar State Railways figures.
and Muttra-Achnera Railways figures.

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	Home expenditure or general administration.	Agent's Office.	Audit, Accounts and Pay Office.	Stores Department.	Medical Department.	Rents and miscellaneous.	Police.
	<i>Broad Gauge.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1	East Indian ...	(a) 20,693	71,675	1,97,393	96,013	54,680	76,994	72,758
2	Great Indian Peninsula ...	52,814	38,231	1,30,939	44,654	29,541	35,224	64,785
3	Sind, Punjab and Delhi ...	44,147	28,168	88,288	33,036	12,641	25,571	27,503
4	Madras ...	33,906	21,836	66,094	10,453	16,418	7,820	18,740
5	Bombay, Baroda and Central India	35,037	21,713	59,884	36,079	10,703	15,081	27,989
6	Eastern Bengal ...	24,836	28,590	31,118	1,725	8,827	21,792	15,385
7	Oudh and Rohilkhand ...	38,989	19,787	47,436	5,367	12,040	8,004	13,972
8	Indus Valley and Kandahar ...	1,571	18,067	53,225	15,534	9,765	17,580	...
9	Punjab Northern ...	...	18,846	42,130	8,078	4,892	7,048	49
10	Dhond and Manmad ...	...	...	...	...	...	Worked	by the Great
11	Patna-Gya ...	...	...	...	...	...	Worked	by the East
12	Nizam's ...	907	4,692	10,395	2,900	1,536	3,045	...
13	Calcutta and South-Eastern ...	317	4,392	2,762	315	735	483	...
14	Khamgaon ...	...	...	...	...	...	...	...
15	Amraoti ...	...	...	...	...	...	Worked	by the Great
16	Wardha Coal ...	...	10,400	3,945	1,125	1,308	3,419	...
17	Sindia ...	...	...	...	...	...	...	...
18	Ghazipur-Dildarnagar ...	...	...	...	...	...	Worked	by the East
19	Bhopal ...	...	300	650	...	...	27	...
20	Bengal Central ...	...	...	...	156	270	2	...
	Total ...	3,53,217	2,86,597	7,34,259	2,55,375	1,63,356	2,22,090	2,41,181
	<i>Narrow Gauge.</i>							
21	South Indian ...	30,332	19,555	43,466	10,482	5,831	9,444	...
22	Rajputana-Malwa ...	7,885	33,148	1,02,141	30,221	15,496	31,544	...
23	Rewari-Ferozepore ...	...	...	...	...	...	...	...
24	Muttra-Achnera ...	...	...	...	...	...	Worked by the Rajputana-	...
25	Nagpur-Chhattisgarh ...	...	9,088	11,202	2,718	103	4,941	...
26	Rangoon and Irrawaddy Valley ...	...	13,966	18,659	5,718	1,408	5,668	...
27	Northern Bengal ...	-10,065	16,076	27,829	1,422	6,736	2,257	...
28	Tirhoot ...	-2,356	13,403	16,830	1,881	1,480	4,383	...
29	Cawnpore-Farukhabad ...	484	5,314	8,200	1,081	324	3,306	842
30	Bhavnagar-Gondal ...	...	9,351	16,133	2,605	3,628	4,917	9,880
31	Muttra-Hathras ...	-2,096	1,878	2,911	270	...	1,101	288
32	Nalhati ...	-503	1,612	2,100	302	120	443	...
33	Gaskwar of Baroda's ...	...	608	1,608	152	300	70	1,479
34	Kaunia-Dharla ...	16	1,516	1,925	...	184	198	...
35	Mysore ...	...	3,564	6,023	2,038	905	357	...
	Total ...	23,697	1,29,079	2,58,327	58,890	36,515	69,129	12,489
	GRAND TOTAL ...	3,76,914	4,15,676	9,93,086	3,14,265	1,99,871	2,91,219	2,53,670

(a) Inclusive of Rs. 50,000 for
(b) Vide note (a) at foot
(c) Exclusive of the Patna
(d) Exclusive of the Rewari

DIX A—contd.

RAILWAYS (Part I)—contd.

X.

GENERAL CHARGES.

Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

Advertising.	Electric telegraph.	Other charges.	Total.	Deductions.	Net total.	Railways.	No.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Broad Gauge.	
2,293	2,07,788	9,402	9,09,589	23,482	8,86,107	East Indian ...	1
2,448	1,51,379	13,519	5,63,534	...	5,63,534	Great Indian Peninsula ...	2
4,775	64,625	11,121	3,39,375	1,016	3,38,359	Sind, Punjab and Delhi ...	3
2,570	43,635	8,924	2,30,396	3,048	2,27,348	Madras ...	4
516	44,101	6,116	2,57,219	...	2,57,219	Bombay, Baroda and Central India ...	5
2,976	26,644	3,699	1,65,582	...	1,65,582	Eastern Bengal ...	6
198	44,527	11,136	2,01,396	...	2,01,396	Oudh and Rohilkhand ...	7
984	37,369	3,597	1,57,662	...	1,57,662	Indus Valley and Kandahar ...	8
187	39,848	3,994	1,25,072	...	1,25,072	Punjab Northern ...	9
Indian Peninsula Railway	...	...	...	...	...	Dhond and Manmad ...	10
Indian Railway	...	...	...	...	(b) 8,597	Patna-Gya ...	11
31	6,485	18	30,009	...	30,009	Nizam's ...	12
120	2,541	144	11,809	...	11,809	Calcutta and South-Eastern ...	13
Indian Peninsula Railway	...	...	...	...	...	Khamgaon ...	14
...	2,158	244	22,599	...	22,599	Amraoti ...	15
Indian Railway	...	...	...	...	(b) 5,920	Wardha Coal ...	16
...	783	...	1,760	...	(b) 1,048	Sindia ...	17
...	18	...	446	...	...	Ghazipur-Dildarnagar ...	18
...	...	...	...	...	1,760	Bhopal ...	19
...	...	...	...	...	446	Bengal Central ...	20
17,098	6,71,901	71,874	(c) 30,16,948	27,546	30,04,967	Total.	
...	...	...	...	...	...	Narrow Gauge.	
1,376	35,319	8,499	1,54,604	...	1,54,604	South Indian ...	21
1,927	1,09,441	7,342	3,39,145	10,054	3,29,091	Rajputana-Malwa ...	22
Malwa Railway	...	...	...	...	(b) 7,570	Bewari-Ferozepore ...	23
...	...	...	...	...	(b) 2,483	Muttra-Achnera ...	24
186	11,586	729	40,553	...	40,553	Nagpur-Chhattisgarh ...	25
1,195	15,718	—4,623	57,709	...	57,709	Rangoon and Irrawaddy Valley ...	26
851	21,253	1,378	67,537	...	67,537	Northern Bengal ...	27
576	11,931	585	48,713	...	48,713	Tirhoot ...	28
38	6,458	2,483	28,530	118	28,412	Cawnpore-Farukhabad ...	29
137	24,034	1,014	71,699	...	71,699	Dhavnagar-Gondal ...	30
...	2,410	335	7,097	...	7,097	Muttra-Hathras ...	31
...	808	150	5,032	...	5,032	Nalhati ...	32
...	207	...	4,424	...	4,424	Gaekwar of Baroda's ...	33
...	561	3	4,403	...	4,403	Kannia-Dhuria ...	34
...	8,832	1	22,220	...	22,220	Mysore ...	35
6,586	2,48,553	17,896	(d) 8,61,666	10,172	8,61,547	Total.	
23,684	9,20,459	89,770	33,78,614	37,718	33,66,514	GRAND TOTAL.	

Government control of the Coaching Abstract. Gya, Sindia, and Ghazipur-Dildarnagar Railways figures. Ferozepore and Muttra-Achnera Railways figures.

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	Law charges.	Compensation.	Rates and taxes.	Payments to other lines.
		Rs.	Rs.	Rs.	Rs.
<i>Broad Gauge.</i>					
1	East Indian	5,479	3,057	24,774	2,55,873
2	Great Indian Peninsula	1,085	7,396	15,685	2,36,798
3	Sind, Punjab and Delhi	2,249	128	4,377	2,10,264
4	Madras	5,004	3,207	6,811	10,956
5	Bombay, Baroda and Central India	2,257	2,311	7,469	46,343
6	Eastern Bengal	573	5,742	4,507	2,026
7	Oudh and Rohilkhand	2,940	169	760	16,968
8	Indus Valley and Kandahar	60	16,195	...	2,46,451
9	Punjab Northern	4,140	16,921	...	34,292
10	Dhond and Manmad... ..	...	...	...	Worked by the Great
11	Patna-Gya ... ..	...	...	...	Worked by the East
12	Nizam's ... ..	...	285	...	10,008
13	Calcutta and South-Eastern	11	252	664	...
14	Khamgaon ... ..	...	...	...	Worked by the Great
15	Amraoti ... ..	...	...	...	...
16	Wardha Coal ... ..	...	22	...	5,720
17	Sindia ... ..	...	...	...	Worked by the East
18	Ghazipur-Dildarnagar ... ..	...	...	...	Worked by the Great
19	Bhopal ... ..	...	...	...	Worked by the East
20	Bengal Central ... ..	...	...	...	Worked by the East
	Total	23,798	56,185	65,047	10,85,699
<i>Narrow Gauge.</i>					
21	South Indian	314	1,662	2,787	482
22	Rajputana-Malwa	407	2,192	...	12,903
23	Rewari-Ferozepore ... ..	...	...	...	Worked by the Rajputana
24	Muttra-Achnera ... ..	...	...	...	...
25	Nagpur-Chhattisgarh ... ..	...	402	...	2,835
26	Rangoon and Irrawaddy Valley	20	53	3,493	...
27	Northern Bengal	55	2,951	77	...
28	Tirhoot ... ..	...	6	631	...
29	Cawnpore-Farukhabad ... ..	...	91	6	...
30	Bhavnagar-Gondal ... ..	...	293	...	894
31	Muttra-Hathras ... ..	...	...	2	288
32	Nalhati	7	...	51	...
33	Gaekwar of Baroda's... ..	...	...	...	...
34	Kaunia-Dhuria ... ..	...	...	...	...
35	Mysore	184	300	24	600
	Total	987	7,950	7,071	17,902
	GRAND TOTAL	24,785	64,135	72,118	11,03,601

(a) Vide note (a) at foot of the Coaching
(b) Exclusive of the Patna-Gya, Sindia
(c) Exclusive of the Rewari-Ferozepore

DIX A—contd.
RAILWAYS (Part D)—contd.

XI.

NEOUS EXPENDITURE.
Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

Other charges.	Total.	Deductions.	Net total.	Railways.	No.
Rs.	Rs.	Rs.	Rs.	Broad Gauge.	
30,178	3,29,361	5,684	3,23,677	East Indian	1
32,264	2,93,728	4,629	2,89,099	Great Indian Peninsula	2
2,201	2,19,219	...	2,19,219	Sind, Punjab and Delhi	3
1,683	27,661	1,281	26,380	Madras	4
21,022	79,402	...	79,402	Bombay, Barods and Central India	5
1,341	14,189	...	14,189	Eastern Bengal	6
38,494	59,331	...	59,331	Oudh and Rohilkhand	7
25,496	2,88,202	...	2,88,202	Indus Valley and Kandahar	8
13,893	69,246	...	69,246	Punjab Northern	9
Indian Peninsula Railway	...	...	...	Dhond and Manmad	10
Indian Railway	...	...	(a) 3,140	Patna-Gya	11
1,533	11,826	...	11,826	Nizam's	12
182	1,109	...	1,109	Calcutta and South-Eastern	13
Indian Peninsula Railway	...	...	...	Khamgaon	14
1,335	7,077	...	7,077	Amraoti	15
Indian Railway	...	...	(a) 27,041	Wardha Coal	16
Indian Peninsula Railway	...	...	(a) 4,442	Sindia	17
ern Bengal Railway	...	...	...	Ghaziipur-Dildarnagar	18
1,69,622	(b) 14,00,351	11,594	14,23,380	Bhopal	19
728	5,973	1,627	4,346	Bengal Central	20
21,583	36,985	536	36,399	Total.	
Malwa Railway	...	...	(a) 237	<i>Narrow Gauge.</i>	
4,520	7,757	...	(a) 3,188	South Indian	21
3,378	6,944	...	7,757	Rajputana-Malwa	22
5,086	8,169	...	6,944	Rewari-Ferozopore	23
1,166	1,803	...	8,169	Muttra-Achnera	24
384	481	...	7,757	Nagpur-Chhattisgarh	25
2,398	3,585	...	6,944	Rangoon and Irrawaddy Valley	26
2,152	2,442	...	8,169	Northern Bengal	27
97	155	...	1,803	Tirhoot	28
...	...	...	481	Cawnpore-Farukhabad	29
60	60	...	3,585	Bhavnagar-Gondal	30
324	1,432	...	2,442	Muttra-Hathras	31
41,876	(c) 75,786	2,213	155	Nalhati	32
2,11,498	14,76,137	13,807	60	Gaskwar of Baroda's	33
...	...	...	1,432	Kannia-Dhuria	34
...	...	...	76,998	Mysore	35
...	...	...	15,00,378	GRAND TOTAL.	

Abstract,
and Ghaziipur-Dildarnagar Railways figures.
and Muttra-Achnera Railways figures.

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	LOCOMOTIVES.			Coaching.	
		Total stock on the list.	Average number spare or hired out.	Average number constantly under repair.	Total stock on the list.	Average number constantly under repair.
<i>Broad Gauge.</i>						
1	East Indian	551	...	100.00	1,087	128.17
2	Great Indian Peninsula	440	...	103.00	938	114.00
3	Sind, Punjab and Delhi	159	...	34.21	515	44.69
4	Madras	157	...	63.00	459	34.00
5	Bombay, Baroda and Central India	102	...	19.00	(e) 356	37.00
6	Eastern Bengal	48	...	19.11	177	29.21
7	Oudh and Rohilkhand	125	...	24.01	281	46.78
8	Indus Valley and Kandahar	160	...	19.40	314	32.06
9	Punjab Northern	78	...	8.11	271	13.36
10	Dhond and Manmad	...	...	...	...	Worked by the
11	Patna-Gya	...	...	...	...	Worked by the
12	Nizam's	9	...	1.99	(a) 54	6.22
13	Calcutta and South-Eastern	12	...	1.07	95	5.91
14	Khamgaon	...	...	...	...	Worked by the
15	Amraoti	...	...	...	...	Worked by the
16	Wardha Coal	7	...	0.17	9	...
17	Sindia	...	...	...	...	Worked by the
18	Ghazipur-Dildarnagar	...	...	...	...	Worked by the
19	Bhopal	...	...	...	...	Worked by the
20	Bengal Central	2	...	...	25	...
	Total	1,850	...	393.07	4,581	491.40
<i>Narrow Gauge.</i>						
21	South Indian	122	...	22.71	442	25.16
22	Rajputana-Malwa	301	...	74.46	827	62.36
23	Rewari-Ferozepore	...	...	...	...	Worked by the
24	Muttra-Achnera	...	...	...	...	Worked by the
25	Nagpur-Chhattisgarh	16	...	2.49	(d) 58	3.35
26	Rangoon and Irrawaddy Valley	36	...	5.91	169	21.80
27	Northern Bengal	36	...	9.62	122	9.03
28	Tirhoot	24	...	10.32	63	6.51
29	Cawnpore-Farukhabad	11	...	2.00	88	13.62
30	Bhavnagar-Gondal	20	...	1.74	111	3.15
31	Muttra-Hathras	5	...	1.28	29	3.04
32	Nalhati	4	...	1.20	10	1.10
33	Gackwar of Baroda's	6	...	1.00	27	...
34	Kaunia-Dhurla	4	...	1.27	10	0.92
35	Mysore	15	...	1.71	80	0.83
	Total	600	...	135.71	2,036	150.87
	GRAND TOTAL	2,450	...	528.78	6,617	642.27

X. B.—Total stock on the list will be obtained from column 5 of Statement XII in the
 (a) Includes 3 carriages partly allotted
 (b) Includes ballast brake-vans.
 (c) Includes passengers' luggage vans.
 (d) Includes 2 carriages partly allotted
 (e) Of these, 20 carriages are partly

DIX A—contd.

RAILWAYS (Part D)—contd.

XII.

ROLLING-STOCK.

Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

VEHICLES.				TOTAL.		Railways.	No.
Goods.		Brake-cars.		Vehicle stock on the list.	Average number of vehicles constantly under repair.		
Total stock on the list.	Average number constantly under repair.	Total stock on the list.	Average number constantly under repair.				
8,551	617-22	340	20-37	9,978	765-76	East Indian	1
7,818	644-00	478	57-00	9,234	815-00	Great Indian Peninsula	2
3,393	166-86	109	5-77	4,017	217-32	Sind, Punjab and Delhi	3
2,847	239-00	(c) 138	19-00	3,444	292-00	Madrass	4
2,958	256-00	63	7-00	3,377	300-00	Bombay, Baroda and Central India	5
953	81-78	31	5-44	1,161	116-43	Eastern Bengal	6
3,094	224-63	70	13-82	3,445	285-23	Oudh and Rohilkhand	7
2,679	99-15	(b) 125	8-24	3,118	139-45	Indus Valley and Kandahar	8
1,475	137-81	128	14-11	1,874	165-28	Punjab Northern	9
Great Indian Peninsula Railway			...	...	...	Dhond and Manmad	10
East Indian Railway		...	...	...	...	Patna-Gya	11
112	3-28	16	1-65	182	11-15	Nizam's	12
261	5-70	10	0-50	366	12-11	Calcutta and South-Eastern	13
Great Indian Peninsula Railway			...	...	...	Khamgaon	14
221	0-67	6	...	236	0-67	Amraoti	15
East Indian Railway		...	...	...	...	Wardha Coal	16
Great Indian Peninsula Railway			...	...	...	Sindia	17
82	...	1	...	108	...	Ghazipur-Dildarnagar	18
34,444	2,476-10	1,515	152-90	40,540	3,120-40	Bhopal	19
1,584	57-55	96	5-74	2,122	88-45	Bengal Central	20
5,199	187-09	232	27-09	6,258	276-54	Total.	
Rajputana-Malwa Railway		...	...	...	...	South Indian	21
544	28-45	18	1-54	620	34-34	Rajputana-Malwa	22
926	12-10	30	5-01	1,125	38-91	Rewari-Ferozepore	23
780	10-22	30	0-43	932	19-68	Muttra-Achnera	24
467	32-03	20	2-12	550	40-66	Nagpur-Chhattisgarh	25
221	7-02	10	1-00	319	21-64	Rangoon and Irrawaddy Valley	26
546	13-97	22	0-60	679	17-72	Northern Bengal	27
75	2-64	3	0-12	107	5-80	Tirhoot	28
24	0-72	...	...	34	1-82	Cawnpore-Farukhabad	29
187	...	6	...	220	...	Bhavnagar-Gondal	30
40	0-27	4	0-33	54	1-52	Muttra-Hathras	31
158	1-65	7	0-04	245	2-52	Nalhati	32
10,751	354-71	478	44-02	13,265	549-60	Gaekwar of Baroda's	33
45,195	2,830-81	1,993	196-92	53,805	3,670-00	Kaunia-Dhurla	34
						Mysore	35
						Total.	
						GRAND TOTAL.	

Revenue Account, and "Average number constantly under repair" from column 11.
to 2nd class, Post Office, and Brakes.

to 4th class and partly to brakes.
allotted to brakes.

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	TRAIN MILES.			
		Passengers.	Goods.	Mixed.	Light.
<i>Broad Gauge.</i>					
1	East Indian ...	1,339,405	3,353,978	556,575	163,931
2	Great Indian Peninsula ...	1,091,880	3,203,449	408,932	217,279
3	Sind, Punjab and Delhi ...	343,082	861,726	281,424	102,825
4	Madras ...	328,161	293,525	307,237	12,796
5	Bombay, Baroda and Central India ...	344,594	575,073	200,174	548
6	Eastern Bengal ...	139,609	150,162	113,889	611
7	Oudh and Rohilkhand ...	1,993	239,778	397,693	34,174
8	Indus Valley and Kandahar ...	5,699	595,606	461,412	15,135
9	Punjab Northern ...	6,506	110,976	350,582	1,861
10	Dhond and Manmad ...	...	...	Included with the Great	...
11	Patna-Gya ...	...	...	62,956	...
12	Nizam's ...	45,160	59,661	44,171	45
13	Calcutta and South-Eastern ...	14,123	4,782	34,280	30
14	Khamgaon ...	...	...	Included with the Great	...
15	Amraoti ...	...	...	...	...
16	Wardha Coal ...	...	10,159	32,580	...
17	Sindia ...	154	12,194	28,266	2
18	Ghazipur-Dildarnagar ...	...	...	9,719	...
19	Bhopal ...	...	...	Worked by the Great	...
20	Bengal Central ...	...	...	Worked by the Eastern	...
	Total ...	3,660,366	9,521,069	3,289,890	549,237
<i>Narrow Gauge.</i>					
21	South Indian ...	159,298	224,751	393,303	2,800
22	Rajputana-Malwa ...	408,460	1,262,668	678,444	52,261
23	Rewari-Ferozepore ...	...	...	...	...
24	Muttra-Aohnera ...	...	...	...	Included with the
25	Nagpur-Chhattisgarh ...	87	190,246	60,719	481
26	Rangoon and Irrawaddy Valley ...	73,857	109,906	136,526	111
27	Northern Bengal ...	71,072	144,659	132,888	4,281
28	Tirhoot ...	3,112	86,728	99,170	4,488
29	Cawnpore-Farukhabad ...	...	2,623	64,485	310
30	Bhavnagar-Gondal ...	28,303	78,166	61,882	2,143
31	Muttra-Hathras ...	...	544	21,779	72
32	Nalhati ...	218	470	19,729	...
33	Gaekwar of Baroda's ...	1,547	13,034	21,449	299
34	Kaunia-Dhurla ...	...	492	11,584	...
35	Mysore ...	554	11,298	31,842	...
	Total ...	751,508	2,125,585	1,733,800	67,246
	GRAND TOTAL ...	4,411,874	11,646,654	4,023,690	616,483

(a) Includes train miles run over
 (b) Excludes the mileage run on
 (c) Includes also the proportion

DIX A—contd.

RAILWAYS (Part I)—contd.

XIII.

TRAIN MILEAGE.

Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

TRAIN MILES AFTER APPORTIONING MIXED AND LIGHT MILEAGE.		Total train mileage.	Assisting, shunting and miscellaneous mileage.	Total engine mileage.	Railways.	No.
Coaching.	Goods.					
<i>Broad Gauge.</i>						
1,710,692	3,703,197	5,413,889	(b) 633,894	6,047,783	East Indian	1
1,315,293	3,606,257	4,921,540	415,162	5,336,702	Great Indian Peninsula	2
516,554	1,072,503	1,589,057	208,707	1,797,764	Sind, Punjab and Delhi	3
420,341	521,378	941,719	146,865	1,088,584	Madras	4
417,085	703,304	1,120,389	139,004	1,259,393	Bombay, Baroda and Central India	5
180,644	223,627	404,271	101,447	505,678	Eastern Bengal	6
251,673	471,965	723,638	198,892	922,530	Oudh and Rohilkhand	7
174,593	903,269	1,077,862	132,389	1,210,241	Indus Valley and Kandahar	8
239,828	230,097	469,925	74,062	543,987	Punjab Northern	9
Indian Peninsula Railway		...	...	...	Dhond and Manmad	10
(c) 62,956	...	62,956	...	62,956	Patna-Gya	11
76,800	72,237	149,037	3,814	152,851	Nizam's	12
36,362	16,853	53,215	6,807	60,022	Calcutta and South-Eastern	13
Indian Peninsula Railway		...	...	...	Khamgaon	14
10,734	32,005	42,739	3,367	46,106	Amraoti	15
15,823	24,793	40,616	1,175	41,791	Wardha Coal	16
(c) 9,719	...	9,719	...	9,719	Sindia	17
Indian Peninsula Railway		...	...	...	Ghazipur-Dildarnagar	18
Bengal Railway		...	...	...	Bhopal	19
					Bengal Central	20
5,439,077	11,581,485	17,020,562	2,065,545	19,086,107	Total.	
<i>Narrow Gauge.</i>						
347,394	432,758	(a) 780,152	145,712	925,864	South Indian	21
816,174	1,585,659	2,401,833	236,005	2,637,838	Rajputana-Malwa	22
Rajputana-Malwa Railway		...	...	...	Hewari-Ferozepore	23
39,856	211,677	251,533	14,412	265,945	Muttra-Achnera	24
152,774	172,626	325,400	38,680	364,080	Nagpur-Chhattisgarh	25
113,138	239,762	352,900	46,973	399,873	Rangoon and Irrawaddy Valley	26
62,111	131,387	193,498	42,783	236,281	Northern Bengal	27
37,548	29,870	67,418	3,525	70,943	Tirhoot	28
75,213	95,281	170,494	6,379	176,773	Cawnpore-Fardkhabad	29
14,563	7,827	22,395	3,221	25,616	Bhavnagar-Gondal	30
12,816	7,601	20,417	5,919	26,336	Muttra-Hathras	31
15,994	20,335	36,329	144	36,473	Nalhati	32
4,663	7,413	12,076	1,159	13,235	Gackwar of Baroda's	33
21,835	21,859	43,694	8,064	51,758	Kaunia-Dhurla	34
					Mysore	35
1,714,084	2,964,055	4,678,139	552,876	5,231,015	Total.	
7,153,161	14,545,540	21,698,701	2,618,421	24,317,122	GRAND TOTAL.	

the Pondicherry line.
the Sindh State Railway.
mixed train mileage due to goods.

APPENDIX A—contd.

STATISTICS OF INDIAN RAILWAYS (Part D)—concl'd.

No. XIV.

NET EARNINGS COMPARED WITH INTEREST ON CAPITAL.

[From Nos. VIII and XVII of the Revenue Account.]

HALF-YEAR ENDED 30th June 1883.

No.	Railways.	Interest on capital.	Net earnings of the half-year.	DIFFERENCE.	
				Excess.	Deficient.
		Rs.	Rs.	Rs.	Rs.
<i>Broad Gauge.</i>					
1	East Indian	1,04,29,633	169,09,540	64,79,907	...
2	Great Indian Peninsula	63,70,247	1,26,12,650	62,42,403	...
3	Sind, Punjab and Delhi	30,20,534	26,88,797	...	—3,31,737
4	Madras	28,53,133	12,50,184	...	—16,02,949
5	Bombay, Baroda and Central India	21,63,426	44,54,915	22,91,489	...
6	Eastern Bengal	8,41,449	13,35,825	4,94,376	...
7	Oudh and Rohilkhand	14,80,000	(b) 13,67,185	...	—1,12,815
8	Indus Valley and Kandahar	16,53,410	18,92,264	2,38,854	...
9	Punjab Northern	22,78,098	3,04,274	...	—19,73,824
10	Dhond and Mahmud...	2,01,628	1,09,422	...	—92,206
11	Patna-Gya	(d)	1,59,423	...	...
12	Nizam's	2,45,453	1,16,826	...	—1,28,627
13	Calcutta and South-Eastern	1,35,181	1,02,865	...	—32,316
14	Khamgaon	9,866	20,410	10,544	...
15	Amraoti	8,895	37,863	28,968	...
16	Wardha Coal	(a) 1,22,595	(c) 2,35,572	1,12,977	...
17	Sindia	1,77,683	81,147	...	—96,536
18	Ghazipur-Dildarnagar	14,429	15,368	939	...
19	Bhopal	85,643	—6,141	...	—91,784
20	Bengal Central	(d)	—15,445	...	...
	Total	3,20,91,303	(e) 4,35,28,966	1,14,37,663	...
<i>Narrow Gauge.</i>					
21	South Indian	10,64,322	6,79,233	...	—3,85,089
22	Rajputana-Malwa	18,97,602	37,03,592	18,05,990	...
23	Rewari-Ferozepore	82,256	46,840	...	—35,416
24	Muttra-Achnera	12,557	11,356	...	—1,201
25	Nagpur-Chhattiagarh	1,82,691	6,09,875	4,27,184	...
26	Rangoon and Irrawaddy Valley	2,64,166	4,18,699	1,54,533	...
27	Northern Bengal	4,18,825	6,11,218	1,92,393	...
28	Tirhoot	2,41,590	1,38,734	...	—1,02,856
29	Cawnpore-Farukhabad	67,742	76,485	8,743	...
30	Bhavnagar-Gondal	1,74,152	2,79,513	1,05,361	...
31	Muttra-Hathras	24,770	25,800	1,030	...
32	Nalhati	6,699	14,151	7,452	...
33	Gaekwar of Baroda's...	25,055	34,938	9,883	...
34	Kannia-Dhurla	17,987	12,019	...	—5,968
35	Mysore	84,196	25,039	...	59,157
	Total	45,64,590	66,87,542	21,22,952	...
	GRAND TOTAL	3,66,55,893	5,02,16,508	1,35,60,615	...

(a) Includes interest on capital expenditure for Warora colliery.

(b) Excludes Rs. 7,910 for the expenditure incurred in previous half-year for providing additional water-way, Rangunga valley, &c.

(c) Includes net earnings of the Warora Colliery (Rs. 1,35,971).

(d) Information not available.

(e) Excludes the figures of the Patna-Gya and Bengal Central Railway.

INDIAN RAILWAYS.

Statistics of their working for the half-year ended 30th June 1883.

PART II.

SUMMARY OF ANALYSES OF WORKING.

HALF-YEAR ENDED 30th June 1883.

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.	Punjab Northern.
	No. I. DESCRIPTION OF RAILWAY WORKED.									
1	Gauge of Railway ...	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	(k) 5' 6"
2	Mean mileage worked Miles	1,653.24	(h) 1,457.40	(e) 709	860.86	461	(o) 200.18	546.85	(g) 659.70	421.54
3	Number of stations ... No.	180	192	(d) 111	116	(l) 80	42	80	77	50
4	Total length of the following gradients—									
	(a) $\frac{1}{10}$ and less Miles	...	19.31	...	...	0.37	...	...	...	11.34
	(b) $\frac{1}{11}$ to $\frac{1}{10}$... "	4.04	2.36	...	18.00	1.26	...	...	...	36.77
	(c) $\frac{1}{12}$ to $\frac{1}{11}$... "	12.46	62.09	...	48.00	0.23	...	...	0.99	54.35
	(d) $\frac{1}{13}$ to $\frac{1}{12}$... "	103.16	491.97	10.40	207.25	5.19	0.55	1.54	9.21	56.26
	(e) $\frac{1}{14}$ to $\frac{1}{13}$... "	108.20	202.45	24.25	129.00	12.90	0.41	3.58	30.52	15.68
5	Steepest gradient worked—									
	(a) Length. ... No.	0.98	5.85	7.20	0.75	0.37	0.14	0.40	0.99	0.35
	(b) Inclination ... "	$\frac{1}{10}$	$\frac{1}{17}$	$\frac{1}{100}$	$\frac{1}{20}$	$\frac{1}{30}$	$\frac{1}{102}$	$\frac{1}{150}$	$\frac{1}{75}$	$\frac{1}{40}$
	No. II. FINANCIAL RESULTS.									
6	Percentage of net earnings (including steam-boat traffic on capital outlay). Per cent.	4.75	5.03	2.30	1.10	5.02	4.19	2.22	2.29	0.42
7	Percentage of net earnings on paid up capital Per cent.	...	5.04	2.22	(q) 1.08	5.09	4.24	2.11	...	...
	No. III. OUTLAY, EARNINGS AND EXPENSES. <i>(Exclusive of steam-boat service.)</i>									
8	Capital outlay per mile open Rs.	2,13,201	1,96,315	(e) 1,64,466	1,29,675	(m) 1,87,208	(p) 2,08,317	1,07,626	1,22,830	1,69,600
9	Total earnings per mile open per week ... Rs.	622	(i) 599	340	151	597	494	206	222	141
10	Total working expenses per mile open per week ... Rs.	220	249	194	95	225	203	110	115	111
11	Total earnings per train mile Rs.	4.81	(j) 4.55	3.95	3.57	6.39	6.36	4.05	3.51	3.3

(a) The Poradaha Section, 18 miles long, is on the 5' 6" gauge, and is worked by the Eastern Bengal Railway. The number of stations on the branch line is 2.

(b) The Capital outlay per mile open on Poradaha Section is Rs. 97,774.

(c) Includes 24 miles of Rupar Branch.

(d) Includes 16 Stations on Rupar Branch.

(e) Calculated on 638 miles.

(f) The actual length is 117.10 miles, but 3.34 miles are run over twice by each train, making the total distance 120.44 miles. The mean mileage is therefore shown as 120.44 miles.

(g) Includes 7.07 miles of foreign line worked by the State.

(h) Includes the Dhond-Manmad, Khangaon, Amraoti, Mohpaul Branch and Bhopal State Railways worked by the Company.

(i) Excluding the mileage of, and receipts for, working the Bhopal Railway.

DIX A—contd.

RAILWAYS—(Part II.)

HALF-YEAR ENDED 30th June 1883.

Nizam's.	NARROW GAUGE.									Progressive number.
	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Farukhabad.	Bhavnagar-Gondal.	
5' 6"	3' 3½"	3' 3½"	3' 3½"	3' 3½"	3' 3½"	(a) 3' 3½"	3' 3½"	3' 3½"	3' 3½"	1
(f) 120·44	(r) 663	1,167·75	85·75	149	161	230	148·58	80·5	193	2
15	102	150	13	20	28	27	24	22	27	3
...	...	3·40	...	...	...	...	...	...	...	4
...	...	0·23	45·33	...	...	...	...	...	...	...
2·73	9·93	18·52	6·33	...	...	...	...	...	0·15	...
68·50	92·09	273·54	7·60	53·82	4·80	7·35	3·10	...	45·51	...
5·08	65·93	203·22	3·49	20·64	6·40	...	1·07	...	23·03	5
1·14	2·81	3·40	1·05	4·29	4·80	0·37	0·24	1·78	0·15	...
100	100	100	100	100	100	100	100	100	100	...
0·95	1·50	3·87	0·58	6·48	3·20	2·02	(n) 1·15	2·39	3·11	6
...	1·53	...	...	...	...	...	...	...	...	7
1,04,541	65,987	75,790	46,927	61,328	81,365	(b) 82,097	(n) 69,184	86,291	44,950	8
137	119	227	63	255	230	171	103	86	117	9
100	73	107	52	96	130	84	66	52	61	10
2·87	2·45	2·96	3·19	3·91	2·96	2·39	2·05	2·36	3·45	11

(f) Excluding the train mileage of, and receipts for, working the Bhopal Railway.

(g) The salt line is on the 3' 3½" gauge.

(h) Including Carnac Bridge.

(i) Includes Rs. 8,08,405 State outlay on Patri Branch.

(j) Calculated upon Capital outlay, excluding Hajipore extension.

(k) Includes the Poradaha Section of the Northern Bengal State Railway and the Banaghat and Dum-Dum Sections of the Bengal Central Railway.

(l) Eastern Bengal Railway only.

(m) Excluding £10,630-11-2, capital not bearing interest.

(n) Includes 8 miles of Pondicherry Railway.

HALF-YEAR ENDED 30th June 1883.

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.	Punjab Northern.
	No. III.—OUTLAY, &C.— contd.									
12	Total working expenses per train mile ... Rs.	1.70	(c) 1.90	2.25	2.25	2.41	2.62	2.15	1.82	2.73
13	Net earnings per train-mile Rs.	3.11	(c) 2.65	1.70	1.32	3.98	3.74	1.90	1.69	0.65
14	Cost per 1,000 gross ton-miles moved (freight and dead-weight) ... Rs.	4.71	7.26	7.41	9.05	6.63	8.69	6.93	4.81	11.49
15	Percentage of total working expenses upon total earnings <i>Per cent.</i>	35.37	41.87	56.95	62.86	37.74	41.27	53.14	51.97	80.82
16	Percentage of total working expenses upon total earnings, excluding from both sides of the account the charges for carriage of revenue stores <i>Per cent.</i> <i>(Inclusive of steam-boat service.)</i>	34.25	40.60	55.57	62.39	36.36	40.47	51.85	51.29	79.22
17	Percentage of total working expenses on total earnings (for details, see Table No. VII) <i>Per cent.</i>	35.40	41.87	57.13	62.86	37.76	45.58	53.14	52.55	80.82
	No. IV.									
	DIVISION OF EXPENDITURE BETWEEN COACHING AND GOODS TRAFFIC.									
18	Total working expenses for both coaching and goods traffic, excluding steam-boat expenses, and after deducting telegraph and sundry receipts and leaving only the balance of payments to other lines for mileage, &c. <i>Rs.</i>	38,51,305	91,31,004	34,80,914	20,47,172	26,27,746	10,20,259	14,28,270	18,25,285	12,17,335
	Proportions, dividing expenditure in ratio of gross ton mileage (freight and dead-load.)									
19	Coaching ... <i>Rs.</i>	19,22,970	15,82,355	8,10,727	6,74,331	5,99,454	3,21,490	4,19,584	2,26,495	6,13,872
20	Goods ... "	69,28,335	75,48,709	26,70,187	13,72,841	20,28,292	6,98,769	10,08,686	15,98,790	6,03,463
	No. V.									
	COACHING TRAFFIC.									
	<i>Gross Receipts and Train-Mileage.</i>									
21	Receipts from coaching traffic ... <i>Rs.</i>	65,98,074	(a) 36,32,667	17,43,463	13,66,455	18,44,116	9,13,157	10,35,935	5,55,566	6,95,241
22	Coaching train miles run No.	1,776,281	(b) 1,313,467	516,553	420,341	417,085	180,644	251,673	174,583	239,828
23	Average coaching receipts per train mile ... <i>Rs.</i>	3.71	2.77	3.38	3.25	4.42	5.06	4.12	3.18	2.89

(a) Excluding the receipts from
(b) Excluding the train mileage
(c) Please see note (j) on the

DIX A—contd.

RAILWAYS (Part II)—contd.

HALF-YEAR ENDED 30th June 1882.

Narrow Gauge.										
Nizam's.	South Indian.	Rajputana- Malwa.	Mysore.	Nagpur and Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore- Farukhabad.	Bhavnagar- Gondal.	Progressive number.
2.09	1.58	1.40	2.62	1.48	1.67	1.42	1.31	1.13	1.81	12
0.78	0.87	1.56	0.57	2.43	1.29	1.47	0.74	1.73	1.64	13
10.56	10.96	7.86	20.08	7.73	10.91	8.30	10.95	10.44	12.08	14
72.70	64.53	47.22	82.06	37.96	56.56	47.44	63.94	60.34	52.44	15
72.28	63.71	46.08	81.47	37.04	56.31	45.85	63.69	60.12	52.08	16
72.70	64.53	47.22	82.06	37.96	56.56	48.52	67.68	60.34	52.41	17
3,01,448	12,07,141	32,71,263	1,12,063	3,65,032	5,33,433	4,70,683	2,38,725	1,13,772	2,99,832	18
1,37,751	5,22,409	7,99,196	58,258	70,279	2,17,116	1,22,475	78,741	53,819	1,10,246	19
1,63,697	6,84,732	24,72,067	53,805	2,94,753	3,16,317	3,48,208	1,59,984	54,953	1,80,580	20
1,70,973	10,51,775	19,85,788	1,00,204	1,06,932	4,71,813	3,05,985	1,86,911	98,339	2,38,256	21
76,800	347,394	816,174	21,835	39,856	1,52,774	1,13,138	62,111	37,547	75,213	22
2.23	3.03	2.43	4.59	2.68	3.09	2.70	3.01	2.62	3.17	23

the Bhopal Railway.
on on the Bhopal Railway.
previous page.

HALF-YEAR ENDED 30th June 1883.

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.	Punjab Northern.
No. V.—COACHING TRAFFIC										
<i>—contd.</i>										
<i>Units and Unit Mileage.</i>										
Number of units carried one mile—										
24	1st class ... Unit miles	3,227,330	2,623,634	1,245,863	1,118,596	1,064,552	610,397	933,997	235,048	382,926
25	2nd „ ... „	12,007,523	14,394,499	3,967,022	2,717,727	4,750,329	1,068,276				726,816	1,326,573
26	3rd or intermediate class ... „	10,074,788	25,954,284	501,598	...	28,268,886	5,939,711	...	...	396,974
27	4th or lowest class ... „	309,020,079	155,080,940	112,845,080	100,228,000	82,577,455	43,041,506	71,044,207	37,935,395	46,311,354
28	Total passenger unit mileage ... „	424,320,718	198,053,357	118,559,563	104,064,323	116,661,222	50,659,890	71,978,204	38,947,259	48,417,827
29	Other coaching traffic Ton miles	3,334,485	2,725,759	775,073	872,064	1,178,509	300,866	351,435	524,268	456,362
Average sum received for carrying a unit one mile—										
30	1st class ... Pies	14-90	14-77	9-94	14-32	10-15	10-28	9-00	10-18	10-21
31	2nd „ ... „	5-16	5-13	4-01	5-37	4-83	5-03				4-25	4-07
32	3rd or intermediate class ... „	3-81	3-85	4-00	...	2-87	3-69	...	...	3-50
33	4th or lowest class ... „	2-49	2-48	2-41	1-99	2-45	2-96	2-51	2-20	2-33
34	Average for all classes ... „	2-69	3-02	2-55	2-22	2-72	3-18	2-59	2-29	2-45
35	Other coaching traffic per ton mile ... „	31-08	36-71	41-67	36-28	31-59	47-48	34-91	33-26	32-29
Average number of units in a train—										
36	1st class ... No.	1-82	2-00	2-41	2-66	2-55	3-53	3-71	1-35	1-60
37	2nd „ ... „	6-76	10-96	7-68	6-47	11-39	5-91				4-16	5-53
38	3rd or intermediate class ... „	5-67	19-76	1-00	...	200-62	32-88	...	...	1-65
39	4th or lowest class ... „	224-64	118-07	218-46	238-44	299-00	238-27	282-29	217-58	193-10
40	Total passenger units ... „	238-89	180-79	229-55	247-57	279-71	280-44	286-00	223-09	201-88
41	Other coaching traffic Tons	2-21	2-08	1-50	2-07	2-83	1-67	1-40	3-00	1-90
<i>Vehicles and Vehicle mileage.</i>										
Number of coaching vehicles hauled one mile—										
42	1st class ... Vehicle miles.	2,834,421	2,135,693	782,690	721,390	611,192	313,723	620,016	407,642	269,752
43	2nd „ ... „	8,010,740	2,507,191	663,002	1,044,032	822,389	234,407				406,433	257,481
44	3rd or intermediate class ... „	1,844,101	4,655,133	264,044	...	4,383,852	649,902	...	...	205,294
45	4th or lowest class... „	18,063,183	5,496,788	4,567,063	3,628,767	1,310,417	3,817,979	2,419,342	2,664,319	
46	Other vehicles ... „	3,500,923	1,697,930	1,070,153	502,292	772,078	346,942	486,251	412,178	234,233
47	Brake-vans ... „	3,010,280	2,670,911	1,215,454	98,156	563,177	361,121	361,056	297,643	632,013
48	Total ... „	33,069,663	19,163,646	8,562,406	5,994,637	7,152,688	3,216,517	5,285,302	3,943,288	4,263,142

DIX A—contd.

RAILWAYS (Part II)—contd.

HALF-YEAR ENDED 30th June 1883.

Nizam's.	NARROW GAUGE.									Progressive number.
	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Farukhabad.	Dhawanagar-Gondal.	
167,281	357,553	795,337	62,488	26,680	99,061	267,518	105,527	15,272	55,404	24
584,360	1,232,826	1,930,032	169,827	106,374	343,140	454,062	142,328	56,120	246,184	25
...	...	2,816,317	...	131,643	...	797,478	...	...	...	26
10,710,596	91,674,271	153,422,016	5,454,156	8,445,784	28,149,850	16,342,184	11,417,675	8,604,729	15,872,095	27
11,462,237	93,314,650	158,963,702	5,686,471	8,710,481	28,592,051	17,861,252	11,665,530	8,676,121	16,173,683	28
197,027	174,295	1,140,680	22,757	98,192	63,519	128,404	98,232	24,332	107,171	29
14.46	11.79	16.19	10.48	15.11	14.07	17.15	17.62	14.49	13.29	30
4.67	3.85	6.01	4.59	5.84	6.32	7.29	8.71	6.70	6.65	31
...	...	3.00	...	3.83	...	4.46	...	...	...	32
2.02	1.99	2.03	2.99	2.00	2.97	2.50	2.50	2.00	2.50	33
2.33	2.06	2.16	3.12	2.11	3.06	2.93	2.71	2.05	2.60	34
30.85	56.88	32.78	66.68	56.63	49.90	50.53	43.48	44.15	34.45	35
2.18	1.03	0.97	2.86	0.67	0.65	2.36	1.70	0.41	0.74	36
7.61	3.69	2.37	7.78	2.67	2.24	4.01	2.29	1.49	3.27	37
...	...	3.45	...	3.30	...	7.05	...	...	...	38
139.46	263.89	187.98	249.79	211.91	184.26	144.45	183.83	229.17	211.03	39
149.25	268.61	194.77	260.43	218.55	187.15	157.87	187.82	231.07	215.04	40
2.57	0.50	1.40	1.04	0.96	0.42	1.13	1.58	0.61	1.42	41
116,978	416,708	1,414,310	43,683	60,057	210,084	235,041	110,193	35,382	96,412	42
109,452	597,596	1,140,816	49,912	75,510	326,300	170,609	75,345	82,775	116,069	43
...	...	9,874,193	...	81,971	...	179,047	...	...	...	44
564,521	3,788,640	258,248	472,091	1,913,159	1,102,780	523,844	793,032	1,003,243	...	45
197,017	754,834	1,097,312	9,312	34,178	240,850	290,576	153,191	2,614	81,564	46
154,801	279,112	2,055,472	30,825	76,569	306,781	172,488	117,519	35,880	181,376	47
1,142,769	5,836,938	15,582,103	391,980	800,376	2,997,174	2,150,535	980,022	899,683	1,478,664	48

HALF-YEAR ENDED 30th June 1883.

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.	Punjab Northern.
NO. V.—COACHING TRAFFIC										
<i>—contd.</i>										
Average number of vehicles in a coaching train—										
40	1st class ... No.	1-60	1-63	1-52	1-72	1-47	1-73	} 2-46	2-34	1-12
50	2nd „ ... „	1-70	1-91	1-28	2-48	1-97	1-30		} 10-51	2-33	1-07
51	3rd or intermediate class „	1-04	3-54	0-51	...	} 10-51	3-60	...		...	0-86
52	4th or lowest ... „	10-51	4-19	8-84	8-63		} 64-58	7-26	15-18	13-86	11-11
53	Other vehicles ... „	2-02	1-29	2-07	1-20	} 64-58		1-92	1-93	2-36	0-98
54	Brake-vans ... „	1-69	2-03	2-35	0-23		} 64-58	2-00	1-43	1-70	2-83
55	Total ... „	18-56	14-59	16-57	14-26	17-15		17-81	21-00	22-59	17-77
Average earnings per coaching vehicle per mile—										
56	1st class ... Pies	16-97	18-15	15-83	22-20	17-67	20-00	} 13-55	5-87	14-50
57	2nd „ ... „	20-52	29-43	24-02	14-77	27-88	22-93		} 13-55	7-60	20-98
58	3rd or intermediate class „	20-82	21-47	7-60	...	} 64-58	33-69	...		...	6-77
59	4th or lowest class ... „	53-38	70-03	59-58	54-91		} 64-58	97-29	46-68	34-62	44-56
60	Other vehicles ... „	33-98	58-93	30-18	62-99	} 64-58		41-17	25-23	42-31	62-91
Carrying capacity hauled one mile (excluding brakes)—										
61	1st class... ... Seats	45,146,949	43,508,602	11,931,824	8,445,560	10,157,486	6,079,305	} 5,567,286	3,868,247	2,717,094
62	2nd „ ... „	55,095,877	83,892,464	15,338,078	37,246,098	32,042,529	6,001,849		} 5,567,286	7,482,459	3,133,896
63	3rd or intermediate class ... „	99,796,800	218,628,604	9,505,584	...	} 275,826,513	44,631,411	...		...	5,337,644
64	4th or lowest class ... „	1,111,474,292	274,839,400	196,876,363	177,404,897		} 275,826,513	77,737,775	225,699,628	115,373,018	118,254,144
65	Other vehicles ... Tons	44,374,484	5,147,536	3,436,559	3,016,913	3,381,702		596,740	4,327,764	3,182,479	660,591
Percentage of freight upon capacity hauled—										
66	1st class ... Per cent.	7-15	6-03	10-44	13-24	10-48	10-05	} 16-78	6-08	14-09
67	2nd „ ... „	21-79	17-16	25-86	7-30	14-83	17-80		} 16-78	9-71	42-33
68	3rd or intermediate class ... „	10-41	11-87	5-28	...	} 40-19	13-31	...		...	7-44
69	4th or lowest class ... „	35-90	56-43	57-32	56-50		} 40-19	55-37	31-48	32-92	39-16
70	Other vehicles ... „	8-87	52-95	22-55	28-91	34-85		50-42	8-12	16-47	69-08
Weight of Train and Tbn Mileage.										
Gross ton mileage of all coaching trains—										
71	Freight ... Tbn miles	29,763,512	15,001,796	8,027,854	7,215,021	8,315,770	3,386,239	4,707,487	2,885,042	3,403,280
72	Dead-weight ... „	378,512,240	202,843,795	101,343,287	67,320,412	82,107,005	33,586,000	55,814,442	44,214,538	50,021,071
73	Total ... „	408,275,752	217,845,591	109,371,141	74,535,433	90,422,775	36,972,239	60,521,929	47,099,580	53,424,351

DIX A—contd.

RAILWAYS (Part II)—contd.

HALF-YEAR ENDED 30th June 1883.

Nizam's.	Narrow Gauge.									Progressive number.
	South-Indian.	Rajputana-Malwa.	Mysore.	Nagpur-Chhattisgarh.	Rangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Farukhabad.	Bhavnagar-Gondal.	
1-52	1-20	1-73	2-00	1-51	1-37	2-03	1-78	0-94	1-28	49
1-42	1-72	1-40	2-29	1-39	2-14	1-51	1-21	0-87	1-54	50
...	...	12-10	...	2-06	...	1-59	...	...	...	51
7-35	10-91		...	11-83	11-84	12-52	9-75	8-43	21-12	13-34	52
2-56	2-17	1-34	0-42	0-36	1-58	2-57	2-47	0-07	1-09	53
2-15	0-80	2-52	1-41	1-92	2-01	1-52	1-89	0-96	2-41	54
15-00	18-80	19-09	17-95	20-08	19-62	19-01	15-78	23-96	19-60	55
20-68	10-12	9-10	15-00	6-71	6-64	19-52	16-87	6-26	7-64	56
24-91	8-27	10-18	15-62	8-23	6-65	19-41	16-45	11-48	14-10	57
...	...	32-35	...	6-16	...	19-35	...	...	...	58
38-27	48-27		...	63-07	35-69	43-83	37-01	54-44	21-70	39-55	59
30-86	13-13	34-08	162-95	63-28	13-16	22-33	27-88	(a) 410-94	45-20	60
902,533	6,831,251	14,184,940	698,928	671,316	2,048,430	1,408,841	1,057,764	236,070	771,206	61
2,114,647	24,740,720	16,406,902	1,301,136	846,911	6,517,984	1,208,645	1,029,300	210,210	2,785,656	62
...	...	310,978,613	...	1,873,858	...	3,580,940	...	...	...	63
24,833,924	168,141,200		10,329,920	16,036,645	71,054,725	38,865,864	19,185,353	25,377,024	82,103,770	64
643,219	2,160,353	5,919,540	29,193	687,503	932,663	630,070	383,585	5,228	1,237,713	65
18-53	5-23	5-61	8-94	3-97	4-84	18-99	9-98	6-47	7-18	66
27-63	5-18	11-76	13-05	12-56	5-26	37-57	13-83	26-70	8-84	67
...	...	50-24	...	7-03	...	22-27	...	...	...	68
43-12	54-52		...	52-80	52-67	39-62	44-33	59-51	33-91	49-44	69
30-63	8-07	19-27	77-95	5-56	6-31	20-38	25-61	(a) 465-42	8-66	70
903,140	5,813,133	10,748,916	369,841	564,016	1,789,367	1,219,861	805,231	546,633	1,094,732	71
12,139,923	41,829,706	90,913,536	2,532,017	8,533,358	18,104,311	13,531,486	6,382,489	5,080,348	8,787,463	72
13,043,063	47,642,839	101,662,452	2,901,858	9,097,374	19,894,678	14,751,347	7,187,720	5,635,981	9,872,195	73

(a) Due to mileage of brake-vans.

APPEN
STATISTICS OF INDIAN

HALF-YEAR ENDED 30th June 1883.

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian.	Great Indian Peninsula.	Stnd, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandabar.	Punjab Northern.
No. V.—COACHING TRAFFIC <i>concl'd.</i>										
Average weight of a coaching train—										
74	Freight ... Tons	16.76	11.42	15.54	17.16	19.94	18.75	18.71	16.52	14.19
75	Dead-weight ... "	213.09	154.43	196.19	160.16	196.86	185.92	221.77	253.26	208.57
76	Total ... "	229.85	165.85	211.73	177.32	216.80	204.67	240.48	269.78	222.76
COST OF WORKING AND PROFIT—										
77	Average cost of hauling a coaching train one mile <i>Rs.</i>	1.08	1.20	1.57	1.61	1.44	1.78	1.67	1.30	2.56
78	Average cost of hauling a coaching vehicle with its load one mile ... <i>Pies</i>	12.32	18.42	21.19	21.97	17.47	21.62	16.36	11.93	32.46
Average cost of hauling a coaching unit one mile—										
79	Per passenger-unit ... "	0.78	1.16	1.17	1.13	0.87	1.09	1.04	1.00	2.45
80	Other traffic per ton ... "	9.81	27.29	22.19	13.21	11.08	21.53	16.24	8.36	9.90
81	Average profit on working a coaching train one mile <i>Rs.</i>	2.63	1.57	1.81	1.64	2.98	3.23	2.45	1.88	0.27
Average profit on working a coaching vehicle one mile—										
82	1st class ... <i>Pies</i>	4.65	-0.27	-5.36	0.23	0.20	-1.82	-2.81	-6.06	-17.96
83	2nd ... "	8.20	11.01	2.83	-7.20	10.41	1.31		-4.33	-11.48
84	3rd or intermediate class ... "	8.50	3.05	-13.59	...	47.11	12.07		...	-25.69
85	4th or lowest class ... "	41.06	51.61	38.39	32.94		75.67	30.32	22.69	12.10
86	Other vehicles ... "	21.66	41.51	8.99	41.02	30.75	19.55	8.87	30.68	30.45
Average profit on working a coaching unit one mile—										
87	Per passenger unit ... "	1.91	1.86	1.38	1.09	1.85	2.10	1.55	1.29	...
88	Other traffic per ton ... "	21.25	9.42	19.48	23.07	20.51	25.95	18.67	24.90	22.39
No. VI. GOODS TRAFFIC. <i>Gross Receipts and Train Mileage.</i>										
89	Receipts from goods traffic <i>Rs.</i>	1,04,40,481	(a) 1,85,21,039	41,53,124	19,14,983	52,04,066	16,09,690	16,30,371	30,85,978	7,61,865
90	Goods train miles run <i>No.</i>	3,750,809	(b) 3,603,959	1,072,504	521,378	703,304	223,627	471,965	903,269	230,097
91	Average goods receipts per train mile ... <i>Rs.</i>	5.19	5.14	3.87	3.67	7.40	7.20	3.46	3.42	3.31

(a) Excluding the receipts
(b) Excluding train mileage

DIX A—contd.

RAILWAYS (Part II)—contd.

HALF-YEAR ENDED 30th June 1883.

Narrow Gages.											Progressive number.
Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur-Chhattisgarh.	Rangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Farakhabad.	Dharnagar-Gondal.		
11.76	16.73	13.17	16.94	14.15	11.71	10.78	12.96	14.56	14.42	74	
158.07	120.41	111.39	115.96	214.10	118.51	119.60	102.76	135.54	116.81	75	
169.83	137.14	124.56	132.90	228.25	130.22	130.38	115.72	150.10	131.26	76	
1.79	1.50	0.98	2.67	1.76	1.42	1.08	1.27	1.57	1.50	77	
26.77	18.05	11.34	30.97	18.64	15.49	11.89	17.53	13.07	17.06	78	
1.87	0.95	0.88	1.90	1.47	1.34	1.14	1.08	1.29	1.32	79	
25.49	65.41	11.42	17.57	19.14	54.77	25.13	25.39	3.50	14.78	80	
0.44	1.52	1.45	1.92	0.92	1.67	1.62	1.74	1.05	1.58	81	
-5.09	-7.93	-2.24	-15.97	-11.93	-8.85	7.63	-0.66	-6.81	-10.02	82	
-1.86	-9.78	-1.18	-15.35	-10.41	-8.84	7.52	-1.08	-1.59	-3.56	83	
...	...	21.01	...	-12.48	...	7.96	...	...	...	84
11.50	-30.22	32.10	17.05	28.34	25.12	36.91	8.63	21.80	27.60	85	
4.09	-4.91	22.74	131.98	44.64	-2.33	10.44	10.35	397.87	27.60	86	
0.46	1.10	1.28	1.22	0.64	1.72	1.79	1.63	0.76	1.28	87	
5.36	-8.54	21.36	49.11	37.49	-4.87	25.40	18.09	40.65	19.37	88	
2,47,301	8,34,649	50,34,046	36,898	8,67,915	4,80,319	6,81,037	1,95,027	91,428	3,41,080	89	
72,237	432,758	1,585,659	21,859	211,677	172,626	239,762	131,397	29,870	95,281	90	
3.42	1.93	3.17	1.68	4.10	2.78	2.84	1.48	3.06	3.54	91	

from the Bhopal Railway.
run on the Bhopal Railway.

HALF-YEAR ENDED 30th June 1883.

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.	Punjab Northern.
	NO. VI.—GOODS TRAFFIC <i>—contd.</i>									
	<i>Units and Unit-Mileages.</i>									
92	Tons of goods carried one mile ... <i>Ton miles</i>	624,013,060	390,776,452	114,374,680	41,450,839	109,909,782	28,984,108	55,756,329	114,964,329	12,138,015
93	Average sum received for carrying a ton one mile <i>Pies</i>	5-98	9-10	6-97	8-87	9-09	10-66	5-62	5-15	12-05
94	Average number of tons in a train ... <i>Tons</i>	166-36	108-43	106-64	79-50	156-28	129-60	118-14	127-28	52-75
	<i>Vehicles and Vehicle Mileage.</i>									
	Number of goods vehicles hauled one mile—									
95	Loaded <i>Vehicle miles</i>	77,537,791	49,704,174	17,347,647	8,867,718	19,191,197	4,688,799	8,475,657	15,140,565	2,601,566
96	Empty ... "	31,845,198	26,361,581	9,346,027	1,915,670	7,545,325	1,496,285	3,108,090	10,528,396	1,434,356
97	Brake-vans ... "	4,539,357	6,399,396	977,349	1,712,787	599,160	152,783	544,016	1,124,025	378,374
98	Total ... "	113,922,346	82,465,151	27,671,023	12,496,175	27,335,682	6,337,867	12,127,763	26,792,986	4,414,296
	Average number of vehicles on a goods train—									
99	Freight vehicles <i>No.</i>	29-18	21-11	24-89	20-68	38-02	27-66	24-55	23-42	17-54
100	Brake-vans ... "	1-21	1-77	0-91	3-29	0-85	0-68	1-15	1-24	1-64
101	Total ... "	30-37	22-88	25-80	23-97	38-87	28-34	25-70	23-66	19-18
102	Average earnings per goods vehicle per mile (excluding brakes) ... <i>Pies</i>	34-14	46-75	29-87	34-10	7-37	49-97	27-03	23-08	36-24
103	Carrying capacity hauled one mile (excluding brakes) ... <i>Tons</i>	1,045,944,189	648,080,233	237,147,245	90,077,653	240,435,179	58,918,506	115,129,509	229,749,583	36,456,683
104	Percentage of freight upon capacity hauled <i>Per cent</i>	59-66	60-30	48-23	46-02	45-71	49-19	48-43	50-04	33-30
105	Average load of a goods vehicle, including both loaded and empty ... <i>Tons</i>	5-70	5-14	4-28	3-84	4-11	4-69	4-81	4-48	3-01
106	Average load of a loaded goods vehicle ... <i>Tons</i>	8-05	7-86	6-59	4-67	5-73	6-18	6-58	7-59	4-67
	<i>Weight of Train and Ton Mileage.</i>									
	Gross ton mileage of all goods trains—									
107	Freight ... <i>Tons</i>	624,013,060	390,776,452	114,374,680	41,450,839	109,909,782	28,984,108	55,756,329	114,964,329	12,138,015
108	Dead-weight ... "	846,978,020	648,467,712	245,846,686	110,292,623	196,041,436	51,376,095	89,739,172	217,503,657	40,380,376
109	Total ... "	1,470,991,100	1,039,244,164	360,221,366	151,743,462	305,951,218	80,360,203	145,495,501	332,467,986	52,518,391
	Average weight of a goods train—									
110	Freight ... <i>Tons</i>	166-36	108-43	106-64	79-50	156-28	129-61	118-14	127-27	52-75
111	Dead-weight ... "	225-81	179-93	229-23	211-54	278-74	229-74	190-14	240-80	175-45
112	Total ... "	392-17	288-36	335-87	291-04	435-02	359-35	308-28	368-07	228-24

DIX A—contd.

RAILWAYS (Part II)—contd.

HALF-YEAR ENDED 30th June 1883.

Nizam's.	Narrow Gages.									Progressive number.
	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur-Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Farakabad.	Bhavnagar-Gondal.	
4,677,131	20,772,035	117,734,019	807,697	16,123,857	10,453,193	12,918,258	(a)4,480,512	2,052,549	4,339,371	92
10·15	7·71	8·21	8·77	10·33	8·82	10·12	8·36	8·55	15·09	93
64·75	48·00	74·25	36·95	76·17	60·55	53·88	34·10	8·72	45·54	94
720,454	5,627,551	26,358,870	249,008	3,394,924	2,848,632	4,886,122	1,815,150	506,351	1,737,209	95
385,321	2,059,624	12,106,976	59,365	2,209,360	1,409,403	1,522,717	367,287	214,615	864,406	96
105,129	273,722	1,301,130	10,598	228,709	79,784	258,504	67,385	31,228	79,287	97
1,210,904	7,960,897	39,766,976	318,971	5,832,993	4,337,819	6,667,343	2,249,822	812,194	2,080,002	98
15·81	17·76	24·26	14·12	26·48	24·67	26·73	16·61	26·15	27·31	99
1·45	0·63	0·82	0·48	1·08	0·46	1·08	0·51	1·04	0·83	100
16·76	18·40	25·08	14·60	27·56	25·13	27·81	17·12	27·19	28·14	101
42·94	20·85	25·13	22·97	29·73	21·66	20·40	17·16	22·48	25·17	102
9,674,729	44,824,817	230,039,410	1,480,190	31,606,053	21,290,175	29,843,818	10,800,116	4,630,811	13,008,075	103
48·34	46·34	51·18	54·57	51·01	49·10	43·29	41·49	44·32	39·36	104
4·23	2·70	3·06	2·62	2·88	2·45	2·02	2·05	2·63	1·67	105
6·49	3·69	4·47	3·24	4·75	3·67	2·64	2·47	3·62	2·50	106
4,677,131	20,772,035	117,734,019	807,697	16,123,857	10,453,193	12,918,258	4,480,512	2,052,549	4,339,371	107
10,822,751	41,674,358	196,727,744	1,872,338	22,030,860	18,531,514	29,021,278	10,123,221	3,213,041	10,611,066	108
15,499,882	62,446,393	314,461,763	2,680,035	33,154,717	28,934,707	41,939,536	14,603,733	5,265,590	14,960,437	109
64·75	48·00	74·25	36·95	76·17	60·55	53·88	34·10	68·71	45·54	110
149·82	96·30	124·07	85·66	104·08	107·35	121·04	77·05	107·67	111·37	111
214·57	144·30	198·32	122·61	180·25	167·90	174·92	111·15	176·28	156·91	112

(a) Includes Gunduck siding.

HALF-YEAR ENDED 30th June 1883.

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Behilkhand.	Indus Valley and Kandahar.	Punjab Northern.
No. VI.—Goods TRAFFIC										
<i>—concl'd.</i>										
<i>Cost of Working and Profit.</i>										
113	Average cost of hauling a goods train one mile. <i>Rs.</i>	1-85	2-09	2-50	2-63	2-88	3-12	2-14	1-77	2-62
114	Average cost of hauling a goods vehicle with its load one mile ... <i>Pies</i>	12-16	19-05	19-27	24-46	14-57	21-69	16-72	11-96	28-78
115	Average cost of hauling a goods unit (<i>viz.</i> , one ton) one mile ... <i>Pies</i>	2-13	3-71	4-48	6-36	3-54	4-63	3-47	2-67	9-54
115a	Average cost of hauling a goods unit one mile, including interest on Capital expended at the rate of 5 per cent. per annum. <i>Pies.</i>	4-31	6-34	8-25	15-22	6-53	8-54	7-23	5-51	24-00
116	Average profit on working a goods train one mile <i>Rs.</i>	3-34	3-05	1-37	1-04	4-52	4-08	1-32	1-65	0-69
117	Average profit on working a goods vehicle with its load one mile ... <i>Pies</i>	21-98	27-70	10-60	9-64	22-80	28-28	10-31	11-12	7-46
118	Average profit on working a goods unit (<i>viz.</i> , one ton) one mile ... <i>Pies</i>	3-85	5-39	2-49	2-51	5-55	6-03	2-15	2-48	2-51
No. VII.										
DETAILED PERCENTAGES OF EARNINGS AND EXPENDITURE.										
<i>Percentage to total earnings.</i>										
119	Coaching traffic <i>Per cent.</i>	24-78	16-21	27-80	40-60	25-76	33-11	35-33	13-93	43-81
120	Goods traffic ... "	73-06	82-67	66-23	56-89	72-71	58-36	55-61	77-38	48-00
121	Sundries, including Telegraph <i>Per cent.</i>	2-10	1-12	5-97	2-51	1-53	1-76	9-06	3-50	8-62
122	Steam-boat earnings "	0-06	...	...	...	...	6-77	...	5-19	-0-43
Total ... "		100	100	100	100	100	100	100	100	100
<i>Percentage of working expenses upon total earnings.</i>										
123	Maintenance ... <i>Per cent.</i>	14-07	9-61	12-01	16-26	10-59	7-91	11-73	8-21	17-64
124	Locomotive expenses "	7-95	15-78	22-21	19-17	12-37	8-90	17-39	20-43	30-81
125	Carriage and wagon expenses.	3-04	6-13	5-68	9-49	4-86	4-27	5-81	3-43	4-73
126	Traffic expenses "	5-65	5-78	8-15	10-41	5-22	10-88	9-32	6-02	16-06
127	General charges "	3-39	2-51	5-40	6-75	3-59	6-00	6-37	3-95	7-88
128	Miscellaneous expenses "	1-24	*2-06	3-50	0-78	1-11	0-51	2-02	7-23	4-36
129	Steam-boat expenses "	0-00	...	0-18	...	0-02	7-11	...	3-28	-0-66
130	Total working expenses ..	36-40	41-37	57-13	62-86	37-76	45-53	53-14	52-55	80-82

* Includes 0-77 per cent. on account of rent of leased lines.

DIX A—contd.

RAILWAYS—(Part II)—contd.

HALF-YEAR ENDED 30th June 1883.

NARROW GAUGE.										
Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nasru-Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Farukhabad.	Bharuagar-Gondal.	Progressive number.
2-27	1-58	1-56	2-46	1-39	1-83	1-45	1-22	1-84	1-90	113
28-42	17-10	11-04	33-50	10-10	14-26	10-43	14-07	13-51	13-33	114
6-72	6-33	4-03	12-79	3-51	5-81	5-18	6-86	5-14	7-90	115
13-54	12-27	7-01	25-06	5-77	9-38	10-48	15-27	8-75	13-87	115a
1-15	0-35	1-61	— 0-77	2-71	0-95	1-39	0-26	1-22	1-68	116
14-52	3-74	14-09	— 10-53	19-63	7-40	9-97	3-00	8-97	11-84	117
3-43	1-39	4-18	— 4-02	6-82	3-01	4-94	1-50	8-41	7-10	118
39-95	54-92	27-95	71-80	10-88	48-95	25-77	43-54	50-00	40-54	119
57-79	43-59	70-84	28-44	88-28	49-84	57-36	45-43	47-40	58-04	120
2-26	1-49	1-21	1-76	0-84	1-21	5-79	3-55	1-61	1-42	121
...	...	...	...	...	...	11-08	7-48	...	...	122
100	100	100	100	100	100	100	100	100	100	
29-19	17-45	8-93	24-83	8-27	15-60	11-57	12-31	12-48	11-44	123
13-89	22-10	22-38	23-03	15-25	16-05	15-00	20-77	18-21	14-40	124
9-71	7-30	3-67	5-88	3-79	4-38	2-32	3-74	2-70	3-43	125
10-14	8-85	6-98	11-37	5-74	13-82	6-92	10-57	11-97	10-27	126
7-01	8-60	4-74	15-92	4-12	5-99	5-69	11-35	14-75	12-20	127
2-76	0-23	0-52	1-03	0-79	0-72	0-69	0-42	0-25	0-61	128
...	...	...	...	...	...	6-33	8-52	...	...	129
72-70	64-53	47-22	82-06	37-96	56-58	48-52	67-68	60-34	52-44	130

STATISTICS OF INDIAN

No. VIII.—WORKING

HALF-YEAR ENDED 30th June 1883.

TABLE A.—MAINTENANCE OF WAY,

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.	Punjab Northern.
	PER MILE OF LINE MAINTAINED.									
131a	General Superintendence (including office expenses) <i>Rs.</i>	212·74	150·64	174·35	144·77	203·01	195·07	164·07	125·22	140·04
132a	Maintenance and Renewal of Permanent-way ... "	2,332·64	859·63	472·76	314·64	886·29	639·62	280·88	208·14	275·50
133a	Repairs of Bridges, &c.... "	107·78	197·13	57·83	67·35	267·14	93·66	52·12	48·89	92·17
134a	Conservancy of Rivers ... "	...	...	102·51	...	...	...	...	7·97	48·69
135a	Repairs of Stations and Buildings ... "	158·43	114·48	78·01	56·00	124·80	154·63	46·09	40·00	64·63
136a	Other Charges (net) ... "	-545·80	168·45	210·93	54·97	163·16	177·79	85·68	71·53	43·33
137a	Total Maintenance, &c.... "	2,265·79	1,488·36	1,094·39	637·73	1,644·40	1,260·77	628·84	501·75	664·36
	PER MILE OF TRACK, INCLUDING SIDINGS.									
131b	General Superintendence (including office expenses) <i>Rs.</i>	141·39	108·97	145·78	124·59	167·43	154·79	142·82	111·46	123·61
132b	Maintenance and Renewal of Permanent-way ... "	1,550·28	621·92	395·29	270·77	730·93	507·58	244·49	185·26	243·18
133b	Repairs of Bridges, &c.... "	71·63	142·61	48·35	57·96	220·32	74·32	45·36	43·52	81·36
134b	Conservancy of Rivers ... "	...	...	85·71	...	...	...	...	7·10	42·98
135b	Repairs of Stations and Buildings ... "	105·29	82·80	63·56	48·19	102·92	122·72	40·12	95·60	57·05
136b	Other Charges (net) ... "	-362·74	120·42	176·36	47·31	134·54	141·11	74·58	63·67	38·24
137b	Total Maintenance, &c.... "	1,505·85	1,076·72	915·05	548·82	1,356·14	1,000·52	547·37	446·61	586·42
	PER TOTAL TRAIN-MILE.									
131c	General Superintendence (including office expenses) <i>Annas.</i>	1·01	0·71	1·21	2·11	1·35	1·42	1·98	1·21	2·01
132c	Maintenance and Renewal of Permanent-way ... "	11·18	4·04	3·23	4·59	5·84	4·64	3·40	2·02	3·96
133c	Repairs of Bridges, &c. ... "	0·52	0·93	0·40	0·98	1·76	0·68	0·63	0·47	1·32
134c	Conservancy of Rivers ... "	...	...	0·71	...	...	...	...	0·08	0·70
135c	Repairs of Stations and Buildings ... "	0·76	0·54	0·53	0·32	0·81	1·12	0·56	0·39	0·93
136c	Other Charges (net)... "	-2·61	0·79	1·45	0·30	1·07	1·29	1·03	0·69	0·62
137c	Total Maintenance, &c. ... "	10·84	7·01	7·58	9·30	10·83	9·15	7·60	4·86	9·54
	PER 1,000 GROSS TON-MILES.									
131d	General Superintendence (including office expenses) ... <i>Rs.</i>	0·19	0·17	0·26	0·55	0·24	0·28	0·43	0·22	0·56
132d	Maintenance and Renewal of Permanent-way ... "	2·05	0·99	0·70	1·19	1·03	0·94	0·75	0·36	1·10
133d	Repairs of Bridges, &c. ... "	0·09	0·23	0·08	0·26	0·32	0·14	0·14	0·08	0·37
134d	Conservancy of Rivers ... "	...	...	0·15	...	...	...	...	0·01	0·19
135d	Repairs of Stations and Buildings ... "	0·14	0·13	0·10	0·21	0·14	0·23	0·12	0·07	0·26
136d	Other Charges (net) ... "	-0·48	0·19	0·31	0·21	0·18	0·27	0·23	0·12	0·16
137d	Total Maintenance, &c.... "	1·99	1·71	1·60	2·42	1·91	1·86	1·67	0·86	2·64

DIX A—contd.

RAILWAYS (Part II)—contd.
EXPENSES.

WORKS AND STATIONS.

HALF-YEAR ENDED 30th June 1883.

Nizam's.	Narrow Gauge.									Progressive number.
	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur-Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Farakhabad.	Bhavnagar-Gondal.	
68-80	113-72	104-82	80-34	84-02	143-51	98-53	56-80	53-66	51-91	131a
921-54	258-88	284-66	208-63	356-59	456-17	327-34	104-97	109-79	103-40	132a
29-34	37-41	41-92	36-51	25-83	160-19	26-52	10-05	19-30	24-47	133a
...	...	0-08	...	...	0-49	0-43	...	...	...	134a
20-93	20-01	67-64	13-35	16-34	74-78	93-31	22-27	12-34	40-91	135a
25-95	74-55	68-41	65-29	63-16	98-91	50-77	161-52	83-04	28-47	136a
1,066-56	504-57	567-53	404-12	545-94	934-05	597-40	355-61	278-13	348-25	137a
63-62	103-64	94-78	71-33	76-40	119-89	88-25	50-14	43-23	45-80	131b
852-32	235-93	257-37	185-21	324-25	381-09	293-17	92-65	98-67	170-71	132b
27-13	34-09	37-90	32-41	23-49	133-83	23-75	8-87	17-34	21-59	133b
...	...	0-07	...	...	0-40	0-38	...	...	...	134b
19-37	18-23	61-16	11-85	14-86	62-47	84-02	19-66	11-10	44-03	135b
24-00	67-94	61-86	57-97	57-43	82-63	45-48	142-57	74-64	25-12	136b
986-44	459-83	513-14	358-77	496-43	780-31	535-05	313-89	249-98	307-25	137b
0-87	1-54	0-78	2-53	0-79	1-14	1-03	0-70	1-10	0-94	131c
11-58	3-52	2-12	6-55	3-38	3-61	3-41	1-29	2-25	3-51	132c
0-37	0-51	0-32	1-14	0-25	1-27	0-28	0-12	0-40	0-44	133c
...	...	...	...	...	...	...	...	...	...	134c
0-27	0-27	0-50	0-41	0-16	0-59	0-98	0-27	0-26	0-90	135c
0-32	1-01	0-51	2-05	0-59	0-78	0-63	1-99	1-70	0-52	136c
13-41	6-85	4-23	12-68	5-17	7-39	6-23	4-37	5-71	6-31	137c
0-28	0-68	0-28	1-24	0-26	0-48	0-40	0-39	0-43	0-40	131d
3-78	1-56	0-76	3-21	1-12	1-50	1-33	0-72	0-87	1-51	132d
0-12	0-22	0-11	0-56	0-08	0-53	0-11	0-07	0-15	0-19	133d
...	...	...	...	...	...	...	...	...	...	134d
0-08	0-12	0-18	0-20	0-06	0-24	0-38	0-15	0-10	0-39	135d
0-10	0-45	0-20	1-00	0-20	0-33	0-20	1-10	0-66	0-22	136d
4-36	3-03	1-53	6-21	1-72	3-08	2-42	2-43	2-21	2-71	137d

STATISTICS OF INDIAN

No. VIII.—WORKING

TABLE B.—LOCOMOTIVE

HALF-YEAR ENDED 30th June 1883.

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.	Punjab Northern.
†	Average price of fuel per ton in terms of coal ... Rs.	2.29	12.10	19.42	...	15.83	8.02	11.78	...	29.19
	of wood ... ..	...	...	...	5.24	...	...	...	6.25	...
PER TOTAL TRAIN MILE.										
138a	General Superintendence (including office expenses) ... Annas.	0.78	0.57	0.74	0.82	0.69	1.44	1.21	0.93	1.23
139a	Running Expenses ..	1.78	2.78	1.87	2.38	2.50	2.97	1.54	2.47	2.88
140a	Fuel†	0.49	4.20	5.66	3.74	5.28	3.18	4.60	5.16	7.98
141a	Water	0.12	0.26	0.17	0.15	0.25	0.24	0.13	0.27	0.46
142a	Oil, tallow, and other stores, ..	0.25	0.36	0.35	0.20	0.26	0.40	0.35	0.38	0.48
143a	Maintenance and Renewal of Locomotives and Machinery	1.44	1.96	2.66	3.09	2.09	3.81	2.34	2.31	1.45
144a	Other charges (net) ..	0.92	1.36	2.57	0.58	1.57	—2.32	1.10	0.58	2.17
145a	Total Locomotive Expenses	6.13	13.49	14.02	10.96	12.64	9.72	11.27	12.10	16.65
†	Fuel consumed in terms of coal lbs.	51.32	48.83	40.81	...	46.64	55.44	54.67	...	37.84
	of wood ..	...	...	...	99.94	...	...	...	115.60	...
PER ENGINE MILE.										
138b	General Superintendence (including office expenses) ... Annas.	0.70	0.53	0.66	0.71	0.61	1.15	0.95	0.83	1.06
139b	Running Expenses ..	1.60	2.57	1.65	2.06	2.23	2.37	1.21	2.20	2.49
140b	Fuel†	0.75	3.87	5.00	3.24	4.69	2.55	3.61	4.59	6.90
141b	Water	0.11	0.24	0.15	0.13	0.22	0.19	0.11	0.24	0.40
142b	Oil, tallow, and other stores	0.22	0.33	0.31	0.17	0.23	0.32	0.27	0.34	0.42
143b	Maintenance and Renewal of Locomotives and Machinery	1.29	1.81	2.35	2.67	1.86	3.04	1.83	2.06	1.25
144b	Other Charges (net) ..	0.83	1.25	2.27	0.50	1.40	—1.65	0.86	0.51	1.88
145b	Total Locomotive Expenses	5.50	10.60	13.39	9.48	11.24	7.77	8.84	10.77	14.39
†	Fuel consumed in terms of coal lbs.	46.03	44.82	36.08	...	41.49	44.32	42.88	...	32.68
	of wood ..	...	...	...	86.45	...	...	...	102.96	...
PER 1,000 GROSS TON MILES.										
138c	General Superintendence (including office expenses) ... Rs.	0.14	0.14	0.16	0.22	0.13	0.31	0.27	0.17	0.34
139c	Running expenses ..	0.33	0.68	0.39	0.62	0.44	0.64	0.34	0.44	0.80
140c	Fuel†	0.15	1.03	1.20	0.97	0.93	0.69	1.01	0.92	2.21
141c	Water	0.02	0.06	0.04	0.04	0.04	0.05	0.03	0.05	0.13
142c	Oil, tallow and other stores	0.05	0.09	0.07	0.05	0.04	0.09	0.08	0.06	0.13
143c	Maintenance and Renewal of Locomotives and Machinery	0.27	0.48	0.56	0.80	0.37	0.81	0.51	0.41	0.40
144c	Other Charges (net) ..	0.17	0.33	0.54	0.15	0.28	0.50	0.24	0.10	0.60
145c	Total Locomotive Expenses	1.13	2.81	2.96	2.85	2.23	2.09	2.48	2.15	4.61
†	Fuel consumed in terms of coal lbs.	150.95	190.27	138.12	...	131.84	191.03	192.03	...	167.82
	of wood ..	...	...	...	415.91	...	...	...	328.28	...

STATISTICS OF INDIAN

No. VIII.—WORKING

TABLE C.—CARRIAGE

HALF-YEAR ENDED 30th June 1883.

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.	Punjab Northern.
	PER TOTAL TRAIN-MILE.									
146a	General Superintendence (including office expenses) <i>Annas</i>	0·21	0·19	0·21	0·33	0·27	0·40	0·22	0·20	0·19
147a	Repairs and Renewals of Coaching Vehicles "	0·74	1·64	1·06	1·81	1·14	1·65	1·33	0·53	0·49
148a	Repairs and Renewals of Goods Vehicles "	1·18	1·96	1·56	2·54	3·13	3·94	1·70	0·88	1·40
149a	Cleaning and Oiling "	0·10	0·35	0·38	0·44	0·22	0·42	0·39	0·38	0·47
150a	Other Charges (not) "	0·11	0·32	0·38	0·26	0·21	—1·75	0·13	0·04	0·01
151a	Total Carriage and Wagon Expenses "	2·34	4·47	3·59	5·43	4·97	4·66	3·77	2·03	2·56
	PER 1,000 VEHICLE MILES RUN BY HOME VEHICLES.									
146b	General Superintendence (including office expenses) <i>Rs.</i>	0·51	0·62	0·50	1·21	0·53	1·05	0·39	0·60	0·45
147b	Repairs and Renewals of Coaching Vehicles (a) "	7·91	26·92	12·46	13·86	11·10	13·42	10·99	7·12	3·36
148b	Repairs and Renewals of Goods Vehicles (a) "	3·74	8·01	4·81	13·85	7·84	15·59	3·78	3·32	4·88
149b	Cleaning and Oiling "	0·24	1·15	0·92	1·39	0·45	1·10	0·68	1·13	1·07
150b	Other Charges (net) "	0·27	1·05	0·94	0·83	0·42	—4·64	0·22	0·11	0·01
151b	Total Carriage and Wagon Expenses "	5·72	14·60	8·76	17·29	9·91	12·38	6·61	5·99	5·90

(a) These two items are calculated respectively upon the coaching and goods vehicle mileage

DIX A—contd.

RAILWAYS (Part II)—contd.

EXPENSES—contd.

AND WAGON EXPENSES.

HALF-YEAR ENDED 30th June 1883.

Nizam's.	NARROW GAUGE.									Progressive number.
	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur-Ghatisgarh.	Bangkok and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Farukhabad.	Bhavnagar-Gondal.	
0.40	0.21	0.19	1.31	0.28	0.30	0.33	0.25	0.24	0.20	146a
1.38	0.70	0.52	0.53	0.23	0.88	0.30	0.22	0.46	0.40	147a
2.38	1.62	0.61	0.49	1.22	0.12	0.36	0.57	0.36	0.61	148a
0.30	0.23	0.24	0.68	0.20	0.23	0.19	0.29	0.17	0.50	149a
...	0.10	0.18	...	0.43	0.54	0.07	...	0.01	...	150a
4.46	2.86	1.74	3.01	2.36	2.07	1.25	1.33	1.24	1.80	151a
1.97	0.75	0.50	5.02	0.69	0.34	0.81	0.93	0.60	0.70	140b
11.87	5.86	5.01	3.65	3.42	5.82	2.77	2.52	2.10	3.52	147b
27.45	9.90	2.29	4.27	3.43	0.58	1.23	3.15	1.83	2.41	148b
1.46	0.82	0.66	2.60	0.46	0.62	0.48	1.08	0.42	1.28	149b
0.01	0.34	0.47	...	1.02	1.50	0.18	...	0.02	...	150b
21.93	1.11	4.68	11.55	5.59	5.74	3.12	4.95	3.05	4.84	151b

other items in the table being calculated upon the aggregate of both coaching and goods vehicle mileage.

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.	Punjab Northern.
PER TOTAL TRAIN MILE.										
152a	General Superintendence (including office expenses) <i>Annas</i>	0.58	0.40	0.69	1.01	0.63	1.30	0.77	0.65	1.29
153a	Station Staff ... "	2.38	1.71	2.17	2.77	2.90	7.95	3.41	1.58	2.77
154a	Train Staff ... "	0.84	1.23	0.87	0.57	0.49	1.35	0.73	0.71	1.23
155a	Fuel, Lighting, Water and General Stores ... "	0.26	0.50	0.70	0.97	0.79	0.79	0.43	0.35	0.93
156a	Clothing ... "	0.05	0.04	0.04	0.08	0.10	0.13	0.09	0.04	0.01
157a	Printing, Stationery and Tickets ... "	0.21	0.16	0.40	0.44	0.35	0.35	0.32	0.08	0.26
158a	Charges for delivery and collection of goods, &c. "	...	0.01	0.02	0.01	0.02	...	0.02	—0.01	...
159a	Miscellaneous expenses ... "	0.06	0.02	0.01	0.04	0.01	0.01	0.01	0.02	0.04
160a	Payments to other lines ... "	...	0.08	0.11	...	...	...	0.23	0.11	0.43
161a	Other charges (net) ... "	0.01	0.05	0.13	0.06	0.05	...	0.04	0.03	1.66
162a	Total Traffic Expenses ... "	4.36	4.20	5.14	5.95	5.34	11.88	6.05	3.56	8.68
PER CENT. ON TRAFFIC EARNINGS.										
<i>(Abstracts H and I of Revenue Accounts.)</i>										
152b	General Superintendence (including office expenses) † <i>Per cent.</i>	0.74	0.56	1.17	1.81	0.63	1.30	1.31	1.21	2.61
153b	Station Staff ... "	3.15	2.38	3.66	4.97	2.86	7.96	5.79	2.92	5.58
154b	Train Staff ... "	1.11	1.71	1.47	1.03	0.49	1.36	1.24	1.30	2.59
155b	Fuel, Lighting, Water and General Stores ... "	0.35	0.69	1.17	1.74	0.78	0.79	0.72	0.65	1.87
156b	Clothing ... "	0.06	0.05	0.08	0.15	0.09	0.13	0.14	0.07	0.02
157b	Printing, Stationery and Tickets ... "	0.28	0.23	0.67	0.79	0.34	0.35	0.54	0.15	0.54
158b	Charges for delivery and collection of goods, &c. "	...	0.01	0.03	0.02	0.02	...	0.03	—0.01	...
159b	Miscellaneous Expenses ... "	0.08	0.03	0.01	0.06	0.01	0.01	0.01	0.04	0.09
160b	Payments to other lines ... "	...	0.11	0.19	...	...	...	0.40	0.21	0.87
161b	Other charges (net) ... "	0.01	0.07	0.22	0.11	0.05	...	0.07	0.05	3.33
162b	Total Traffic Expenses ... "	5.78	5.34	8.67	10.68	5.27	11.90	10.25	6.59	17.50
†	General Superintendence per cent. on traffic earnings, (including steam-boat) <i>Per cent.</i>	0.74	0.56	1.17	1.81	0.63	1.21	1.31	1.14	2.61

DIX A—contd.

RAILWAYS (Part II)—contd.

EXPENSES—contd.

TRAFFIC EXPENSES.

HALF-YEAR ENDED 30th June 1883.

NARROW GAUGE.										
Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur-Chhattisgarh.	Bansoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Farukhabad.	Dharnagar-Gondal.	Progressive number.
0.89	0.54	0.51	1.72	0.54	0.81	0.54	1.01	1.85	0.94	152a
1.96	1.98	1.65	1.83	1.38	3.78	2.12	1.88	2.48	2.10	153a
0.72	0.38	0.52	0.76	0.43	0.67	0.40	0.35	0.18	0.57	154a
0.40	0.27	0.35	0.28	0.39	0.54	0.48	0.24	0.52	0.51	155a
0.03	0.01	0.06	0.01	0.07	0.07	0.03	0.06	0.09	0.01	156a
0.18	0.16	0.13	0.21	0.07	0.41	0.10	0.19	0.38	0.90	157a
...	...	...	...	...	...	...	...	...	...	158a
0.08	0.02	0.02	0.04	0.02	0.25	0.04	0.02	0.02	0.11	159a
0.40	...	0.07	0.97	0.68	...	...	...	...	0.25	160a
...	0.12	...	0.01	0.01	0.02	0.02	...	-0.04	0.28	161a
4.68	3.48	3.31	5.81	3.59	6.55	3.73	3.75	5.48	5.07	162a
1.97	1.41	1.09	3.42	0.87	1.73	1.19	3.19	4.11	1.72	162b
4.37	5.13	3.53	3.64	2.23	3.07	4.74	5.90	5.51	3.87	163b
1.59	0.98	1.12	1.52	0.89	1.43	0.90	1.12	0.39	1.05	164b
0.89	0.69	0.75	0.51	0.62	1.16	1.07	0.76	1.15	0.93	165b
0.07	0.02	0.12	0.03	0.11	0.15	0.07	0.19	0.20	0.03	166b
0.40	0.41	0.28	0.43	0.12	0.88	0.23	0.60	0.84	1.05	167b
...	...	...	...	...	...	...	...	...	...	168b
0.18	0.05	0.04	0.08	0.03	0.53	0.08	0.05	0.05	0.20	169b
0.89	...	0.14	1.92	1.10	...	...	...	...	0.45	160b
0.01	0.30	...	0.02	0.01	0.04	0.05	0.01	-0.08	0.52	161b
10.37	8.99	7.07	11.57	5.78	13.99	8.33	11.88	12.17	10.42	162b
1.97	1.41	1.09	3.42	0.87	1.73	1.05	2.94	4.11	1.72	†

STATISTICS OF INDIAN

No. VIII.—WORKING

HALF-YEAR ENDED 30th June 1883.

TABLES E AND G.—GENERAL CHARGES

Progressive number.	Headings.	BROAD GAUGE.								
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Ondh and Rohilkhand.	Indus Valley and Kandahar.	Punjab Northern.
Table E.—General Charges.										
PER TOTAL TRAIN MILE.										
163a	Home Expenditure <i>Annas.</i>	0·20	0·17	0·44	0·58	0·50	0·98	0·86	0·02	...
164a	Agent's Office—Salaries and Expenses "	0·21	0·12	0·28	0·37	0·31	1·13	0·44	0·27	0·64
165a	Audit, Accounts and Pay Offices "	0·57	0·43	0·89	1·12	0·86	1·23	1·05	0·79	1·43
166a	Stores Department "	0·27	0·15	0·33	0·18	0·52	0·07	0·12	0·23	0·28
167a	Medical " "	0·16	0·10	0·13	0·28	0·15	0·35	0·26	0·14	0·17
168a	Rents and Miscellaneous Expenses "	(b) 0·37	0·11	0·26	0·13	0·22	0·86	0·18	0·26	0·24
169a	Police " "	0·21	0·21	0·28	0·32	0·40	0·61	0·31	...	...
170a	Advertising " "	0·01	0·01	0·05	0·04	...	0·12	...	0·02	0·01
171a	Electric Telegraph " "	0·60	0·49	0·65	0·74	0·63	1·05	0·98	0·56	1·37
172a	Other Charges (net) " "	0·01	0·04	0·10	0·10	0·08	0·15	0·25	0·05	0·1
173a	Total General Charges " "	2·61	1·83	3·41	3·86	3·67	6·55	4·45	2·34	4·26
PER CENT. ON TOTAL EARNINGS.										
163b	Home Expenditure <i>Per cent.</i>	0·27	0·24	0·70	1·01	0·49	0·90	1·33	0·04	...
164b	Agent's Office—Salaries and Expenses "	0·27	0·17	0·45	0·65	0·30	1·04	0·67	0·45	1·19
165b	Audit, Accounts and Pay Offices "	0·74	0·58	1·41	1·96	0·84	1·13	1·62	1·34	2·66
166b	Stores Department "	0·36	0·20	0·53	0·31	0·51	0·06	0·18	0·39	0·51
167b	Medical Department " "	0·20	0·13	0·20	0·49	0·15	0·32	0·41	0·24	0·31
168b	Rents and Miscellaneous Expenses "	(b) 0·48	0·16	0·41	0·23	0·21	0·79	0·27	0·44	0·44
169b	Police " "	0·27	0·29	0·44	0·56	0·39	0·56	0·48	...	...
170b	Advertising " "	0·01	0·01	0·07	0·08	...	0·11	0·01	0·02	0·01
171b	Electric Telegraph " "	0·78	0·68	1·03	1·29	0·62	0·96	1·52	0·94	2·51
172b	Other charges (net) " "	0·01	0·06	0·16	0·17	0·08	0·13	0·38	0·09	0·25
173b	Total General charges " "	3·39	2·52	5·40	6·75	3·59	6·00	6·87	3·95	7·88
Table G.—Special and Miscellaneous Expenses.										
PER CENT. ON GROSS EARNINGS.										
174	Law charges ... <i>Per cent.</i>	0·02	...	0·04	0·15	0·03	0·02	0·10	0·01	0·26
175	Compensation ... "	0·01	0·04	...	0·09	0·03	0·21	0·01	0·41	1·07
176	Rates and Taxes " "	0·10	0·07	0·07	0·20	0·11	0·16	0·02	...	...
177	Payments to other Lines " "	1·00	1·07	3·35	0·33	0·65	0·07	0·58	6·18	2·16
178	Other Charges (net) " "	0·11	(a) 0·88	0·03	0·01	0·29	0·05	1·31	0·64	0·87
179	Total Special and Miscellaneous Expenses " "	1·24	2·06	3·49	0·78	1·11	0·51	2·02	7·24	4·36

(a) Includes 0·77 per cent. on account

(b) Includes the cost of Government

DIX A—contd.

RAILWAYS (Part II)—contd.

EXPENSES—concl'd.

AND SPECIAL AND MISCELLANEOUS EXPENSES.

HALF-YEAR ENDED 30th June 1883.

NARROW GAUGE.										
Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur-Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Farakhabad.	Bhavnagar-Gondal.	Progressive number.
0.10	0.62	0.05	...	...	...	0.45	0.19	0.11	...	163a
0.50	0.40	0.22	1.31	0.58	0.69	0.73	1.11	1.28	0.88	164a
1.12	0.89	0.68	2.20	0.71	0.92	1.25	1.39	1.95	1.52	165a
0.31	0.21	0.20	0.73	0.17	0.28	0.06	0.16	0.26	0.24	166a
0.17	0.12	0.11	0.33	0.01	0.07	0.30	0.12	0.08	0.34	167a
0.33	0.20	0.21	0.31	0.31	0.28	0.10	0.36	0.79	0.48	168a
...	...	...	...	...	...	...	...	0.20	0.93	169a
...	0.03	0.01	...	0.01	0.06	0.04	0.05	...	0.01	170a
0.69	0.73	0.73	2.24	0.74	0.77	0.97	0.98	1.53	2.26	171a
...	0.17	0.03	...	0.05	0.23	0.08	0.05	0.58	0.09	172a
3.22	3.37	2.24	8.12	2.58	2.84	3.08	4.03	6.74	6.73	173a
0.21	1.58	0.11	...	...	...	0.85	0.55	0.25	...	163b
1.10	1.02	0.47	2.56	0.92	1.45	1.35	3.12	2.76	1.59	164b
2.43	2.27	1.43	4.31	1.14	1.94	2.33	3.92	4.25	2.75	165b
0.68	0.55	0.43	1.46	0.28	0.59	0.12	0.44	0.56	0.44	166b
0.36	0.31	0.22	0.65	0.01	0.15	0.57	0.34	0.17	0.62	167b
0.71	0.49	0.44	0.61	0.50	0.59	0.19	1.02	1.71	0.83	168b
...	...	...	...	...	...	...	...	0.43	1.68	169b
0.01	0.09	0.03	...	0.02	0.12	0.07	0.13	0.02	0.02	170b
1.51	1.84	1.54	6.33	1.18	1.63	1.79	2.78	3.35	4.09	171b
...	0.44	0.07	...	0.07	0.48	0.12	0.14	1.23	0.18	172b
7.01	8.59	4.74	15.92	4.12	5.99	5.69	11.34	14.73	12.20	173b
...	0.02	0.01	0.13	...	...	...	...	...	...	174
0.06	0.09	0.03	0.22	0.04	0.01	0.25	...	0.05	0.05	175
...	0.15	...	0.02	...	0.36	0.01	0.15	...	...	176
...	...	...	...	...	...	...	...	...	...	177
2.34	0.02	0.18	0.43	0.29	...	...	...	...	0.15	178
0.36	0.05	0.30	0.23	0.46	0.35	0.43	0.27	0.20	0.41	179
2.76	0.23	0.52	1.03	0.79	0.72	0.69	0.42	0.25	0.61	179

of rent of leased lines.
controlling establishment.

STATISTICS OF INDIAN

No.

HALF -YEAR ENDED 30th June 1883.

EXTRACT FROM TABLES PRINTED

Progressive number.	Headings.	BROAD GAUGE.									
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Behlikhand.	Indus Valley and Kandabar.	Punjab Northern.	
FROM APPENDIX I.											
180	Average number of Locomotives on the line. <i>No.</i>	539	440	159	150	102	48	125	156	78	
181	Average train-mileage hauled per Locomotive per diem ... <i>Miles.</i>	63.25	67	62.47	88	68	58.20	42.47	42.86	38.53	
182	lb. coal per train-mile (coal-burning engines)—Coaching ... <i>lbs.</i>	39.50	48.82	40.81	...	...	39.56	36.38	...	32.68
183	Goods ... "	46.50					51.59	47.73	...		
184	Mixed ... "	49.15					39.75	49.26	...		
185	lb. wood (wood-burning engines)—Coaching ... <i>lbs.</i>	...	...	...	86.45	...	...	...	115.60	...
186	Goods ... "
187	Mixed ... "
188	Average gross weight of trains—Coaching ... <i>Tons.</i>	195.11	123.68	150.37	114.00	141.70	102.77	...	162.61	...	
189	Goods ... "	356.80	242.41	286.18	218.35	402.94	342.50	...	339.98	...	
190	Mixed ... "	197.56	...	227.29	219.08	271.26	187.68	...	236.65	...	
191	Average through speed of trains—Coaching <i>Miles per hour.</i>	23.79	21.62	17.83	18.60	19.25	21.00	19.89	20.89	...	
192	Goods ... "	12.24	11.29	11.53	11.93	9.50	14.00	13.50	11.60	M. L. 11.41	
193	Mixed ... "	18.30	14.83	15.34	14.45	13.25	16.25	16.50	11.60	S. L. 10.98 M. L. 13.00 S. L. 10.29	
FROM APPENDIX II.											
194	Average mileage per diem of coaching vehicles including brakes ... <i>Miles.</i>	178,040.31	105,876.60	46,483.26	42,585.40	39,523.66	17,531.39	30,095.43	27,832.12	23,707.28	
195	Goods ditto ditto ... "	634,303.51	455,603.04	154,360.17	59,002.75	151,025.87	35,449.98	66,453.12	142,021.70	24,395.28	
FROM APPENDIX IV.											
196	Average age of rails—Steel ... <i>Years.</i>	16.0	...	9.0	8.0	14.5	1.5	4.0	3.5	...	
197	Iron ... "		...	19.5	19.5		16.0	10.5	5.5	...	
198	Proportion renewed per mile of rail—Steel ... <i>Per mile.</i>	0.04	0.01	0.07	...	0.04	0.008	...	...	0.03
199	Iron ... "			...	0.005		...	0.01	...		
FROM APPENDIX V.											
200	Average age of sleepers—Wood ... <i>Years.</i>	11.0	...	12.0	7.0	11.5	7.5	10.5	6.5	...	
201	Iron ... "		...	16.0	14.0	9.0	12.0	10.5	3.5	...	
202	Percentage of renewals—Wood ... <i>Per cent.</i>	15.46	6.41	4.41	9.12	18.18	3.58	1.55	0.28	0.23	
203	Iron ... "	0.34	0.72	0.01	0.27	0.45	0.84	0.44	...	...

* Information not available.

DIX A—contd.

RAILWAYS (Part II)—concld..

IX.

AS APPENDICES TO THE ANALYSES.

HALF-YEAR ENDED 30th June 1883.

Nizam's	NARROW GAUGE.									Progressive number.
	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur-Chhattisgarh.	Banroon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Farrukhabad.	Bhavnagar-Gondal.	
9	120	292	12	16	29	36	24	11	20	180
93-83	42-63	49-90	23-82	91-83	68-99	61-37	54-39	39-19	48-83	181
...	18-58	23-60	...	...	14-80	23-75	27-24	...	...	183
...	21-79	33-92	...	60-46	15-28	36-29	27-24	28-48	...	183
...	25-69	26-46	...	52-32	19-61	30-15	27-24	...	...	184
65-30	...	...	...	...	...	...	...	...	...	185
72-00	...	...	84-38	...	...	...	...	...	...	180
69-51	...	...	...	...	...	...	...	...	...	187
102-86	103-61	86-26	89-87	106-24	102-93	90-49	47-79	124-94	97-91	188
204-22	143-17	161-31	83-68	199-08	122-43	174-62	100-71	151-13	135-13	180
164-92	171-81	107-56	87-81	127-82	145-88	134-11	81-48	136-54	90-11	100
14-47	mail 16-00	15-09	10-52	...	15-00	18-64	17-24	...	...	191
10-21	...	8-23	11-00	10-66	12-50	11-00	10-56	...	10-00	192
12-74	13-00	11-35	10-52	13-53	12-50	15-13	14-32	14-33	14-00	193
6,312-10	32,280-09	85,637-75	2,165-64	5,819-23	17,016-63	13,083-57	5,723-48	5,145-07	8,169-41	194
6,691-62	44,122-41	220,286-46	1,762-27	30,965-17	23,580-55	35,633-90	12,179-42	4,314-73	14,811-01	195
...	9-5	5-0	4-00	2-0	7-0	7-0	7-0	3-0	3-0	196
9-5	...	...	...	...	...	...	...	...	...	197
...	0-06	0-004	...	1-19	0-01	0-004	0-003	...	...	198
...	...	...	...	...	...	...	...	...	...	199
9-5	3-0	5-5	5-00	2-0	7-0	6-5	4-5	3-0	3-0	200
9-5	15-5	...	...	...	...	7-0	2-0	...	...	201
13-06	0-77	0-65	1-09	1-66	0-006	1-91	0-31	0-04	0-003	202
0-11	...	...	...	...	...	...	...	...	...	203

APPENDIX A—*contd.*

Addenda and Corrigenda to Part I of the Statistics for 1st half of 1883.

Patna-Gya—Table No. XIV (last page), read Rs. 75,440 as *Interest on Capital*.

” ” ” ” ” 83,983 ,, *Excess.*

INDIAN RAILWAYS.

Statistics of their working for the half-year ended 31st December 1883.

PART I.

SUMMARY OF THE REVENUE ACCOUNTS.

APPENDIX A—contd.

STATISTICS OF INDIAN RAILWAYS.

(Part I.)

Summary of the Revenue Accounts of Indian Railways for the half-year ended 31st December 1883.

No. I.

HALF-YEAR ENDED 31st December 1883. GENERAL RESULTS.

No.	RAILWAYS.	Gauge.		Capital expended (c).	Mean Mileage open.	Traffic Train Mileage.	Earnings.	Expenses.	Net Earnings.
		Ft.	In.	Rs.	Miles.		Rs.	Rs.	Rs.
<i>Broad Gauge.</i>									
1	East Indian ...	5	6	33,95,97,364	1,509½	4,977,634	2,33,02,556	90,18,202	1,42,84,354
2	Great Indian Peninsula...	5	6	25,34,93,202	1,288½ ^a	3,305,563	1,27,10,543	(k) 80,73,532	46,37,011
3	Sind, Punjab and Delhi ...	5	6	11,75,28,376	751b	1,313,850	51,76,638	29,57,842	22,18,796
4	Madras ...	5	6	11,17,22,586	861	939,030	32,66,008	19,89,643	12,76,365
5	Bombay, Baroda and Central India ...	5	6	(i) 8,67,97,460	461	870,660	47,64,585	24,35,594	23,28,991
6	Eastern Bengal ...	5	6	3,47,94,777	177 ^c	376,050	(g) 26,26,159	(h) 12,77,372	13,48,787
7	Bengal Central ...	5	6	28,67,240	52	33,999	64,258	88,230	-23,945
8	Oudh and Rohilkhand ...	5	6	5,89,01,464	547	659,568	25,23,648	14,17,482	11,06,166
9	Indus Valley and Kandahar ...	5	6	8,10,88,909	659½ ^d	861,679	32,53,024	19,26,655	13,26,369
10	Punjab Northern ...	5	6	7,12,66,290	420½	492,821	15,52,921	12,64,178	2,88,743
11	Dhond and Manmad ...	5	6	1,00,45,315	144	(j)	84,661	1,944	82,717
12	Patna-Gya ...	5	6	37,13,703	57½	66,144	2,21,016	(f) 1,12,574	1,08,442
13	Nizam's ...	5	6	1,22,11,715	120½	152,803	4,25,589	3,04,483	1,21,106
14	Calcutta and South-Eastern ...	5	6	90,47,885	56	66,791	1,34,838	1,04,706	30,132
15	Khamgaon ...	5	6	4,82,570	8		2,258	199	2,059
16	Amraoti ...	5	6	4,34,666	6	(j)	8,523	2,000	6,523
17	Bhopal ...	5	6	6,08,822	11½		12,122	15,116	-2,994
18	Wardha Coal ...	5	6	52,94,596	45	36,216	1,06,621	87,792	18,829
19	Sindia ...	5	6	89,54,482	74½	40,313	1,66,929	88,461	78,468
20	Ghazipur-Dildarnagar ...	5	6	6,98,469	12	8,720	19,264	9,770	9,494
	Total			1,20,95,49,891	7,261½	14,201,841	6,04,22,188	3,11,75,775	2,92,46,413
<i>Narrow Gauge.</i>									
21	South Indian ...	Metre		4,32,72,177	662	811,013	19,54,713	13,11,663	6,43,050
22	Rajputana-Malwa ...			9,03,51,433	1,117½	2,015,734	57,26,619	33,49,529	23,77,090
23	Rewari-Ferozepore ...			40,60,857	88½	113,266	1,55,714	1,51,493	4,221
24	Nagpur and Chhattisgarh ...			93,27,495	149	96,568	3,36,905	2,62,920	73,985
25	Rangoon and Irrawaddy Valley ...			1,31,87,905	161	244,160	5,99,073	4,65,406	1,33,667
26	Northern Bengal ...			2,11,01,241	239	340,331	11,06,903	5,52,751	5,54,152
27	Kaunia-Dhurla ...			8,86,693	32½	11,944	66,011	47,642	18,368
28	Tirhoot ...			1,16,84,330	175½	191,287	4,63,172	3,42,201	1,20,971
29	Cawnpore-Achnera ...			53,50,963	188½	108,844	2,77,252	1,83,427	93,825
30	Bhavnagar-Gondal ...			87,82,250	193½	89,426	3,06,486	2,59,386	47,100
31	Jodhpore ...			4,99,866	19	7,100	17,683	9,984	7,699
32	Mysore ...			40,52,528	87	44,428	1,63,340	88,704	74,636
33	Nallhati ...	Ft.	In.	3,15,110	27½	20,906	36,946	26,503	10,443
		4	0						
34	Gaekwar of Baroda's ...	2	6	12,49,239	59	24,533	53,650	50,003	3,647
	Total			21,41,22,087	3,148½	4,119,540	1,12,64,467	71,01,613	41,62,854
	GRAND TOTAL			1,42,36,71,978	10,410	18,321,381	7,16,86,655	3,82,77,388	3,34,09,267

(a) Exclusive of 7½ miles (Dadar Junction to Colaba, B. B. and C. I. Railway) worked over by the Company.

(b) Excludes 13 miles of the E. I. Railway from Ghaziabad to Delhi worked over by the Company.

(c) Includes 13 miles, the length of the Damukdia Branch.

(d) Includes 7 miles of the S. P. and D. Railway from Mooltan to Muzaffrabad worked over by this Railway.

(e) Capital expended on open mileage charged to final heads, inclusive of rolling stock.

(f) Includes one-fifth share of net revenue payable to E. I. Railway for working, but excludes contribution to Provident Fund paid last half-year, now written back.

(g) Includes Company's share of earnings for working the Bengal Central Railway.

(h) Includes working expenses of the Bengal Central Railway, excepting maintenance and general charges.

(i) Includes expenditure on Patni Branch, Rs. 8,05,503.

(j) Included with the Great Indian Peninsula Railway.

(k) Includes Rs. 95,441, being the amount paid to the State as rent of leased lines.

APPENDIX A—contd.
STATISTICS OF INDIAN RAILWAYS—(Part D)—contd.

No. II.

SUMMARY OF EARNINGS.

[From No. VIII of Revenue Account.] HALF-YEAR ENDED 31st Dec. 1883.

No.	RAILWAY.	Coaching.	Goods.	Electric Telegraph.	Steam-boat.	SUNDRIES.		Total.
						Receipts from other lines for hire, mileage, and rents.	Other Items.	
	<i>Broad Gauge.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1	East Indian ...	62,28,271	1,67,05,721	37,697	14,972	76,458	2,39,437	2,33,02,556
2	Great Indian Peninsula...	34,57,967	90,92,340	24,915	...	154	1,35,167	1,97,10,543
3	Sind, Punjab and Delhi ...	16,93,014	34,10,863	12,182	...	15,887	44,609	51,76,638
4	Madras ...	13,66,980	18,10,772	11,536	...	21,527	55,193	32,00,008
5	Bombay, Baroda and Central India ...	16,36,908	30,31,214	14,378	...	46,381	35,704	47,64,585
6	Eastern Bengal ...	8,58,204	14,72,205	3,669	2,30,916	905	60,260	20,26,150
7	Bengal Central ...	48,572	9,169	597	...	5,364	583	64,295
8	Oudh and Rohilkhand ...	9,63,626	13,32,512	7,559	...	1,12,950	1,07,001	25,23,648
9	Indus Valley and Kandahar ...	5,21,905	26,39,189	4,657	63,976	...	23,207	32,53,024
10	Punjab Northern ...	6,41,879	7,76,130	5,267	...	1,03,492	26,153	15,52,021
11	Dhond and Manmad ...	...	...	...	...	...	...	84,001
12	Patna-Gya ...	1,55,286	63,448	1,472	...	...	810	2,21,016
13	Nizam's ...	2,06,154	2,14,276	2,132	...	...	3,027	4,25,589
14	Calcutta and South-Eastern ...	98,587	34,296	863	...	35	1,557	1,34,836
15	Khamgaon ...	...	...	...	...	...	...	2,258
16	Amraoti ...	...	...	...	...	...	...	8,523
17	Bhopal ...	5,631	5,856	635	...	...	...	12,122
18	Wardha Coal ...	16,717	66,088	820	...	21,062	1,034	1,00,021
19	Sindia ...	95,928	67,902	2,787	...	...	812	1,60,029
20	Ghazipur-Dildarnagar ...	9,909	8,778	571	...	...	6	19,264
	Total ...	1,80,05,538	4,07,40,759	1,31,237	3,09,864	4,05,115	7,34,233	6,04,22,188
	<i>Narrow Gauge.</i>							
21	South Indian ...	10,16,412	9,12,942	8,674	...	107	16,578	19,54,713
22	Rajputana-Malwa ...	18,39,780	37,77,157	15,179	...	8,068	86,435	57,26,610
23	Rewari-Ferozepore ...	54,235	1,28,622	2,153	...	...	-20,206	1,55,714
24	Nagpur and Chhattisgarh ...	83,554	2,49,211	1,386	...	...	2,754	3,30,905
25	Rangoon and Irrawaddy Valley ...	3,92,739	1,94,979	3,731	...	...	7,624	5,92,073
26	Northern Bengal ...	3,09,759	6,39,143	4,305	1,08,968	-4,543	40,271	11,06,903
27	Kaunia-Dhurla ...	22,945	5,688	...	37,145	...	239	66,011
28	Tirhoot ...	1,85,009	2,22,411	8,391	35,534	...	11,827	4,63,172
29	Cawnpore-Achnera ...	1,59,085	1,11,294	4,905	...	...	1,968	2,77,252
30	Bhavnagar-Gondal ...	2,03,226	94,696	4,542	...	...	4,022	3,06,486
31	Jodhpore ...	6,806	10,481	...	...	370	26	17,633
32	Mysore ...	1,07,282	53,211	830	...	...	2,017	1,63,340
33	Nalhati ...	23,579	12,494	729	...	...	144	36,946
34	Gaekwar of Baroda's ...	37,287	16,045	176	...	...	142	53,650
	Total ...	44,41,698	64,28,374	55,001	1,81,647	4,002	1,53,745	1,12,64,467
	GRAND TOTAL ...	2,24,47,236	4,71,69,133	1,86,238	4,91,511	4,009,117	8,87,978	7,16,86,655

APPEN
STATISTICS OF INDIANNo.
DETAIL OF COACH
[From Abstract H of

HALF-YEAR ENDED 31st December 1883.

No.	RAILWAYS.	PASSENGERS									
		FIRST CLASS.			SECOND CLASS.			THIRD OR INTERMEDIATE CLASS.			FOURTH
		Single journey fare.	Number.	Receipts.	Single journey fare.	Number.	Receipts.	Single journey fare.	Number.	Receipts.	Single journey fare.
	<i>Broad Gauge.</i>	Pies.		Rs.	Pies.		Rs.	Pies.		Rs.	Pies.
1	East Indian ...	18-00	24,592	2,74,176	9-00	78,906	3,35,030	4-50	220,037	2,34,032	2-50
2	Great Indian Peninsula ...	18-00 12-00	22,634	1,89,174	9-00 6-00	103,997	3,50,799	4-00 3-00	407,466	3,95,393	2-50
3	Sind, Punjab and Delhi ...	12-00	11,586	66,123	8-00	27,693	75,681	4-00	7,578	14,868	2-50
4	Madras ...	18-00	8,367	87,438	7-00	27,936	83,361	...	...	...	2-00
5	Bombay, Baroda and Central India.	12-00	33,545	47,694	6-00	253,574	1,07,514	...	...	...	2-50 3-00
6	Eastern Bengal ...	12-00	20,767	33,874	6-00	42,467	31,020	4-50	194,499	1,14,507	3-00
7	Bengal Central ...	12-00	942	520	6-00	9,139	1,949	4-50	15,509	3,876	3-00
8	Oudh and Rohilkhand ...	...	...	...	9-00	11,884	45,295	...	...	...	3-00 2-50
9	Indus Valley and Kandahar ...	12-00	1,429	11,708	8-00	3,774	14,382	...	...	...	2-50 2-00
10	Punjab Northern...	12-00	3,274	20,841	8-00	10,716	22,706	3-50	7,140	9,557	2-50
11	Dhond and Manmad ...	...	...	...	...	...	...	...	Worked by the Great Indian		
12	Patna and Gya ...	18-00	559	1,883	9-00	1,392	2,416	4-50	1,789	1,329	2-50
13	Nizam's ...	18-00	1,747	13,066	6-00	10,047	22,268	...	...	...	2-00
14	Calcutta and South-Eastern ...	18-00	548	1,316	9-00	4,535	3,538	3-00	433,313	81,209	2-42
15	Khamgaon ...	...	...	...	...	...	...	...	Worked by the Great Indian		
16	Amraoti ...	...	...	...	...	...	...	...	Worked by the Great Indian		
17	Bhopal ...	...	...	...	...	...	...	...	Worked by the Great Indian		
18	Wardha Coal ...	18-00	158	340	9-00	262	294	4-00	805	476	2-00
19	Sindia ...	...	...	...	...	...	...	...	...	...	...
20	Ghazipur and Dildarnagar ...	18-00	250	244	9-00	573	295	4-50	798	217	2-50
	Total ...	<i>Nil</i>	130,398	7,43,197	<i>Nil</i>	586,895	10,96,548	<i>Nil</i>	1,288,934	8,55,464	<i>Nil</i>
	<i>Narrow Gauge.</i>										
21	South Indian ...	12-00	5,413	20,759	4-00	34,269	28,268	...	...	...	2-00
22	Rajputana-Malwa ...	18-00	7,201	61,194	9-00	21,405	57,784	3-00	40,041	43,314	2-00 2-66
23	Rewari-Ferozepore ...	...	...	...	...	...	...	...	...	...	...
24	Nagpur and Chhattisgarh ...	18-00	1,553	2,217	8-00	6,215	2,780	4-00	7,229	2,094	2-00
25	Rangoon and Irrawaddy Valley	14-90	2,709	7,055	6-00	13,402	10,767	...	...	...	3-00
26	Northern Bengal ...	18-00	2,553	24,843	9-00	4,493	19,769	4-50	9,284	18,651	2-50
27	Kaunia-Dhurla ...	38-00	474	1,381	18-00	797	1,147	...	...	...	6-00
28	Tirhoot ...	18-00	2,495	9,183	9-00	3,526	7,213	...	...	...	2-50
29	Cawnpore-Achnera ...	15-00	765	2,200	8-00	2,470	3,497	3-00	1,063	380	2-00
30	Bhavnagar-Gondal ...	12-00	983	3,088	6-00	4,859	5,921	...	...	...	2-50
31	Jodhpore ...	18-00	75	139	5-08	234	157	...	...	...	1-89
32	Mysore ...	12-00	1,301	3,666	6-00	6,120	5,235	...	...	...	3-00
33	Nalhati ...	18-00	393	1,052	6-00	1,747	1,505	...	...	...	3-00
34	Gaekwar of Baroda's ...	...	...	...	7-00	1,447	1,043	...	...	...	3-00
	Total ...	<i>Nil</i>	25,920	1,36,777	<i>Nil</i>	101,034	1,45,086	<i>Nil</i>	57,617	64,439	<i>Nil</i>
	GRAND TOTAL ...	<i>Nil</i>	156,318	8,84,974	<i>Nil</i>	687,929	12,41,634	<i>Nil</i>	1,346,551	9,19,903	<i>Nil</i>

NOTE.—Season tickets included with

DIX A—contd.

RAILWAYS—(Part D)—contd.

III.

ING TRAFFIC.

Revenue Account.]

HALF-YEAR ENDED 31st December 1883.

OF LOWEST CLASS.		TOTAL.		Miscellaneous, including Parcel, Luggage, &c.	Total.	Deductions.	Net Total.	RAILWAYS.	No.
Number.	Receipts.	Number.	Receipts.						
	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.	Broad Gauge.	
5,073,368	46,80,485	5,396,903	55,03,723	7,24,558	62,28,281	10	62,28,271	East Indian	1
2,871,775	18,47,990	3,405,872	27,83,356	6,74,611	34,57,967	...	34,57,967	Great Indian Peninsula ...	2
2,069,750	13,62,638	2,116,607	15,19,310	1,73,704	16,93,014	...	16,93,014	Sind, Punjab and Delhi ...	3
2,168,331	9,87,127	2,204,634	11,57,926	2,09,054	13,66,980	...	13,66,980	Madras	4
4,185,933	13,05,810	4,473,052	14,61,018	1,75,890	16,36,908	...	16,36,908	Bombay, Baroda and Central India.	5
1,243,311	5,96,069	1,501,044	7,75,470	82,734	8,58,204	...	8,58,204	Eastern Bengal	6
236,548	40,563	262,138	46,908	1,664	48,572	...	48,572	Bengal Central	7
1,313,471	8,55,416	1,325,355	9,00,711	62,915	9,63,626	...	9,63,626	Oudh and Rohilkhand ...	8
743,039	4,29,743	743,242	4,55,833	66,072	5,21,905	...	5,21,905	Indus Valley and Kandahar ...	9
884,727	5,17,628	905,857	5,70,532	71,596	6,42,128	249	6,41,879	Punjab Northern	10
Peninsula Railway Company,			...	...	...	...	...	Dhond and Manmad	11
290,635	1,44,981	294,375	1,50,609	4,677	1,55,286	...	1,55,286	Patna and Gya	12
207,012	1,22,886	218,806	1,58,220	47,934	2,06,154	...	2,06,154	Nizam's	13
88,782	9,304	527,178	95,367	3,220	98,587	...	98,587	Calcutta and South-Eastern ...	14
Peninsula Railway Company,			...	...	...	...	...	Khamgaon	15
								Amraoti	16
57,446	14,240	58,671	15,350	1,367	16,717	...	16,717	Bhopal	17
...	...	...	...	...	...	...	95,928	Wardha Coal	18
54,226	8,552	55,847	9,308	601	9,909	...	9,909	Sindia	19
21,488,354	1,29,03,432	23,494,581	1,56,03,641	23,00,597	1,79,04,238	259	1,80,05,538	Ghazipur and Dildarnagar ...	20
								Total.	
								Narrow Gauge.	
2,561,597	9,18,520	2,601,279	9,67,547	43,865	10,16,412	...	10,16,412	South Indian	21
2,474,890	14,96,338	2,543,537	16,58,636	2,35,426	18,94,056	54,276	18,39,780	Rajputana-Malwa	22
...	...	...	...	...	...	...	54,235	Rewari-Ferozepore	23
290,723	65,791	305,720	72,882	10,672	83,554	...	83,554	Nagpur and Chhattisgarh ...	24
891,094	3,61,899	907,205	3,79,221	13,518	3,92,739	...	3,92,739	Rangoon and Irrawaddy Valley	25
378,805	2,08,006	395,140	2,71,269	38,400	3,09,759	...	3,09,759	Northern Bengal	26
36,308	16,841	37,579	19,369	3,576	22,945	...	22,945	Kaunia-Dhurla	27
320,540	1,43,383	326,561	1,59,779	25,230	1,85,009	...	1,85,009	Tirhoot	28
577,885	1,44,795	582,183	1,50,872	3,213	1,59,085	...	1,59,085	Cawnpore-Achnera	29
313,743	1,80,244	319,585	1,89,253	13,973	2,03,226	...	2,03,226	Bhavnagar-Gondal	30
30,950	5,485	31,309	5,781	1,025	6,806	...	6,806	Jodhpore	31
181,360	90,660	188,781	99,561	7,721	1,07,282	...	1,07,282	Mysore	32
57,610	18,546	59,750	21,103	2,476	23,579	...	23,579	Nalhati	33
121,776	35,245	123,223	36,288	999	37,287	...	37,287	Gaekwar of Baroda's	34
8,237,281	36,85,253	8,421,852	40,31,555	4,10,184	44,41,739	54,276	44,41,698	Total.	
29,725,635	1,65,88,685	31,916,433	1,96,35,196	27,10,781	2,23,45,977	54,535	2,23,47,236	GRAND TOTAL.	

traffic of the classes to which they belong.

APPEN
STATISTICS OF INDIAN

No.

DETAIL OF

[From Abstract I of

HALF-YEAR ENDED 31st December 1883.

No.	RAILWAYS.	GENERAL MERCHANDISE.		MILITARY STORES.		RAILWAY MATERIALS AND REVENUE STORES, EXCEPT COAL.	
		Ton-miles.	Receipts.	Ton-miles.	Receipts.	Ton-miles.	Receipts.
	<i>Broad Gauge.</i>		Rs.		Rs.		Rs.
1	East Indian	371,466,434	1,32,34,227	2,214,503	2,01,080	35,354,904	4,77,757
2	Great Indian Peninsula	171,811,946	83,04,737	704,296	75,755	16,216,260	3,08,965
3	Sind, Punjab and Delhi	80,089,706	30,72,045	643,790	62,819	4,554,180	1,29,130
4	Madras	38,372,195	17,10,496	499,269	50,201	1,450,350	32,061
5	Bombay, Baroda and Central India	63,593,403	27,26,102	116,521	10,983	3,090,403	82,460
6	Eastern Bengal	23,486,893	13,84,033	19,809	1,824	613,000	12,771
7	Bengal Central	54,879	2,677	33	6	1,24,669	4,977
8	Ondh and Rohilkhand	34,150,634	11,21,542	128,091	11,140	5,508,563	1,37,667
9	Indus Valley and Kandahar	82,639,751	24,41,163	254,591	22,536	8,053,665	1,55,181
10	Punjab Northern	16,222,934	6,08,198	342,219	35,635	2,663,097	72,980
11	Dhond and Manmad ... ..	...	...	...	...	Worked by the Great Indian	...
12	Patna and Gya	1,585,079	61,487	...	...	52,414	1,368
13	Nizam's	3,451,340	1,88,365	119,837	12,161	637,952	12,210
14	Calcutta and South-Eastern	497,611	21,883	...	...	298,325	10,726
15	Khamgaon ... ..	...	...	...	...	Worked by the Great Indian	...
16	Amraoti ... ..	...	...	...	...	Worked by the Great Indian	...
17	Bhopal ... ..	...	...	...	...	...	...
18	Wardha Coal	235,230	13,534	33	4	192,479	5,203
19	Sindia ... ..	...	...	...	...	...	...
20	Ghazipur and Dildarnagar	166,905	8,621	2	1	2,950	50
	Total	887,824,940	3,48,99,110	5,049,994	4,84,145	78,813,211	14,43,508
	<i>Narrow Gauge.</i>						
21	South Indian	18,679,180	8,42,777	23,154	1,710	2,403,694	56,664
22	Rajputana-Malwa	85,224,970	33,03,280	153,241	15,593	13,337,494	4,80,947
23	Bewari-Ferozepore ... ..	...	...	...	...	...	...
24	Nagpur and Chhattisgarh	3,845,825	2,36,433	3,960	318	225,409	6,733
25	Rangoon and Irrawaddy Valley	2,309,620	1,60,964	...	...	404,986	15,241
26	Northern Bengal	10,061,896	6,01,403	12,811	1,023	400,155	14,693
27	Kannia-Dhurla	23,009	5,455	189	62	2,397	103
28	Tirhoot	3,554,538	1,65,252	1,010	118	1,267,706	45,189
29	Cawnpore-Achnera	1,386,476	85,369	46,180	5,720	555,878	18,011
30	Bhavnagar-Gondal	1,273,958	89,527	...	...	238,247	4,063
31	Jodhpore	71,182	9,416	...	...	32,939	962
32	Mysore	538,150	35,557	774	72	132,760	16,637
33	Nalhati	69,541	7,587	...	...	4,514	178
34	Gaekwar of Baroda's	197,391	14,783	...	...	37,652	1,068
	Total	127,235,736	55,57,873	241,319	24,616	19,043,831	6,60,499
	GRAND TOTAL	1,015,060,676	4,04,56,983	52,84,313	5,08,761	97,857,042	21,04,005

(a) Owing to a mistake in the Revenue Account, there is a difference of

DIX A—contd.

RAILWAYS—(Part D)—contd.

IV.

GOODS TRAFFIC.

Revenue Account.]

HALF-YEAR ENDED 31st December 1883.

MINERALS.		Miscellaneous.	Total.	Deductions.	Net Total.	RAILWAYS.	No.
Ton-milos.	Receipts.						
	Rs.	Rs.	Rs.	Rs.	Rs.		
117,109,526	26,72,563	1,20,514	1,67,06,141	420	1,67,05,721	<i>Broad Gauge.</i>	
14,269,573	3,41,012	61,871	90,92,340	...	90,92,340	East Indian	1
5,175,690	1,22,294	24,575	34,10,863	...	34,10,863	Great Indian Peninsula	2
12,693	427	17,587	18,10,772	...	18,10,772	Sind, Punjab and Delhi	3
4,067,557	82,515	1,29,174	30,31,234	20	30,31,214	Madras	4
2,295,067	68,069	5,508	14,72,205	...	14,72,205	Bombay, Baroda and Central India	5
31,321	1,486	23	9,169	...	9,169	Eastern Bengal	6
3,865,291	56,946	5,217	13,32,512	...	13,32,512	Bengal Central	7
625,065	15,015	5,385	26,39,280	91	26,39,189	Oudh and Rohilkhand	8
322,622	7,623	52,556	7,76,992	862	7,76,130	Indus Valley and Kandahar	9
Peninsula Railway Company.	...	...	...	...	...	Punjab Northern	10
9,644	253	340	63,448	...	63,448	Dhond and Manmad	11
15,399	443	397	(a) 2,14,276	...	(a) 2,14,276	Patna and Gya	12
13,742	595	1,092	34,296	...	34,296	Nizam's	13
Peninsula Railway Company.	...	...	...	...	...	Calcutta and South-Eastern	14
...	...	...	...	...	...	Khangaon	15
...	...	...	...	...	...	Amraoti	16
1,494,284	47,153	194	66,088	...	66,088	Bhopal	17
...	...	...	...	...	67,902	Wardha Coal	18
1,181	31	75	8,778	...	8,778	Sindia	19
149,308,655	34,16,425	4,24,508	4,06,68,394	1,393	4,07,40,759	Ghazipur and Dildarnagar	20
...	...	...	...	...	...	Total.	
393,380	8,081	3,710	9,12,942	...	9,12,942	<i>Narrow Gauge.</i>	
4,415,525	99,048	6,911	39,05,779	1,28,622	37,77,157	South Indian	21
...	...	...	...	...	1,28,622	Rajputana-Malwa	22
175,532	4,654	1,023	2,49,211	...	2,49,211	Rewari-Ferozapore	23
29,731	598	18,176	1,94,979	...	1,94,979	Nagpur and Chhattisgarh	24
680,469	20,874	1,150	6,39,143	...	6,39,143	Rangoon and Irrawaddy Valley	25
...	...	68	5,688	...	5,688	Northern Bengal	26
262,994	9,066	2,816	2,22,411	...	2,22,411	Kaunia-Dhurla	27
48,745	1,611	583	1,11,294	...	1,11,294	Tirhoot	28
4,703	169	867	94,696	...	94,696	Cawnpore-Achnera	29
...	...	103	10,481	...	10,481	Bhavnagar-Gondal	30
...	...	955	53,211	...	53,211	Jodhpore	31
67,523	4,512	217	12,494	...	12,494	Mysore	32
3,803	89	105	16,045	...	16,045	Nalhati	33
6,082,405	1,48,702	36,684	61,28,374	1,28,622	64,28,374	Gaekwar of Baroda's	34
155,391,060	35,65,127	4,61,192	4,70,96,768	1,30,015	4,71,69,133	Total.	
						GRAND TOTAL.	

Rs. 700 between this total and the sum of the figures in the preceding columns.

APPEN
STATISTICS OF INDIAN
No.

SUMMARY

HALF-YEAR ENDED 31st December 1883.

[From No. VIII of

No.	RAILWAYS.	Maintenance of Way, Works and Stations.	Locomotive Expenses.	Carriage and Wagon Expenses.	Traffic Expenses.
	<i>Broad Gauge.</i>	Rs.	Rs.	Rs.	Rs.
1	East Indian	37,13,893	19,38,880	8,17,415	14,58,873
2	Great Indian Peninsula	21,43,439	29,29,983	11,15,702	10,81,316
3	Sind, Punjab and Delhi	6,48,569	11,65,956	2,64,740	4,97,079
4	Madras	5,03,545	6,62,446	2,60,453	3,31,171
5	Bombay, Baroda and Central India	7,24,542	6,65,232	3,79,383	3,41,288
6	Eastern Bengal	2,21,681	2,60,962	1,18,520	3,02,593
7	Bengal Central	38,529	...	...	...
8	Oudh and Rohilkhand	3,13,391	4,62,079	1,35,249	2,40,989
9	Indus Valley and Kandahar	3,85,857	7,48,141	1,88,964	2,50,460
10	Punjab Northern	3,05,123	5,27,645	75,846	2,04,626
11	Dhond and Manmad	...	...	...	...
12	Patna and Gya	35,871	18,720	7,890	14,079
13	Nizam's	1,13,282	64,736	41,514	42,990
14	Calcutta and South-Eastern	38,923	27,526	5,356	17,482
15	Khamgaon	...	...	...	...
16	Amraoti	...	...	...	...
17	Bhopal	...	...	...	...
18	Wardha Coal	18,968	19,848	12,957	11,112
19	Sindia	27,149	14,168	7,564	10,655
20	Ghazipur and Dildarnagar	3,126	1,632	688	1,227
	Total	92,35,688	95,07,944	34,32,241	48,05,940
	<i>Narrow Gauge.</i>				
21	South Indian	3,25,355	4,16,364	1,45,229	1,79,149
22	Rajputana-Malwa	7,81,574	14,13,508	2,71,487	4,98,034
23	Rewari-Ferozepore	20,641	70,372	15,548	28,843
24	Nagpur and Chhattisgarh	70,519	82,811	14,073	45,888
25	Rangoon and Irrawaddy Valley	1,06,253	1,89,957	30,560	1,22,694
26	Northern Bengal	1,19,729	1,60,323	31,796	81,649
27	Kannia-Dhuria	6,219	5,430	1,335	4,418
28	Tirhoot	66,674	84,165	23,865	52,641
29	Cawnpore-Aohnera	37,167	54,692	12,664	38,212
30	Bhavnagar-Gondal	65,266	57,457	19,385	51,928
31	Jodhpore	2,349	3,565	148	2,286
32	Mysore	22,963	25,662	6,675	16,716
33	Nalhati	10,279	5,566	1,489	3,495
34	Gaekwar of Baroda's	21,254	12,943	2,508	9,002
	Total	16,56,742	25,32,815	5,76,742	11,34,955
	GRAND TOTAL	1,08,92,430	1,20,40,759	40,08,983	59,40,895

(a) Statist.
(b) See note (f), Table of
(c) Includes one-fifth share of net earnings
(d) Excludes rent of leased lines worked by the Great Indian Peninsula Railway Company (Rs. 95,441), and one-fifth share of net revenue payable to the East Indian Railway

DIX A—contd.

RAILWAYS—(Part I)—contd. -

V.

OF EXPENSES.

Revenue Account.]

HALF-YEAR ENDED 31st December 1883.

General Charges.	Steam-boat Service.	Special and Miscellaneous Expenses.	Total	RAILWAYS.	No.
Rs.	Rs.	Rs.	Rs.	<i>Broad Gauge.</i>	
9,21,535	13,879	1,53,927	90,18,209	East Indian	1
5,62,369	...	1,45,282	79,78,091	Great Indian Peninsula	2
3,47,028	16,931	17,539	29,57,842	Sind, Panjab and Delhi	3
2,17,120	...	14,908	19,89,643	Madras	4
2,69,944	...	55,215	24,35,594	Bombay, Baroda and Central India	5
1,66,541	1,83,470	23,605	12,77,372	Eastern Bengal	6
49,701	...	...	88,230	Bengal Central	7
2,05,505	...	60,269	14,17,482	Oudh and Rohilkhand	8
1,68,676	83,637	1,00,920	19,26,655	Indus Valley and Kandahar	9
1,19,472	...	31,466	12,64,178	Punjab Northern	10
...	...	...	(a) 1,844	Dhond and Manmad	11
9,017	...	1,481	(b) 87,058	Patna and Gya	12
30,188	...	11,773	3,04,483	Nizam's	13
14,653	...	766	1,04,706	Calcutta and South-Eastern	14
...	...	...	(a) 199	Khamgaon	15
...	...	...	(a) 2,000	Amraoti	16
...	...	...	15,116	Bhopal	17
22,435	...	2,422	87,792	Wardha Coal	18
6,825	...	(c) 22,100	88,461	Sindia	19
786	...	2,311	9,770	Ghazipur and Dildarnagar	20
31,11,845	2,97,917	6,43,984	(d) 3,10,54,818	Total.	
1,60,816	...	84,750	13,11,663	<i>Narrow Gauge.</i>	
3,14,754	...	70,192	33,49,529	South Indian	21
16,030	...	59	1,51,493	Rajputana-Malwa	22
42,941	...	6,688	2,62,920	Rewari-Ferozepore... ..	23
59,905	...	6,037	4,65,406	Nagpur and Chhattisgarh	24
74,058	69,639	15,557	5,52,751	Rangoon and Irrawaddy Valley... ..	25
3,885	26,264	92	47,643	Northern Bengal	26
61,890	44,622	8,344	3,42,201	Kaunia-Dhurla	27
35,199	...	5,493	1,83,427	Tirhoot	28
63,966	...	1,384	2,59,386	Cawnpore-Achnera	29
365	...	771	9,984	Bhavnagar-Gondal	30
15,935	...	753	88,704	Jodhpore	31
5,434	...	240	26,503	Mysore	32
4,296	...	...	50,003	Nalhati	33
...	...	...	...	Gaekwar of Baroda's	34
8,59,474	1,40,525	2,00,360	71,01,613	Total.	
39,71,319	4,38,442	8,44,344	3,81,56,431	GRAND TOTAL.	

expenses.

General Results, page H.

payable to the East Indian Railway for working.

for working the Patna-Gya Railway (Rs. 27,110), less Rs. 1,594 contribution to Provident Fund paid on account of the Patna-Gya Railway last half-year, now written back.

APPEN
STATISTICS OF INDIAN

No.

DETAIL OF EXPENSES FOR MAINTENANCE

[From Abstract A of

HALF-YEAR ENDED 31st December 1883.

No.	RAILWAYS.	General Superintendence.	Maintenance of Permanent-way.	Repairs of Bridges, &c.	Conservancy of Rivers.
	<i>Broad Gauge.</i>	Rs.	Rs.	Rs.	Rs.
1	East Indian	3,63,030	33,09,912	2,11,193	...
2	Great Indian Peninsula	2,22,843	12,02,216	3,16,837	...
3	Sind, Punjab and Delhi	1,17,945	2,31,886	87,284	...
4	Madras	1,26,028	2,57,853	36,987	...
5	Bombay, Baroda and Central India	1,09,305	3,26,084	1,34,940	...
6	Eastern Bengal	33,368	1,71,397	16,308	...
7	Bengal Central	16,914	21,101	50	...
8	Oudh and Rohilkhand	85,132	1,52,043	22,003	...
9	Indus Valley and Kandahar	80,300	1,63,440	43,471	2,548
10	Punjab Northern	66,418	95,787	58,953	20,000
11	Dhond and Manmad... ..	...	...	Worked by the Great Indian	
12	Patna and Gya ... ..	...	...	Worked by the East Indian	
13	Nizam's	8,479	95,174	2,788	1,043
14	Calcutta and South-Eastern	2,549	32,884	7,511	22
15	Khamgaon ... ..	...	...	Worked by the Great Indian	
16	Amraoti ... ..	...	...	Worked by the Great Indian	
17	Bhopal	909	...	...	...
18	Wardha Coal	1,207	10,844	2,227	...
19	Sindia ... ..	...	...	Worked by the East Indian	
20	Ghazipur and Dildarnagar ... ..	...	...	Worked by the East Indian	
	Total	12,34,418	60,70,621	9,40,552	23,613
	<i>Narrow Gauge.</i>				
21	South Indian	74,585	1,50,963	30,087	...
22	Rajputana-Malwa	1,30,493	4,24,553	57,212	400
23	Rewari-Ferozepore ... ..	...	...	...	...
24	Nagpur and Chhattisgarh	13,924	52,327	3,368	...
25	Rangoon and Irrawaddy Valley	22,721	60,298	6,262	...
26	Northern Bengal	23,260	73,776	5,932	...
27	Kannia-Dhuria	1,308	3,560	370	9
28	Tirhoot	14,558	16,666	2,295	...
29	Cawnpore-Achnera	7,156	14,097	7,741	...
30	Bhavnagar-Gondal	11,394	41,563	4,241	...
31	Jodhpore	483	2,103	238	...
32	Mysore	7,628	12,241	755	...
33	Nalhati	695	7,791	123	...
34	Gaekwar of Baroda's	4,348	9,914	5,351	...
	Total	3,12,553	8,69,852	1,23,975	409
	GRAND TOTAL	15,46,971	69,40,437	10,64,527	24,022

DIX A—contd.

RAILWAYS—(Part I)—contd.

VI.

OF WAY, WORKS AND STATIONS.

Revenue Account.]

HALF-YEAR ENDED 31st December 1893.

Repairs of Stations and Buildings.	Other Charges.	Total.	Deductions.	Net Total.	RAILWAYS.	No.
Rs.	Rs.	Rs.	Rs.	Rs.	Broad Gauge.	
3,51,876	5,34,099	47,70,110	10,56,417	37,13,693	East Indian	1
1,16,793	2,99,727	21,58,416	14,977	21,43,439	Great Indian Peninsula	2
79,579	1,31,917	6,48,611	42	6,48,569	Sind, Punjab and Delhi	3
47,150	35,527	5,03,545	...	5,03,545	Madras	4
31,275	1,23,092	7,24,696	154	7,24,542	Bombay, Baroda and Central India	5
31,940	20,933	2,73,946	52,265	2,21,681	Eastern Bengal	6
422	42	38,529	...	38,529	Bengal Central	7
22,748	31,465	3,13,391	...	3,13,391	Oudh and Rohilkhand	8
48,176	47,922	3,85,857	...	3,85,857	Indus Valley and Kandahar	9
27,386	36,579	3,05,123	...	3,05,123	Punjab Northern	10
Peninsula Railway Company.			...	...	Dhond and Mahmud	11
Railway Company.			...	35,871	Patna and Gya	12
4,106	1,692	1,13,282	...	1,13,282	Nizam's	13
1,232	2,627	46,825	7,902	38,923	Calcutta and South-Eastern	14
Peninsula Railway Company.			...	...	Khangaon	15
			...	...	Amraoti	16
11	5,745	6,656	...	6,656	Bhopal	17
466	4,224	18,968	...	18,968	Wardha Coal	18
Railway Company.			...	27,149	Sindia	19
			...	3,126	Ghazipur and Dildarnagar	20
7,63,160	12,75,591	1,03,07,955	11,31,757	92,42,344	Total,	
					Narrow Gauge.	
18,791	51,904	3,26,330	975	3,25,355	South Indian	21
73,007	1,22,083	3,07,748	26,174	7,31,574	Rajputana-Malwa	22
...	...	...	...	20,641	Rewari-Ferozapore	23
2,068	—1,168	70,519	...	70,519	Nagpur and Chhattiagarh	24
5,856	11,116	1,06,253	...	1,06,253	Rangoon and Irrawaddy Valley	25
8,298	8,463	1,19,729	...	1,19,729	Northern Bengal	26
557	415	8,219	...	8,219	Kaunia-Dhuria	27
5,383	27,772	66,674	...	66,674	Tirhoot... ..	28
2,848	5,749	87,591	424	37,167	Cawnpore-Achnera	29
3,823	4,245	65,266	...	65,266	Bhavnagar-Gondal	30
31	—6	2,849	...	2,849	Jodhpore	31
1,458	881	22,963	...	22,963	Mysore	32
1,448	222	10,279	...	10,279	Nalhati	33
549	1,092	21,254	...	21,254	Gackwar of Baroda's	34
1,24,117	2,32,768	16,63,674	27,573	16,56,742	Total.	
8,87,277	15,08,359	1,19,71,629	11,59,330	1,08,99,086	GRAND TOTAL.	

APPEN
STATISTICS OF INDIAN

No.

DETAIL OF LOCOMO

[From Abstract B of

HALF-YEAR ENDED 31st December 1883.

No.	RAILWAYS	General Superintendence.	Wages of Drivers and Firemen, Fueling, Cleaning Engines, &c.	Fuel.	Water.	Oil, Tallow, and other Stores.
	<i>Broad Gauge.</i>	Rs.	Rs.	Rs.	Rs.	Rs.
1	East Indian	2,77,597	6,17,913	2,02,689	39,290	87,486
2	Great Indian Peninsula	1,79,734	6,59,503	9,37,290	80,952	84,145
3	Sind, Punjab and Delhi	75,312	1,76,852	4,25,810	16,637	31,091
4	Madras	51,925	1,42,909	2,13,020	9,256	12,563
5	Bombay, Baroda and Central India	45,723	1,44,289	2,74,200	16,023	17,152
6	Eastern Bengal	32,738	76,666	82,663	7,129	11,845
7	Bengal Central ... ..	...	...	...	Worked by the Eastern	
8	Oudh and Rohilkhand	59,417	66,816	1,70,612	6,162	15,809
9	Indus Valley and Kandahar	60,619	1,70,996	2,43,008	15,721	19,242
10	Punjab Northern	36,103	86,040	2,52,180	11,411	13,570
11	Dhond and Manmad ... ..	...	...	...	Worked by the Great Indian	
12	Patna and Gya ... ..	...	...	...	Worked by the East Indian	
13	Nizam's	3,854	17,253	17,343	2,226	1,349
14	Calcutta and South-Eastern	2,325	3,467	14,545	1,549	1,248
15	Khamgaon ... ..	...	...	...	Worked by the Great Indian	
16	Amraoti ... ..	...	...	...	Worked by the Great Indian	
17	Bhopal ... ..	...	...	...	Worked by the Great Indian	
18	Wardha Coal	1,086	3,343	7,973	486	831
19	Sindia ... ..	...	...	...	Worked by the East Indian	
20	Ghazipur and Dildarnagar ... ..	...	...	...	Worked by the East Indian	
	Total	8,26,433	21,66,047	28,41,336	2,06,842	2,96,831
	<i>Narrow Gauge.</i>					
21	South Indian	35,378	86,742	1,42,439	8,238	9,470
22	Rajputana-Malwa	95,796	3,10,878	6,58,681	33,321	30,862
23	Rewari-Ferozepore ... ..	...	...	...	...	...
24	Nagpur and Chhattisgarh	13,842	14,885	22,665	2,689	4,466
25	Rangoon and Irrawaddy Valley	21,688	38,145	42,451	2,260	4,385
26	Northern Bengal	16,645	38,170	48,330	3,463	6,385
27	Kanua-Dhurla	1,172	731	1,825	360	270
28	Tirboot	9,371	26,098	28,243	2,714	4,188
29	Cawnpore-Achnera	9,044	6,397	23,962	1,257	1,602
30	Bhavnagar-Gondal	10,005	18,322	17,825	2,301	1,791
31	Jodhpore	303	755	1,545	126	205
32	Mysore	3,812	7,994	8,567	856	1,369
33	Nalhati	1,053	762	1,558	360	269
34	Gackwar of Baroda's	456	2,205	5,163	948	343
	Total	2,18,565	5,52,084	10,03,254	58,893	65,605
	GRAND TOTAL	10,44,998	27,18,131	38,44,590	2,65,735	3,62,436

DIX A—contd.

RAILWAYS—(Part I)—contd.

VII.

TIVE EXPENSES.

Revenue Account.]

HALF-YEAR ENDED 31st December 1883.

Maintenance and Renewal of Locomotive Engines and Machinery.	Other Charges.	Total.	Deductions.	Net Total.	RAILWAYS.	No.
Rs.	Rs.	Rs.	Rs.	Rs.	<i>Broad Gauge.</i>	
4,40,967	3,10,379	19,76,321	37,441	19,38,880	East Indian	1
6,40,819	3,47,540	29,29,983	...	29,29,983	Great Indian Peninsula	2
2,21,052	2,19,202	11,65,956	...	11,65,956	Sind, Punjab and Delhi	3
2,04,672	29,101	6,62,446	...	6,62,446	Madras	4
95,753	72,082	6,65,222	...	6,65,222	Bombay, Baroda and Central India	5
84,235	16,138	3,11,414	50,452	2,60,962	Eastern Bengal	6
Bengal Railway Company.	...	...	...	...	Bengal Central	7
91,504	51,759	4,62,079	...	4,62,079	Oudh and Rohilkhand	8
1,89,673	49,882	7,48,141	...	7,48,141	Indus Valley and Kandahar	9
63,258	65,083	5,27,645	...	5,27,645	Punjab Northern	10
Peninsula Railway Company.	...	...	...	...	Dhond and Manmad	11
Railway Company.	...	...	...	18,720	Patna and Gya	12
19,471	2,737	64,736	...	64,736	Nizam's	13
4,257	185	27,526	...	27,526	Calcutta and South-Eastern	14
Peninsula Railway Company.	...	...	...	...	Khamgaon	15
6,113	16	19,848	...	19,848	Amraoti	16
Railway Company.	...	...	...	14,168	Bhopal	17
...	...	...	...	1,632	Wardha Coal	18
20,61,774	11,62,054	95,61,317	87,893	95,07,944	Sindia	19
1,03,316	40,150	4,25,733	9,369	4,16,364	Ghazipur and Dildarnagar	20
2,50,258	1,16,652	14,96,448	82,940	14,13,508	Total.	
...	...	...	...	70,372	<i>Narrow Gauge.</i>	
18,923	5,341	82,811	...	82,811	South Indian	21
29,685	1,343	1,39,957	...	1,39,957	Rajputana-Malwa	22
26,068	21,262	1,60,323	...	1,60,323	Rewari-Ferozepore	23
755	317	5,430	...	5,430	Nagpur and Chhattisgarh	24
12,162	1,359	84,165	...	84,165	Bangoon and Irrawaddy Valley	25
10,808	1,755	54,825	133	54,692	Northern Bengal	26
6,069	1,144	57,457	...	57,457	Kaunia-Dhurla	27
631	...	3,565	...	3,565	Tirhoot	28
2,286	778	25,662	...	25,662	Cawnpore-Achnera	29
1,423	141	5,566	...	5,566	Bhavnagar-Gondal	30
3,573	255	12,943	...	12,943	Jodhpore	31
4,65,957	1,90,527	25,54,835	92,442	25,32,815	Mysore	32
25,27,731	13,52,581	1,21,16,202	1,80,335	1,20,40,759	Nalhati	33
...	...	...	...	...	Gackwar of Baroda's	34
...	...	...	...	...	Total.	
...	...	...	...	...	GRAND TOTAL.	

HALF-YEAR ENDED 31st December 1883.

No.	RAILWAYS.	General Superintendence.	REPAIRS AND RENEWALS OF VEHICLES AND MACHINERY.		Cleaning and Oiling.
			Coaching.	Goods.	
		Rs.	Rs.	Rs.	Rs.
<i>Broad Gauge.</i>					
1	East Indian	72,689	2,22,634	4,54,434	84,987
2	Great Indian Peninsula	57,536	4,58,653	4,28,697	1,03,585
3	Sind, Punjab and Delhi	20,882	63,343	1,06,557	39,292
4	Madras	20,527	1,29,774	76,374	26,372
5	Bombay, Baroda and Central India	18,725	83,300	2,38,223	14,889
6	Eastern Bengal	15,076	51,272	38,658	12,481
7	Bengal Central ... ..	...	...	...	Worked by the Eastern
8	Oudh and Rohilkhand	9,772	49,644	55,407	18,422
9	Indus Valley and Kandahar	16,689	72,806	72,631	23,395
10	Punjab Northern	5,969	10,989	49,867	8,569
11	Dhond and Manmad ... ..	...	...	...	Worked by the Great Indian
12	Patna and Gya ... ..	...	...	...	Worked by the East In
13	Nizam's	3,648	10,432	24,032	3,381
14	Calcutta and South-Eastern	1,521	748	2,116	1,524
15	Khamgaon ... ..	...	...	...	...
16	Amraoti ... ..	...	...	...	Worked by the Great Indian
17	Bhopal ... ..	...	...	...	...
18	Wardha Coal	1,032	183	9,417	1,780
19	Sindia ... ..	...	...	...	...
20	Ghazipur and Dildarnagar ... ..	...	...	...	Worked by the East In
	Total	2,44,066	11,53,778	15,56,413	2,88,677
<i>Narrow Gauge.</i>					
21	South Indian	11,103	28,041	90,504	9,844
22	Rajputana-Malwa	26,046	94,569	1,04,702	37,578
23	Rewari-Ferozepore ... ..	...	...	...	...
24	Nagpur and Chhattisgarh	6,751	93	3,047	3,073
25	Rangoon and Irrawaddy Valley	5,686	9,061	5,081	3,236
26	Northern Bengal	7,667	8,787	7,601	5,489
27	Kaunia-Dhurla	625	253	131	321
28	Tirhoot	3,332	6,058	7,461	4,703
29	Cawnpore-Achnera	2,257	3,559	4,413	1,362
30	Bhavnagar-Gondal	3,335	4,005	2,021	3,245
31	Jodhpore	70	1	...	77
32	Mysore	3,806	871	832	1,166
33	Nalhati	528	642	144	175
34	Gaekwar of Baroda's	152	233	1,700	421
	Total	71,358	1,56,153	2,27,637	70,696
	GRAND TOTAL	3,15,424	13,09,931	17,84,050	3,59,366

DIX A—contd.

RAILWAYS—(Part I)—contd.

VIII.

WAGON EXPENSES.

Revenue Account.]

HALF-YEAR ENDED 31st December 1883.

Other Charges.	Total.	Deductions.	Net Total.	RAILWAYS.	No.
Rs.	Rs.	Rs.	Rs.	<i>Broad Gauge.</i>	
47,221	8,31,963	14,550	8,17,415	East Indian	1
67,341	11,15,812	110	11,15,702	Great Indian Peninsula	2
34,666	2,64,740	...	2,64,740	Sind, Punjab and Delhi	3
8,366	2,61,413	960	2,60,453	Madras	4
24,246	3,79,383	...	3,79,383	Bombay, Baroda and Central India	5
3,016	1,20,503	1,083	1,18,520	Eastern Bengal	6
Bengal Railway Company.	...	...	...	Bengal Central	7
2,004	1,35,249	...	1,35,249	Oudh and Rohilkhand	8
3,443	1,88,964	...	1,88,964	Indus Valley and Kandahar	9
452	75,846	...	75,846	Punjab Northern	10
Peninsula Railway Company.	...	...	...	Dhond and Manmad	11
dian Railway Company.	...	...	7,890	Patna and Gya	12
21	41,514	...	41,514	Nizam's	13
...	5,909	553	5,356	Calcutta and South-Eastern	14
Peninsula Railway Company.	...	...	...	Khangaon	15
...	...	...	...	Amraoti	16
...	...	...	...	Bhopal	17
545	12,957	...	12,957	Wardha Coal	18
dian Railway Company.	...	...	7,564	Sindia	19
...	...	...	688	Ghazipur and Dildarnagar	20
1,91,321	34,34,255	18,156	34,32,241	Total.	
...	...	...	...	<i>Narrow Gauge.</i>	
5,839	1,45,331	102	1,45,229	South Indian	21
25,944	2,88,839	17,372	2,71,467	Rajputana-Malwa	22
...	...	...	15,548	Rewari-Ferozepore	23
1,109	14,073	...	14,073	Nagpur and Chhattisgarh	24
7,496	30,560	...	30,560	Rangoon and Irrawaddy Valley	25
2,272	31,796	...	31,796	Northern Bengal	26
5	1,335	...	1,335	Kaunia-Dhurla	27
2,311	23,865	...	23,865	Tirhoot	28
1,259	12,850	186	12,664	Cawnpore-Achnera	29
6,779	19,385	...	19,385	Bhavnagar-Gondal	30
...	148	...	148	Jodhpore	31
...	6,675	...	6,675	Mysore	32
...	1,489	...	1,489	Nalhati	33
2	2,508	...	2,508	Gaekwar of Baroda's	34
53,016	5,78,834	17,660	5,76,742	Total.	
2,44,337	40,13,109	35,816	40,08,883	GRAND TOTAL.	

HALF-YEAR ENDED 31st December 1883.

No.	RAILWAYS.	General Superintendence.	Station Staff.	Train Staff.	Fuel, Lighting, and General Stores.	Clothing.	Printing, Stationery, and Tickets.	Charges for Delivery and Collection of Goods.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
<i>Broad Gauge.</i>								
1	East Indian ...	1,96,414	8,23,735	2,75,511	83,170	15,668	70,943	...
2	Great Indian Peninsula ...	1,16,491	4,66,590	2,86,384	1,00,839	25,335	44,901	2,521
3	Sind, Punjab and Delhi ...	66,531	2,28,040	80,556	49,904	3,970	39,792	1,706
4	Madras ...	57,852	1,63,924	34,851	38,179	3,929	26,947	683
5	Bombay, Baroda and Central India ...	45,218	1,91,115	29,714	45,070	5,566	20,409	1,336
6	Eastern Bengal ...	32,930	2,01,012	36,230	21,837	1,466	8,621	...
7	Bengal Central ...	...	...	...	...	...	...	Worked by the Eastern
8	Oudh and Rohilkhand ...	32,538	1,30,659	32,772	14,418	4,263	14,209	242
9	Indus Valley and Kandahar ...	47,542	1,10,214	46,585	21,853	2,270	9,619	188
10	Punjab Northern ...	32,196	79,087	34,210	17,960	3,017	6,654	...
11	Dhond and Manmad ...	...	...	...	...	...	...	Worked by the Great Indian
12	Patna and Gya ...	...	...	...	...	...	...	Worked by the Eastern
13	Nizam's ...	7,260	18,510	6,722	4,209	23	2,048	...
14	Calcutta and South-Eastern ...	1,663	10,233	1,910	2,299	501	689	...
15	Khamgaon ...	...	...	...	...	...	...	Worked by the Great Indian
16	Amraoti ...	...	...	...	...	...	...	Worked by the Great Indian
17	Bhopal ...	...	...	...	...	...	...	Worked by the Great Indian
18	Wardha Coal ...	...	5,099	1,638	1,382	126	98	...
19	Sindia ...	...	...	...	...	...	...	Worked by the Eastern
20	Ghazipur and Dildarnagar ...	...	...	...	...	...	...	Worked by the Eastern
	Total ...	6,36,635	24,28,218	8,67,083	4,01,120	66,134	2,44,930	6,721
<i>Narrow Gauge.</i>								
21	South Indian ...	26,973	97,920	18,904	13,294	5,860	9,901	20
22	Rajputana-Malwa ...	82,289	2,45,511	82,005	69,971	14,165	19,108	...
23	Rewari-Ferozepore ...	...	...	...	...	...	...	...
24	Nagpur and Chhattisgarh ...	8,112	18,099	4,432	4,342	1,102	637	...
25	Rangoon and Irrawaddy Valley ...	14,792	58,791	14,175	9,551	1,549	15,409	...
26	Northern Bengal ...	13,926	46,860	9,121	7,758	616	2,236	...
27	Kaunia-Dhurla ...	1,132	2,258	327	225	31	300	...
28	Tirhoot ...	13,077	26,036	4,763	6,440	604	1,330	...
29	Cawnpore-Aghnera ...	12,418	16,009	2,076	2,516	657	2,955	...
30	Bhavnagar-Gondal ...	10,081	18,212	4,424	1,737	580	7,103	...
31	Jodhpore ...	731	927	59	25	...	544	...
32	Mysore ...	4,314	5,197	1,988	896	526	130	...
33	Nalhati ...	674	1,363	456	158	39	33	...
34	Gackwar of Baroda's ...	608	4,233	708	1,552	44	376	...
	Total ...	1,89,127	5,41,416	1,43,438	1,18,465	25,573	60,062	20
	GRAND TOTAL ...	8,25,762	29,69,634	10,10,521	5,19,585	91,707	3,04,992	6,744

DIX A—contd.
RAILWAYS—(Part I)—contd.
IX.
TRAFFIC EXPENSES.
Revenue Accounts]

HALF-YEAR ENDED 31st December 1883.

Miscellaneous Expenses.	Payments to other Lines for Expenses at Joint Stations.	Other Charges.	Total.	Deductions.	Net Total.	RAILWAYS.	No.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
19,563	...	1,265	14,86,269	27,396	14,58,873	<i>Broad Gauge.</i>	
7,181	21,631	9,440	10,81,316	...	10,81,316	East Indian ...	1
1,771	8,909	15,900	4,97,079	...	4,97,079	Great Indian Peninsula ...	2
2,218	...	2,820	3,31,388	217	3,31,171	Sind, Punjab and Delhi ...	3
990	...	1,810	3,41,288	...	3,41,288	Madras ...	4
129	...	368	3,02,593	...	3,02,593	Bombay, Baroda and Central India ...	5
Bengal Railway Company.						Eastern Bengal ...	6
325	10,347	1,216	2,40,989	...	2,40,989	Bengal Central ...	7
1,195	8,139	2,855	2,50,460	...	2,50,460	Oudh and Rohilkhand ...	8
634	14,128	16,740	2,04,626	...	2,04,626	Indus Valley and Kandahar ...	9
Peninsula Railway Company.						Punjab Northern ...	10
Indian Railway Company.						Dhond and Manmad ...	11
789	3,414	15	42,990	...	42,990	Patna and Gya ...	12
187	...	...	17,482	...	17,482	Nizam's ...	13
Peninsula Railway Company.						Calcutta and South-Eastern ...	14
255	2,513	1	11,112	...	11,112	Khamgaon ...	15
Indian Railway Company.						Amraoti ...	16
35,237	69,081	52,430	48,07,592	27,613	48,05,940	Bhopal ...	17
981	...	6,045	1,79,698	549	1,79,149	Wardha Coal ...	18
3,637	11,053	3,631	6,31,370	33,336	4,98,034	Sindia ...	19
...	...	...	...	...	28,843	Ghazipur and Dildarnagar ...	20
360	8,728	76	45,888	...	45,888	Total.	
8,067	...	360	1,22,694	...	1,22,694	<i>Narrow Gauge.</i>	
759	...	373	81,649	...	81,649	South Indian ...	21
142	...	3	4,418	...	4,418	Rajputana-Malwa ...	22
237	...	154	52,641	...	52,641	Rewari-Ferozepore ...	23
167	1,426	45	38,269	57	38,212	Nagpur and Chhattisgarh ...	24
1,151	1,688	6,952	51,928	...	51,928	Rangoon and Irrawaddy Valley ...	25
...	...	...	2,286	...	2,286	Northern Bengal ...	26
168	3,468	29	16,716	...	16,716	Kaunia-Dhurla ...	27
14	746	12	3,495	...	3,495	Tirhoot ...	28
...	1,481	...	9,002	...	9,002	Cawnpore-Achnera ...	29
15,683	28,590	17,680	11,40,051	33,942	11,34,955	Bhavnagar-Gondal ...	30
50,920	97,671	70,110	59,47,646	61,555	59,40,895	Jodhpore ...	31
						Mysore ...	32
						Nalhati ...	33
						Gackwar of Baroda's ...	34
						GRAND TOTAL.	

APPEN
STATISTICS OF INDIAN

No.

DETAIL OF

HALF-YEAR ENDED 31st December 1883.

[From Abstract E of

No.	RAILWAYS.	Home Expenditure or General Administration.	Agent's Office.	Audit, Accounts, and Pay Office.	Stores Department.	Medical Department.	Rents and Miscellaneous.	Police.
	<i>Broad Gauge.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1	East Indian ...	(a)1,25,003	70,244	1,95,452	77,881	55,607	1,30,261	73,596
2	Great Indian Peninsula ...	53,176	39,626	1,34,365	43,219	27,575	39,298	63,365
3	Sind, Punjab and Delhi ...	45,832	29,642	88,150	33,850	12,285	29,871	26,755
4	Madras ...	30,423	21,797	68,992	9,739	15,284	8,907	17,032
5	Bombay, Baroda and Central India ...	37,150	23,132	62,916	38,804	11,229	15,887	27,287
6	Eastern Bengal ...	22,858	29,374	31,126	1,814	9,229	19,805	18,006
7	Bengal Central ...	...	...	...	68	590	125	...
8	Oudh and Rohilkhand ...	38,648	20,322	47,233	5,385	11,873	12,582	14,165
9	Indus Valley and Kandahar ...	...	21,077	59,585	17,270	11,073	16,831	...
10	Punjab Northern ...	...	19,414	44,304	8,629	4,991	13,598	...
11	Dhond and Mannad ...	...	...	...	...	...	Worked by the Great Indian	...
12	Patna and Gya ...	...	...	...	...	...	Worked by the East	...
13	Nizam's ...	917	3,889	10,632	2,789	1,678	2,845	...
14	Calcutta and South-Eastern ...	...	4,037	3,753	403	818	1,002	...
15	Khamgaon ...	...	...	...	...	...	Worked by the Great Indian	...
16	Amraoti ...	...	...	...	...	...	Worked by the Great Indian	...
17	Bhopal ...	...	300	300	...	...	7	...
18	Wardha Coal ...	...	11,715	3,852	926	1,308	2,609	...
19	Sindia ...	...	...	...	...	...	Worked by the East	...
20	Ghazipur and Dildarnagar ...	...	...	...	...	...	Worked by the East	...
	Total ...	3,54,007	2,94,569	7,56,660	2,40,777	1,63,540	2,93,623	2,40,206
	<i>Narrow Gauge.</i>							
21	South Indian ...	29,017	19,089	43,961	10,336	6,019	8,155	...
22	Rajputana-Malwa ...	...	31,153	1,07,693	31,731	18,102	31,854	...
23	Rewari-Ferozepore ...	...	...	...	...	...	...	...
24	Nagpur and Chhattisgarh ...	...	10,025	11,970	5,039	689	4,214	...
25	Bangoon and Irrawaddy Valley ...	...	14,401	18,454	5,169	1,590	5,771	...
26	Northern Bengal ...	...	14,501	27,577	1,475	5,539	2,408	...
27	Kaunia-Dhurla ...	...	954	1,770	...	409	178	...
28	Tirhoot ...	...	17,490	18,845	1,668	1,363	3,633	...
29	Cawnpore-Achnera ...	...	7,653	11,859	1,552	430	4,885	-560
30	Bhavnagar-Gondal ...	...	11,268	16,461	2,660	3,699	5,177	8,198
31	Jodhpore ...	...	...	180	170	15	...	...
32	Mysore ...	...	3,437	5,263	1,171	965	393	...
33	Nalhati ...	...	1,477	2,100	377	132	568	...
34	Gackwar of Baroda's ...	...	608	1,616	152	300	82	980
	Total ...	29,017	1,32,056	2,67,749	61,500	39,251	67,316	8,618
	GRAND TOTAL ...	3,83,024	4,26,625	10,18,409	3,02,277	2,02,791	3,60,944	2,48,824

DIX A—contd.

RAILWAYS—(Part I)—contd.

K.

GENERAL CHARGES.

Revenue Account.]

HALF-YEAR ENDED 31st December 1883.

Advertising.	Electric Telegraph.	Other Charges.	Total.	Deductions.	Net Total.	RAILWAYS.	No.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Broad Gauge.	
2,437	2,11,719	20,052	9,62,252	40,717	9,21,535	East Indian ...	1
5,440	1,43,885	12,420	5,62,369	...	5,62,369	Great Indian Peninsula ...	2
2,338	66,288	12,690	3,47,701	673	3,47,028	Sind, Punjab and Delhi ...	3
2,857	38,888	4,319	2,18,238	1,118	2,17,120	Madras ...	4
1,012	45,574	6,953	2,69,944	...	2,69,944	Bombay, Baroda and Central India ...	5
3,411	27,577	3,341	1,66,541	...	1,66,541	Eastern Bengal ...	6
...	65	48,853	49,701	...	49,701	Bengal Central ...	7
11	43,814	11,472	2,05,505	...	2,05,505	Oudh and Rohilkhand ...	8
752	41,866	222	1,68,676	...	1,68,676	Indus Valley and Kandahar ...	9
410	27,927	199	1,19,472	...	1,19,472	Punjab Northern ...	10
Peninsula Railway Company.		...	...	...	...	Dhond and Manmad ...	11
Indian Railway Company.		...	...	...	9,017	Patna and Gya ...	12
206	7,232	...	30,188	...	30,188	Nizam's ...	13
300	4,327	13	14,653	...	14,653	Calcutta and South-Eastern ...	14
Peninsula Railway Company.		...	...	...	...	Khamgaon ...	15
...	643	...	1,250	...	1,250	Amraoti ...	16
24	2,046	5	22,485	...	22,485	Bhopal ...	17
Indian Railway Company.		...	...	...	6,825	Wardha Coal ...	18
...	...	...	...	...	786	Sindia ...	19
19,198	6,61,851	1,20,539	31,38,975	42,508	31,13,095	Ghazipur and Dildarnagar ...	20
						Total,	
						Narrow Gauge.	
1,601	35,603	7,042	1,60,823	7	1,60,816	South Indian ...	21
882	1,10,481	2,240	3,34,138	19,382	3,14,754	Rajputana-Malwa ...	22
...	...	...	...	...	16,030	Rewari-Ferozapore ...	23
6	10,998	...	42,941	...	42,941	Nagpur and Chhattisgarh ...	24
559	13,613	348	59,905	...	59,905	Rangoon and Irrawaddy Valley ...	25
418	22,034	106	74,058	...	74,058	Northern Bengal ...	26
7	566	3	3,885	...	3,885	Kaunia-Dhurla ...	27
759	18,053	80	61,890	...	61,890	Tirhoot ...	28
80	8,340	969	35,208	9	35,199	Cawnpore-Achnera ...	29
125	16,952	-574	63,966	...	63,966	Bhavnagar-Gondal ...	30
...	...	...	365	...	365	Jodhpore ...	31
67	4,637	2	15,935	...	15,935	Mysore ...	32
...	760	20	5,434	...	5,434	Nalhati ...	33
...	558	...	4,296	...	4,296	Gaekwar of Baroda's ...	34
4,504	2,42,595	10,236	8,62,842	19,398	8,59,474	Total.	
23,702	9,04,446	1,30,775	40,01,817	61,906	39,72,569	GRAND TOTAL.	

for Government control.

APPEN
STATISTICS OF INDIAN
No.

SPECIAL AND MISCELLA

[From Abstract G of

HALF-YEAR ENDED 31st December 1883.

No.	RAILWAYS.	Law Charges.	Compensation.	Rates and Taxes.	Payments to other Lines.
	<i>Broad Gauge.</i>	Rs.	Rs.	Rs.	Rs.
1	East Indian	432	2,033	29,085	88,501
2	Great Indian Peninsula	3,836	6,472	12,242	1,15,183
3	Sind, Punjab and Delhi	891	4,836	2,500	4,423
4	Madras	1,246	1,605	3,488	...
5	Bombay, Baroda and Central India	1,360	2,852	10,555	30,045
6	Eastern Bengal	1,056	7,771	4,676	7,946
7	Bengal Central ... ..	...	...	...	Worked by the Eastern
8	Oudh and Rohilkhand	584	194	257	4,384
9	Indus Valley and Kandahar	261	6,877	...	78,619
10	Punjab Northern	1,290	-2,713	...	26,594
11	Dhond and Manmad ... ..	...	...	...	Worked by the Great Indian
12	Patna and Gya ... ..	...	...	...	Worked by the East
13	Nizam's ... ..	...	206	...	10,401
14	Calcutta and South-Eastern ... ..	...	10	650	...
15	Khamgaon ... ..	...	...	...	...
16	Amraoti ... ..	...	...	...	Worked by the Great
17	Bhopal ... ..	...	...	...	...
18	Wardha Coal ... ..	...	295	...	668
19	Sindia ... ..	...	...	...	...
20	Ghazipur and Dildarnagar ... ..	...	...	...	Worked by the East
	Total	10,956	30,438	68,453	3,66,764
	<i>Narrow Gauge.</i>				
21	South Indian	29	351	8,919	482
22	Rajputana-Malwa	127	3,789	...	17,402
23	Rewari-Ferozepore ... ..	...	...	...	...
24	Nagpur and Chhattisgarh ... ..	...	2	...	3,237
25	Rangoon and Irrawaddy Valley	15	115	3,650	...
26	Northern Bengal	18	3,248	78	...
27	Kaunia-Dhurla ... ..	...	...	...	...
28	Tirhoot	131	3,672	298	3,321
29	Cawnpore-Achnera	3	86	2	301
30	Bhavnagar-Gondal ... ..	...	254	...	894
31	Jodhpore ... ..	...	...	...	771
32	Mysore	33	...	...	...
33	Nalhati	4	6	54	...
34	Gaekwar of Baroda's ... ..	...	...	...	...
	Total	360	11,523	13,001	26,408
	GRAND TOTAL	11,316	-41,961	81,454	3,93,172

DIX A—contd.

RAILWAYS—(Part I)—contd.

KL

REVENUE EXPENDITURE.

Revenue Account.]

HALF-YEAR ENDED 31st December 1883.

Other Charges.	Total.	Deductions.	Net Total.	RAILWAYS.	No.
Rs.	Rs.	Rs.	Rs.	<i>Broad Gauge.</i>	
36,607	1,56,658	2,731	1,53,927	East Indian	1
8,234	1,45,967	685	1,45,282	Great Indian Peninsula	2
4,889	17,539	...	17,539	Sind, Punjab and Delhi	3
4,260	15,599	691	14,908	Madras	4
10,403	55,215	...	55,215	Bombay, Baroda and Central India	5
2,156	23,605	...	23,605	Eastern Bengal	6
Bengal Railway Company.	...	...	...	Bengal Central	7
54,850	60,269	...	60,269	Oudh and Rohilkhand	8
15,163	1,00,920	...	1,00,920	Indus Valley and Kandahar	9
6,295	31,466	...	31,466	Punjab Northern	10
Peninsula Railway Company.	...	...	...	Dhond and Manmad	11
Indian Railway Company.	...	...	1,481	Patna and Gya	12
1,166	11,773	...	11,773	Nizam's	13
106	766	...	766	Calcutta and South-Eastern	14
Indian Peninsula Railway Company.	...	...	...	Khamgaon	15
1,459	2,422	...	2,422	Amraoti	16
...	...	...	22,100	Bhopal	17
...	...	...	2,311	Wardha Coal	18
...	...	...	...	Sindia	19
...	...	...	...	Ghazipur and Dildarnaga	20
1,45,588	6,22,199	4,107	6,43,934	Total.	
74,969	84,750	...	84,750	<i>Narrow Gauge.</i>	
49,553	70,871	679	70,192	South Indian	21
...	...	...	59	Rajputana-Malwa	22
3,449	6,688	...	6,688	Rewari-Ferozepore	23
2,257	6,037	...	6,037	Nagpur and Chhattisgarh	24
12,213	15,557	...	15,557	Bangoon and Irrawaddy Valley	25
92	92	...	92	Northern Bengal	26
922	8,344	...	8,344	Kaunia-Dhuria	27
5,101	5,493	...	5,493	Tirhoot	28
236	1,384	...	1,384	Cawnpore-Achnera	29
...	771	...	771	Bhavnagar-Gondal	30
720	753	...	753	Jodhpore	31
176	240	...	240	Mysore	32
...	...	...	...	Nalhati	33
...	...	...	...	Gackwar of Baroda's	34
1,49,688	2,00,980	679	2,00,360	Total.	
2,95,276	8,23,179	4,786	8,44,344	GRAND TOTAL	

APPEN
STATISTICS OF INDIANNo.
STATEMENT OF
[From No. XII of

HALF-YEAR ENDED 31st December 1883.

No.	RAILWAYS.	LOCOMOTIVES.			Coaching.	
		Total Stock on the list.	Average number spare or hired out.	Average number constantly under repair.	Total Stock on the list.	Average number constantly under repair.
<i>Broad Gauge.</i>						
1	East Indian ...	550	...	95.00	1,091	105.14
2	Great Indian Peninsula ...	455	...	129.00	938	93.00
3	Sind, Punjab and Delhi ...	159	...	29.72	567	43.68
4	Madras ...	157	...	62.00	465	9.00
5	Bombay, Baroda and Central India ...	99	...	18.00	356	31.00
6	Eastern Bengal ...	48	...	8.07	182	36.94
7	Bengal Central ...	8	...	...	40	...
8	Oudh and Rohilkhand ...	125	...	18.33	281	45.22
9	Indus Valley and Kandahar ...	167	10	28.63	311	29.93
10	Punjab Northern ...	95	...	2.08	281	9.47
11	Dhond and Manmad ...	...	...	...	Worked by the Great	
12	Patna and Gya ...	...	...	...	Worked by the East	
13	Nizam's ...	9	...	1.31	53	9.71
14	Calcutta and South-Eastern ...	12	...	1.32	95	11.31
15	Khamgaon ...	...	...	...	Worked by the Great	
16	Amraoti ...	...	...	...	Worked by the Great	
17	Bhopal ...	...	...	...	Worked by the Great	
18	Wardha Coal ...	7	...	1.21	12	...
19	Sindia ...	...	...	...	Worked by the East	
20	Ghazipur and Dildarnagar ...	...	...	...	Worked by the East	
	Total ...	1,891	10	394.67	4,672	425.00
<i>Narrow Gauge.</i>						
21	South Indian ...	122	...	21.47	448	17.47
22	Rajputana-Malwa ...	317	...	84.36	885	89.31
23	Rewari-Ferozepore ...	...	...	...	Worked by the Rajputana-	
24	Nagpur and Chhattisgarh ...	16	...	3.48	55	1.40
25	Bangoon and Irrawaddy Valley ...	36	...	6.99	169	11.52
26	Northern Bengal ...	36	...	6.46	122	15.95
27	Kaunia-Dhurla ...	4	...	1.21	10	1.15
28	Tizhoot ...	29	...	11.84	84	8.34
29	Cawnpore-Achnera ...	16	...	5.50	118	8.90
30	Bhavnagar-Gondal ...	20	...	2.99	111	7.52
31	Jodhpore ...	...	...	...	...	...
32	Mysore ...	15	...	3.80	80	1.92
33	Nalhati ...	4	...	1.28	12	0.22
34	Gaekwar of Baroda's ...	6	...	1.00	27	...
	Total ...	621	...	150.38	2,121	173.70
	GRAND TOTAL ...	2,512	10	545.05	6,793	598.70

N.B.—Total Stock on the list will be obtained from column 5 of Statement XII in the Revenue Account
(e) Of these, 59 are partly allotted to brake vans.

DIX A—contd.

RAILWAYS—(Part I)—contd.

XII.

ROLLING STOCK.

Revenue Account.]

HALF-YEAR ENDED 31st December 1883.

VEHICLES.						RAILWAYS.	No.
Goods.		Brake Vans.		Total.			
Total Stock on the list.	Average number constantly under repair.	Total Stock on the list.	Average number constantly under repair.	Vehicle Stock on the list.	Average number of vehicles constantly under repair.		
8,551	707.23	340	47.17	9,982	859.54	East Indian	1
7,818	392.00	498	34.00	9,254	519.00	Great Indian Peninsula	2
3,303	122.84	114	10.32	4,074	176.84	Sind, Punjab and Delhi	3
2,850	137.00	138	11.00	3,453	157.00	Madras	4
2,958	272.00	63	5.00	3,377	308.00	Bombay, Baroda and Central India	5
1,033	85.06	31	4.36	1,246	126.36	Eastern Bengal	6
170	...	1	...	211	...	Bengal Central	7
3,104	205.73	70	8.08	3,455	239.63	Oudh and Rohilkhand...	8
2,680	145.20	125	11.87	3,116	187.00	Indus Valley and Kandahar	9
1,475	81.59	128	11.29	1,884	102.35	Punjab Northern	10
Indian Peninsula Railway Company.						Dhond and Manmad	11
Indian Railway Company.						Patna and Gya	12
118	6.07	16	2.57	187	18.35	Nizam's	13
266	22.50	9	1.78	370	35.59	Calcutta and South-Eastern	14
Indian Peninsula Railway Company.						Khamgaon	15
						Amraoti	16
						Bhopal	17
221	3.17	8	1.66	241	4.83	Wardha Coal	18
Indian Railway Company.						Sindia	19
						Ghazipur and Dildarnagar	20
34,637	2,180.39	1,541	149.10	40,850	2,754.40	Total.	
						<i>Narrow Gauge.</i>	
1,584	58.64	(a) 96	4.47	2,128	80.58	South Indian	21
5,202	239.29	233	17.24	6,320	405.84	Rajputana-Malwa	22
Malwa Railway.						Rewari-Ferozepore	23
549	7.90	18	1.00	622	10.30	Nagpur and Chhattisgarh	24
926	18.98	30	3.63	1,125	34.13	Rangoon and Irrawaddy Valley	25
780	23.85	30	3.12	932	42.92	Northern Bengal	26
40	0.86	4	...	54	2.01	Kaunia-Dhuria	27
487	31.53	20	2.45	591	42.32	Tirhoot	28
420	121.26	14	2.22	552	132.38	Cawnpore-Achnera	29
547	10.27	22	0.55	680	18.34	Bhavnagar-Gondal	30
...	...	...	...	...	...	Jodhpore	31
158	5.45	7	0.10	245	7.47	Mysore	32
24	0.27	...	...	30	0.49	Nalhati	33
187	...	6	...	220	...	Gackwar of Baroda's	34
10,904	568.30	480	34.78	13,505	776.78	Total.	
45,541	2,748.69	2,021	183.88	54,355	3,531.27	GRAND TOTAL	

and "average number constantly under repair" from column 11.
Part 1st, 2nd and 3rd class.

APPEN
STATISTICS OF INDIAN

No.

STATEMENT OF

HALF-YEAR ENDED 31st December 1883.

[From No. XIV

No.	RAILWAYS.	TRAIN-MILES.			
		Passengers.	Goods.	Mixed.	Light
<i>Broad Gauge.</i>					
1	East Indian	701,202	(b) 2,891,683	1,237,264	147,485
2	Great Indian Peninsula	1,241,138	1,718,368	259,245	86,819
3	Sind, Punjab and Delhi	313,229	597,421	359,806	43,394
4	Madras	333,020	283,958	312,252	9,800
5	Bombay, Baroda and Central India	353,178	330,195	186,629	658
6	Eastern Bengal	154,924	134,973	119,632	520
7	Bengal Central ... ..	...	...	Worked by the Eastern	
8	Oudh and Rohilkhand	2,024	230,961	402,949	23,634
9	Indus Valley and Kandahar	3,540	366,750	475,465	15,924
10	Punjab Northern	5,360	137,095	350,110	256
11	Dhond and Manmad ... ..	...	...	Worked by the Great	
12	Patna and Gya	20,919	2,589	42,522	114
13	Nizam's	45,713	17,544	89,540	6
14	Calcutta and South-Eastern	28,596	7,947	30,248	...
15	Khangaon ... ..	...	...	Worked by the Great	
16	Amraoti ... ..	...	...
17	Bhopal ... ..	...	...
18	Wardha Coal ... ..	...	3,096	33,120	...
19	Sindia	620	11,473	28,215	5
20	Ghazipur and Dildarnagar ... ..	...	72	8,648	...
	Total	3,203,463	6,734,125	3,935,645	323,608
<i>Narrow Gauge.</i>					
21	South Indian	169,403	210,200	426,932	4,428
22	Bejputana-Malwa	443,697	850,244	753,334	81,725
23	Rewari-Ferozepore ... ..	...	...	...	Included with the
24	Nagpur and Chhattisgarh	140	31,149	65,260	1
25	Rangoon and Irrawaddy Valley	120,346	23,232	100,371	161
26	Northern-Bengal	73,316	83,580	176,300	7,135
27	Kaunia-Dhurla	70	84	11,776	14
28	Tirhoot	862	58,934	123,293	3,198
29	Cawnpore-Achnera	8,234	3,051	96,393	566
30	Bhavnagar-Gondal	4,493	15,356	67,226	2,351
31	Jodhpore	35	...	6,992	73
32	Mysore	3,223	7,353	33,852	...
33	Nalhati	109	741	20,056	...
34	Gackwar of Baroda's	1,052	3,437	19,915	129
	Total	824,980	1,288,011	1,906,750	99,789
	GRAND TOTAL.	4,028,443	8,022,136	5,842,395	428,407

(a) Includes train-mileage of
(b) Includes 13,800 as train-

DIX A—contd.

RAILWAYS—(Part I)—contd.

XIII.

TRAIN-MILEAGE.

of Revenue Account.

HALF-YEAR ENDED 31st December 1883.

TRAIN-MILES AFTER APPORTIONING MIXED AND LIGHT MILEAGE.		Total Train-mileage.	Assisting, Shunting, and Miscellaneous Mileage.	Total Engine Mileage.	R E L W T A.	No.
Coaching.	Goods.					
1,672,888	3,304,746	(b) 4,977,634	626,645	5,604,279	<i>Broad Gauge.</i>	
1,383,933	1,921,630	3,305,563	300,932	3,606,495	East Indian	1
645,310	768,540	1,313,850	192,600	1,506,450	Great Indian Peninsula	2
431,610	507,420	939,030	144,092	1,083,122	Sind, Punjab and Delhi	3
434,296	436,364	870,660	80,018	950,678	Madras	4
210,469	199,580	410,049	103,379	513,428	Bombay, Baroda and Central India	5
Bengal Railway Company.		...	...	...	Eastern Bengal	6
259,523	400,045	659,568	198,888	858,456	Bengal Central	7
180,455	681,224	861,679	122,865	984,544	Oudh and Rohilkhand	8
243,817	244,004	492,821	72,271	565,092	Indus Valley and Kandahar	9
Indian Peninsula Railway Company.		...	...	...	Punjab Northern	10
48,083	18,061	66,144	3,072	69,216	Dhond and Manmad	11
87,714	65,089	152,803	4,972	157,775	Patna and Gya	12
47,355	19,436	66,791	10,913	77,704	Nizam's	13
Indian Peninsula Railway Company.		...	...	...	Calcutta and South-Eastern	14
15,510	20,706	36,216	1,496	37,712	Khamsaon	15
15,924	24,389	40,313	339	40,652	Amraoti	16
5,320	3,400	8,720	1,507	10,227	Bhopal	17
5,587,207	8,614,634	14,201,841	1,863,989	16,065,830	Wardha Coal	18
379,525	431,488	811,013	141,121	952,134	Sindia	19
874,436	1,254,564	(a) 2,129,000	(a) 221,175	2,350,175	Ghazipur and Dildarnagar	20
Rajputana-Malwa Railway.		...	...	...	Total.	
31,740	64,828	96,568	7,058	103,626	<i>Narrow Gauge.</i>	
177,726	66,434	244,160	26,854	271,014	South Indian	21
127,488	212,843	340,331	47,673	388,004	Rajputana-Malwa	22
76,262	5,682	11,944	740	12,684	Rewari-Ferozepore	23
75,177	116,110	191,287	44,165	235,452	Nagpur and Chhattisgarh	24
64,503	44,341	108,844	7,914	116,758	Rangoon and Irrawaddy Valley	25
57,710	31,716	89,426	1,823	91,249	Northern Bengal	26
4,114	2,986	7,100	368	7,468	Kaunia-Dhuria	27
25,725	18,703	44,428	8,225	52,653	Tirhoot	28
12,383	8,523	20,906	5,697	26,603	Cawnpore-Achnera	29
15,748	8,785	24,533	320	24,853	Bhavnagar-Gondal	30
1,852,537	2,267,003	4,119,540	513,133	4,632,673	Jodhpore	31
7,439,744	10,681,637	18,331,381	2,377,122	20,698,503	Mysore	32
					Nalhati	33
					Garkwar of Baroda's	34
					Total.	
					GRAND TOTAL.	

the Rewari-Ferozepore Railway.
miles run for Locomotive Coal trains.

APPENDIX A—contd.

STATISTICS OF INDIAN RAILWAYS—(Part I)—concl'd.

No. XIV.

NET EARNINGS COMPARED WITH INTEREST ON CAPITAL.
 [From Nos. VIII and XVII of the Revenue Account.]
 HALF-YEAR ENDED 31st December 1883.

No.	RAILWAYS.	Interest on Capital.	Net Earnings of the half-year.	DIFFERENCE.	
				Excess.	Deficient.
		Rs.	Rs.	Rs.	Rs.
<i>Broad Gauge.</i>					
1	East Indian	(d) 1,05,92,249	1,42,84,354	36,92,105	...
2	Great Indian Peninsula	62,46,600	46,37,011	...	16,09,589
3	Sind, Punjab and Delhi	30,20,534	22,18,796	...	8,01,738
4	Madras	28,54,869	12,76,365	...	15,78,504
5	Bombay, Baroda and Central India	(e) 22,42,602	23,28,991	86,389	...
6	Eastern Bengal	8,44,100	13,48,787	5,04,687	...
7	Bengal Central	(a)	...	...	...
8	Oudh and Rohilkhand	15,67,994	11,06,166	...	4,61,828
9	Indus Valley and Kandahar	13,87,714	13,26,369	...	61,345
10	Punjab Northern	9,16,770	2,88,743	...	6,28,027
11	Dhond and Manmad	2,00,957	82,717	...	1,18,240
12	Patna and Gya	77,193	1,08,442	31,244	...
13	Nizam's	2,45,253	1,21,106	...	1,24,147
14	Calcutta and South-Eastern	1,84,204	30,132	...	1,54,072
15	Khamgaon	9,823	2,059	...	7,764
16	Amraoti	8,894	6,523	...	2,371
17	Bhopal	95,642	-2,994	...	98,636
18	Wardha Coal	(b) 1,25,006	(b) 3,53,809	(b) 2,28,803	...
19	Sindia	1,79,067	78,468	...	1,00,599
20	Ghazipur and Dildarnagar	14,476	9,494	...	4,982
	Total ...	3,08,13,952	2,96,05,338	...	12,08,614
<i>Narrow Gauge.</i>					
21	South Indian	10,64,322	6,43,050	...	4,21,272
22	Rajputana-Malwa	19,15,364	23,77,090	4,61,726	...
23	Rewari-Ferozepore	(c)	...	...	...
24	Nagpur and Chhattisgarh	1,90,592	73,985	...	1,16,607
25	Rangoon and Irrawaddy Valley	(f) 2,72,705	1,33,667	...	1,39,038
26	Northern Bengal	4,37,661	5,54,152	1,16,491	...
27	Kaunia-Dhurla	17,688	18,368	680	...
28	Tirhoot	2,55,886	1,20,971	...	1,34,895
29	Cawnpore-Achnera	1,56,772	93,825	...	62,947
30	Bhavnagar-Gondal	1,30,248	47,100	...	1,33,148
31	Jodhpore	(a)	...	...	...
32	Mysore	86,990	74,636	...	11,454
33	Nalhati	6,666	10,443	3,783	...
34	Jaekwar of Baroda's	25,076	3,647	...	21,429
	Total ...	46,09,044	41,50,934	...	4,58,110
	GRAND TOTAL ...	3,54,22,996	3,37,56,272	...	16,66,724

(a) Information not available.

(b) Includes Warora Colliery.

(c) No interest is charged for Rewari-Ferozepore Railway, being a railway constructed from ordinary funds.

(d) Includes Rs. 1,42,844 on account of contribution to Provident Institution.

(e) Includes Rs. 67,839 on account of contribution to Provident Institution.

(f) Includes Rs. 4,914 on account of rectification of error made in the accounts of the previous half-year.

INDIAN RAILWAYS.

Statistics of their working for the half-year ended 31st December 1883.

PART II.

SUMMARY OF ANALYSES OF WORKING.

Erratum to Part II of Statistics of Indian Railways for the 1st half of 1883.

South Indian Railway.—Page xi, item 85, for “—30·22,” read “30·22.”

HALF-YEAR ENDED 31st December 1883.

Progressive number.	HEADINGS.	Broad Gauge.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.
No. I.									
DESCRIPTION OF RAILWAY WORKED:									
1	Gauge of Railway	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"
2	Mean mileage worked ... Miles	1,658	(a)1,452.90	751.31	860.87	461	(e)209.99	546.85	659.56
3	Number of Stations No.	180	194	118	116	(e)80	(f)49	60	76
4	Total length of the following gradients—								
	(a) $\frac{1}{4}$ and less ... Miles	...	19.31	...	...	...	...	...	...
	(b) $\frac{1}{4}$ to $\frac{1}{8}$... "	4.05	2.36	...	18	1.35	...	...	...
	(c) $\frac{1}{8}$ to $\frac{1}{16}$... "	12.46	62.09	...	48	0.24	...	...	0.11
	(d) $\frac{1}{16}$ to $\frac{1}{32}$... "	108.16	491.97	10.40	207.25	5.83	(g)0.55	1.54	9.10
	(e) $\frac{1}{32}$ to $\frac{1}{64}$... "	106.21	202.45	24.25	129	12.89	(g)0.41	3.58	30.52
5	Steepest gradient worked—								
	(a) Length ... Miles	0.98	5.84	7.20	0.75	1.35	(g)0.14	0.40	0.11
	(b) Inclination ... "	$\frac{1}{80}$	$\frac{1}{27}$	$\frac{1}{360}$	$\frac{1}{80}$	$\frac{1}{80}$	(g) $\frac{1}{100}$	$\frac{1}{100}$	$\frac{1}{100}$
No. II.									
FINANCIAL RESULTS.									
6	Percentage of net earnings (including steam-boat traffic) on capital outlay ... Per cent.	4.02	1.83	1.89	1.12	2.61	3.80	1.79	1.58
7	Percentage of net earnings on paid up capital ... "	...	1.79	1.84	1.10	2.66	3.85	1.58	...
No. III.									
OUTLAY, EARNINGS AND EXPENSES.									
<i>(Exclusive of Steam-boat Service).</i>									
8	Capital outlay per mile open ... Rs.	2,13,462	1,96,773	1,64,304	1,29,779	(d)1,88,287	(g)2,09,358	1,07,710	1,23,565
9	Total earnings per mile open per week ... "	545	(b)335	265	146	398	434	177	184
10	Total working expenses per mile open per week ... "	211	211	151	89	203	196	100	106
11	Total earnings per train-mile ... "	4.67	(b)3.85	3.94	3.48	5.47	5.84	3.83	3.70
12	Total working expenses per train-mile ... "	1.80	(b)2.44	2.24	2.12	2.80	2.63	2.15	2.14
13	Net earnings per train-mile ... "	2.87	1.41	1.70	1.36	2.67	3.21	1.68	1.56
14	Cost per 1,000 gross ton-miles moved (freight and dead-weight) ... "	5.35	9.83	7.54	8.48	8.89	9.26	7.19	5.95

(a) Includes the Dhond and Manmad, Bhopal and Berar State Railways, and the Mohpani Branch.
 (b) Excludes the Bhopal State Railway.
 (c) Includes Carnao bridge.
 (d) Includes Rs. 3,08,403, being the State outlay on Patri Branch.
 (e) Includes the Bengal Central Railway and the Poradhata Section of the Northern Bengal State Railway.
 (f) Includes the stations on ditto ditto ditto.
 (g) Eastern Bengal Railway only.
 (h) 3.35 miles are run over twice by each train, and the mean mileage open is therefore shown as miles 120.44.
 (i) Calculated on 117.10 miles.

DIX A—contd.

RAILWAYS—(Part II).

HALF-YEAR ENDED 31st December 1883.

NARROW GAUGE.											Progressive number.	
Punjab.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Achnera.	Bhavnagar-Uondal.		
5' 6"	5' 6"	3' 3½"	3' 3½"	3' 3½"	3' 3½"	3' 3½"	3' 3½"	3' 3½"	3' 3½"	3' 3½"	3' 3½"	1
420.50	(h)120.44	(j)662.33	(l)1,205.99	(n)87.05	149	161	(o)239	175.33	138.25	198.21	2	
51	15	(k)102	151	14	20	28	28	29	29	27	3	
11.34	...	...	3.40	...	...	...	...	...	...	...	4
36.77	...	...	0.23	45.33	...	...	...	...	...	...	5
54.35	2.73	9.62	(m)33.92	6.33	...	...	...	...	...	0.15	6
56.26	68.50	90.78	(n)238.43	7.60	53.82	4.90	7.77	8.10	...	45.51	7	
15.68	5.07	84.22	(m)161.48	3.49	20.63	6.40	0.35	1.07	0.19	23.03	8	
0.35	1.14	2.54	3.40	1.05	1.52	4.90	0.87	0.24	0.19	0.15	9	
1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	10	
0.40	0.99	1.42	2.40	1.73	0.77	1.01	2.57	(g)1.04	1.88	0.52	11	
...	...	1.45	...	...	...	...	...	...	...	...	12
1,69,480	(l)1,04,234	66,117	78,236	46,554	62,601	81,912	80,656	(g)57,300	36,110	45,454	13	
142	134	115	188	72	86	143	(p)156	91	77	60	14	
116	96	77	112	39	67	111	(p)77	65	51	51	15	
3.15	2.78	2.41	2.76	3.68	3.49	2.45	(p)2.84	2.24	2.55	3.42	16	
2.57	1.99	1.62	1.64	2.00	2.72	1.91	(p)1.41	1.56	1.69	2.90	17	
0.58	0.79	0.79	1.12	1.69	0.77	0.55	(p)1.43	0.63	0.80	0.53	18	
9.62	10.04	11.54	9.22	15.58	15.87	14.35	8.71	10.71	12.33	20.25	19	

(j) Includes the Pondicherry Railway.
 (k) Includes the Stations on the Pondicherry Railway.
 (l) Includes the Bcwari-Prozempore Railway.
 (m) Decrease due to the remeasurement of the line in the Abu Division.
 (n) 1.30 miles were opened for goods traffic on 1st July 1883.
 (o) Increase due to the extension of the line to Chiribandar.
 (p) Excludes the earnings, expenses, and profits of the Poradaha Section.
 (q) Excludes the Capital Expenditure on the Hajipore Extension.

HALF-YEAR ENDED 31st December 1883.

Progressive number.	HEADINGS.	BROAD GAUGE.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Behilkhand.	Indus Valley and Kandahar.
	No. III.—OUTLAY, EARNINGS, AND EXPENSES —concld.								
15	Percentage of total working expenses upon total earnings ... <i>Per cent.</i>	33.68	63.52	56.81	60.92	51.12	45.07	56.17	57.79
16	Percentage of total working expenses upon total earnings, excluding from both sides of the account the charges for carriage of Revenue stores ... "	36.75	62.00	55.15	60.52	49.84	44.33	54.95	57.10
	(Inclusive of Steam-boat Service).								
17	Percentage of total working expenses on total earnings (for details, see Table No. VII)... "	38.71	63.52	57.14	60.92	51.12	48.09	56.17	59.22
	No. IV. DIVISION OF EXPENDITURE BETWEEN COACHING AND GOODS TRAFFIC.								
18	Total Working Expenses for both coaching and goods traffic, excluding steam-boat expenses, and after deducting telegraph and sundry receipts and leaving only the balance of payments to other lines for mileage, &c. ... <i>Rs.</i>	88,81,522	79,13,296	28,79,613	19,22,914	23,85,512	10,14,767	12,98,536	18,15,064
	Proportions, dividing expenditure in ratio of gross ton-mileage (freight and dead load).								
19	Coaching ... "	21,52,206	23,36,653	8,97,231	6,43,692	7,74,644	3,70,461	4,38,791	2,94,833
20	Goods ... "	67,29,316	55,76,643	19,82,382	12,79,222	16,10,868	6,44,306	8,59,745	15,20,231
	No. V. COACHING TRAFFIC.								
	GROSS RECEIPTS AND TRAIN-MILEAGE—								
21	Receipts from coaching traffic ... <i>Rs.</i>	64,89,742	(a) 34,57,967	16,93,013	13,66,980	16,36,908	8,53,203	9,63,626	5,21,905
22	Coaching train-miles run ... <i>No.</i>	1,742,214	(a) 1,381,854	545,310	431,610	434,296	210,469	259,523	180,455
23	Average coaching receipts per train-mile ... <i>Rs.</i>	3.73	2.50	3.10	3.17	3.77	4.08	3.71	2.89
	UNITS AND UNIT-MILEAGE—								
	Number of units carried one mile—								
24	1st class ... <i>Unit-miles</i>	3,631,216	3,036,567	1,294,629	1,349,711	902,414	638,337		214,867
25	2nd " ... "	11,298,025	13,548,655	3,311,317	2,760,991	4,321,033	1,237,454	(b) 66,285	531,056

(a) Excludes Bhopal State Railway.
(b) Called "Upper."

DIX A—contd.

RAILWAYS—(Part II)—contd.

HALF-YEAR ENDED 31st December 1883.

NARROW GAUGE.											Progressive number.
Punjab Northern.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Rangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Achenera.	Bhavnagar-Gondal.	
81-40	71-54	67-10	59-52	54-31	78-04	77-69	48-41	69-59	66-16	84-63	15
81-02	70-33	66-34	58-16	53-99	77-75	77-47	47-09	69-37	65-71	84-66	16
81-40	71-54	67-10	59-52	54-31	78-04	77-69	49-04	73-83	66-16	84-63	17
12,06,165	1,99,328	12,86,304	34,18,482	85,857	2,58,780	4,54,051	4,58,715	2,77,360	1,76,554	2,60,823	18
5,45,936	1,54,105	5,79,389	10,33,213	50,843	70,237	3,08,820	1,47,020	1,08,894	97,004	1,55,976	19
6,60,229	1,45,218	7,06,915	23,85,269	35,014	1,88,543	1,45,231	3,11,636	1,88,466	79,550	94,847	20
6,41,879	2,06,154	10,16,413	13,94,015	1,07,282	83,554	3,92,730	3,00,759	1,85,000	1,50,085	2,03,226	21
2,48,817	87,714	379,525	874,436	25,725	31,740	1,77,726	127,488	75,177	64,503	57,710	22
2-58	2-35	2-68	2-17	4-17	2-63	2-21	2-43	2-40	2-47	3-52	23
3,34,804	171,334	356,344	692,304	70,788	28,968	93,085	325,395	104,953	27,970	42,331	24
3,155,176	938,612	1,636,963	1,854,559	186,435	101,599	3,59,114	577,392	108,750	91,321	169,154	25

HALF-YEAR ENDED 31st December 1883.

Progressive number.	HEADINGS.	BROAD GAUGE.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.
No. V.—COACHING TRAF- FIC—contd.									
26	3rd or Intermedi- ate class ... <i>Unit-miles</i>	12,097,323	24,699,517	713,684	...	24,624,150	6,289,649	...	...
27	4th or Lowest class ... "	376,260,231	143,149,595	108,173,058	97,626,312	74,050,120	40,150,032	(a)65,426,315	37,326,528
28	Total passenger unit-mileage ... "	403,286,795	184,434,334	113,492,588	101,737,014	103,897,717	48,415,972	66,392,600	38,122,481
29	Other coaching traffic ... <i>Ton-miles</i>	4,685,211	3,904,626	1,008,472	1,228,955	1,183,318	351,733	359,245	395,033
Average sum received for carrying a unit one mile—									
30	1st class ... <i>Pies</i>	14.79	11.96	9.81	12.44	10.15	9.44	(b)9.00	10.46
31	2nd " ... "	5.81	4.97	4.39	5.79	4.78	4.63		4.75
32	3rd or Intermedi- ate class ... "	3.75	3.07	4.00	...	2.86	3.50	...	...
33	4th or Lowest class ... "	2.50	2.48	2.42	1.94	2.43	2.85	(a)2.51	2.21
34	Average for all classes ... "	2.74	2.90	2.57	2.19	2.70	3.08	2.60	2.30
35	Other coaching traffic per ton- mile, ... "	30.37	33.17	33.07	32.66	28.54	45.16	33.62	32.11
Average number of units in a train—									
36	1st class ... <i>No.</i>	2.08	2.20	2.37	3.13	2.08	3.27	(b)3.72	1.19
37	2nd " ... "	6.49	9.81	6.07	6.40	9.95	6.12		3.22
38	3rd or Intermedi- ate class ... "	6.94	17.87	1.31	...	175.00	29.88	...	...
39	4th or Lowest class ... "	215.97	103.59	198.37	226.19	252.23	190.77	(a)252.10	206.85
40	Total passenger- units ... "	231.48	133.47	208.12	235.72	239.23	230.04	255.82	211.26
41	Other coaching traffic ... <i>Tons</i>	2.69	2.83	1.85	2.85	2.72	1.67	1.38	2.19
VEHICLES AND VEHICLE- MILEAGE—									
Number of coaching vehicles hauled one mile—									
42	1st class ... <i>Vehicle-miles</i>	3,169,038	2,212,865	838,947	718,876	595,707	359,155	(b)615,996	411,981
43	2nd " ... "	3,140,437	2,724,426	707,462	1,047,247	816,270	263,696		418,532
44	3rd or Intermedi- ate class ... "	1,920,039	2,227,809	437,816	...	4,546,851	652,534	...	...
45	4th or Lowest class ... "	17,942,598	7,274,409	4,755,936	3,698,688		1,406,484	(a)3,859,468	2,545,001
46	Other Vehicles ... "	3,601,281	2,134,220	1,135,349	540,719	817,965	343,578	465,712	401,695
47	Brake-Vans ... "	3,045,631	2,852,111	1,925,869	43,871	573,861	373,624	372,288	348,917
48	Total ... "	32,819,664	19,425,840	9,201,379	6,049,401	7,355,654	3,409,071	5,313,464	4,126,126
Average number of vehicles in a coaching train—									
49	1st class ... <i>No.</i>	1.32	1.60	1.54	1.67	1.37	1.71	(b)2.37	2.28
50	2nd " ... "	1.80	1.97	1.30	2.43	1.88	1.25		2.32

(a) Called "Lower."
(b) Called "Upper."

DIX A—contd.

RAILWAYS—(Part II)—contd.

HALF-YEAR ENDED 31st December 1883.

NARROW GAUGE.											
Punjab Northern.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Rangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Achamra.	Bhavnagar-Gondal.	Progressive number.
524,289	...	...	2,772,086	...	112,029	...	937,684	...	24,309	...	26
42,424,524	11,526,770	88,548,967	141,826,384	6,038,538	6,335,428	23,199,694	16,678,050	11,163,945	13,900,350	13,854,579	27
44,458,793	12,686,916	90,537,279	147,145,333	6,295,761	6,578,024	23,651,893	18,519,521	11,487,018	14,014,453	14,006,664	28
282,108	310,485	174,182	1,535,185	26,980	49,645	54,022	143,247	132,135	35,622	65,710	29
10-30	14-59	11-18	16-97	9-94	14-69	14-55	14-61	16-30	15-11	13-31	30
3-77	4-55	3-29	5-98	5-39	5-25	5-76	6-57	8-21	7-31	0-72	31
3-50	...	...	8-00	...	3-59	...	3-82	...	3-00	...	32
2-34	2-05	1-99	2-03	2-68	1-89	2-99	2-30	2-47	2-00	2-50	33
2-46	2-40	2-05	2-16	3-04	2-13	3-08	2-31	2-68	2-03	2-58	34
48-55	29-64	53-88	29-44	54-94	41-27	48-04	51-59	36-68	33-58	40-83	35
1-55	1-96	0-94	0-79	2-75	0-91	0-52	2-56	1-40	0-43	0-74	36
4-64	10-70	4-31	2-12	7-25	3-20	2-02	4-53	2-24	1-42	2-93	37
2-11	...	...	3-17	...	3-53	...	7-35	...	0-38	...	38
170-50	131-41	233-30	162-19	234-73	199-60	130-54	130-82	143-49	215-50	240-07	39
178-80	144-07	238-55	168-27	244-73	207-24	133-08	145-26	152-13	217-73	243-74	40
1-13	3-54	0-46	1-75	1-05	1-56	0-30	1-12	1-70	0-55	1-14	41
801,055	118,927	438,011	1,434,643	46,494	62,877	209,963	255,115	161,024	60,406	78,063	42
284,614	128,347	695,919	1,299,363	70,590	63,977	334,234	216,592	160,460	63,972	71,982	43
268,383	...	...	10,487,998	...	80,989	...	195,085	...	1,010,460	...	44
2,644,815	698,726	4,023,441	268,000	369,199	2,031,528	1,320,506	786,234	705,508	...	...	45
183,240	217,407	811,274	1,265,642	9,652	34,591	212,241	307,007	208,220	5,407	67,814	46
500,595	220,537	299,521	2,302,139	33,117	63,478	432,335	189,536	155,575	30,841	163,928	47
4,182,702	1,383,944	6,268,166	16,789,785	427,853	675,111	3,221,351	2,483,941	1,461,519	1,233,176	1,147,129	48
1-21	1-36	1-15	1-64	1-31	1-98	1-16	2-00	2-01	1-03	1-20	49
1-14	1-46	1-33	1-49	2-75	2-02	1-38	1-70	2-13	0-99	1-25	50

HALF-YEAR ENDED 31st December 1883.

Progressive number.	HEADINGS.	Broad Gauge.								
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.	
No. V.—COACHING TRAFFIC—contd.										
51	3rd or Intermediate class ... No.	1-10	1-61	0-80	...	10-47	3-10	...	...
52	4th or Lowest class ... "	10-30	5-27	8-72	8-57		6-68	(a)14-87	14-10	
53	Other vehicles ... "	2-07	1-55	2-08	1-25	1-88	1-66	1-79	2-23	
54	Brake-vans ... "	1-75	2-06	2-43	0-10	1-33	1-80	1-44	1-94	
55	Total ... "	18-84	14-06	16-87	14-02	16-93	16-20	20-47	22-87	
Average earnings per coaching vehicle per mile—										
56	1st class ... Pies	16-95	16-41	15-13	23-35	15-37	18-11	(b)14-12	5-46	
57	2nd " ... "	20-89	24-72	20-54	15-23	25-29	22-58		6-60	
58	3rd or Intermediate class ... "	23-65	34-08	6-52	...	55-14	33-69	(a)42-56	...	
59	4th or Lowest class ... "	52-34	48-78	55-01	51-24		81-37		32-42	
60	Other vehicles ... "	39-50	60-69	29-38	74-23	41-29	45-57	25-94	31-58	
Carrying capacity hauled one mile (excluding brakes)—										
61	1st class ... Seats	49,753,109	45,803,532	12,616,822	8,420,210	9,848,542	6,174,302	(b)5,521,782	3,346,544	
62	2nd " ... "	74,910,123	88,764,904	16,464,211	37,250,890	32,219,667	5,723,832		4,424,501	
63	3rd or Intermediate class ... "	101,725,497	104,702,185	19,263,304	...	286,677,217	46,665,196	...	...
64	4th or Lowest class ... "	1,067,731,059	841,897,223	215,643,448	180,809,262		83,148,969	(a)229,920,736	123,029,079	
65	Other vehicles ... Tons	44,264,455	10,368,755	3,825,566	3,224,770	3,639,944	599,553	4,169,707	2,098,566	
Percentage of freight upon capacity hauled—										
66	1st class ... Per cent.	7-30	6-63	10-26	16-03	9-16	11-16	(b)17-50	6-42	
67	2nd " ... "	15-08	15-26	20-11	7-41	13-41	22-50		13-13	
68	3rd or Intermediate class ... "	11-89	23-59	3-70	...	34-42	13-48	...	...
69	4th or Lowest class ... "	35-24	41-87	50-16	53-93		48-29	(a)28-46	30-8	
70	Other vehicles ... "	10-53	37-68	26-36	33-11	32-51	53-67	3-62	18-8	
WEIGHT OF TRAIN, AND TON-MILEAGE—										
Gross ton-mileage of all coaching trains—										
71	Freight ... Ton-Miles	29,253,628	15,363,116	7,936,037	7,442,304	7,539,698	3,309,992	4,381,452	2,702,64	
72	Dead-weight ... "	373,248,645	222,278,171	111,179,297	68,461,857	84,803,741	36,770,008	56,645,035	46,838,56	
73	Total ... "	402,502,273	237,641,287	119,115,334	75,904,161	92,343,439	40,079,995	61,026,487	49,541,44	
Average weight of a coaching train—										
74	Freight ... Tons	16-79	11-12	14-55	17-24	17-36	15-73	16-88	14-93	
75	Dead-weight ... "	214-24	160-85	203-88	158-62	195-27	174-70	218-27	259-56	
76	Total ... "	231-03	171-97	218-43	175-86	212-63	190-43	235-15	274-54	

(a) Called "Lower."
(b) Called "Upper."

DIX A—contd.

RAILWAYS—(Part II)—contd.

HALF-YEAR ENDED 31st December 1933.

Narrow Gauge.											Progressive number.
Punjab Northern.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Achutra.	Dharnagar-Gondal.	
1-08	...	...	11-99	...	2-55	...	1-53	...	15-78	...	61
10-63	7-96	10-60	11-99	10-42	11-63	11-43	10-36	10-46	15-78	13-20	62
0-74	2-48	2-14	1-45	0-38	1-09	1-19	3-41	2-77	0-09	1-18	63
2-01	2-51	0-79	2-63	1-29	2-00	2-44	1-48	2-07	1-25	2-84	64
16-81	15-77	16-62	19-20	16-65	21-27	18-12	19-48	19-44	19-12	19-88	65
13-16	21-03	9-10	8-19	15-14	6-77	6-45	18-79	11-67	6-30	7-50	66
15-32	83-31	7-74	8-54	14-24	8-34	6-19	17-52	8-63	10-49	15-82	67
6-84	...	...	28-19	...	4-96	...	18-36	...	27-42	...	68
37-58	33-77	43-83	28-19	68-98	34-21	34-16	30-24	35-01	27-42	45-21	69
74-76	42-83	11-56	35-71	153-53	59-24	12-23	24-07	23-26	216-99	80-54	70
2,450,958	938,364	7,312,232	14,425,065	748,904	708,235	1,938,474	1,514,777	1,843,700	492,601	624,504	61
2,749,254	2,396,238	29,130,700	16,116,550	1,497,920	734,016	6,890,535	1,551,393	2,431,848	553,920	1,725,168	62
6,977,958	...	...	329,556,429	...	1,506,010	...	3,901,700	...	32,423,510	...	63
111,967,213	30,743,944	181,448,260	10,720,000	12,193,297	75,450,949	44,456,064	28,313,461	24,406,250	1,104,658	1,104,658	64
643,701	780,021	3,305,502	6,323,856	13,156	693,188	834,613	663,558	561,005	11,472	1,104,658	65
15-70	18-26	4-87	4-80	9-52	4-12	0-80	21-55	7-81	5-08	6-80	66
42-01	39-18	5-62	10-24	12-45	13-84	5-21	37-22	6-94	18-59	9-61	67
3-84	...	...	43-88	...	7-44	...	24-03	...	42-94	...	68
37-98	37-49	48-80	43-88	56-33	51-94	30-75	37-52	39-43	42-94	56-50	69
43-82	39-80	5-27	24-28	205-08	7-11	6-55	21-59	23-52	309-64	5-95	70
2,989,931	1,094,330	5,653,362	10,423,638	411,235	447,517	1,484,042	1,279,022	825,931	651,144	914,850	71
50,134,331	14,254,650	45,549,320	101,692,904	2,351,586	3,978,455	20,031,263	15,596,077	9,337,992	6,987,119	6,788,200	72
53,124,262	15,348,980	51,202,682	112,121,592	3,262,871	4,425,872	21,515,305	16,875,000	10,163,923	7,868,263	7,703,050	73
12-02	12-48	14-89	11-93	15-99	14-19	8-35	10-09	10-99	13-60	15-85	74
201-52	162-51	120-02	116-29	110-85	125-34	112-71	122-33	124-21	108-32	117-63	75
213-54	174-99	134-91	125-22	126-84	139-44	121-06	132-36	135-20	121-36	133-48	76

HALF-YEAR ENDED 31st December 1883.

Progressive number.	HEADINGS.	BROAD GAUGE.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.
No. V.—COACHING TRAFFIC—concl'd.									
COST OF WORKING AND PROFITS—									
77	Average cost of hauling a coaching train one mile ... <i>Rs.</i>	1.24	1.69	1.65	1.49	1.78	1.76	1.69	1.63
78	Average cost of hauling a coaching vehicle with its load one mile ... <i>Pies</i>	13.88	27.07	21.87	20.58	21.95	23.47	17.05	14.99
Average cost of hauling a coaching unit one mile—									
79	Per passenger-unit ... <i>Pies</i>	0.91	1.75	1.33	1.09	1.26	1.32	1.18	1.35
80	Other traffic per ton ... "	9.61	32.20	21.70	10.08	14.94	22.56	16.02	12.78
81	Average profit on working a coaching train one mile ... <i>Rs.</i>	2.49	0.61	1.45	1.68	1.99	2.32	2.02	1.26
Average profit on working a coaching vehicle one mile—									
82	1st class ... <i>Pies</i>	3.07	-10.66	-6.74	2.77	-6.58	-5.36	-2.93	-9.51
83	2nd " ... "	7.01	-2.35	-1.33	-5.30	3.34	-0.89		-11.6
84	3rd or Intermediate class ... "	9.77	7.01	-15.35	...	...	10.22		...
85	4th or Lowest class ... "	38.46	21.71	33.14	30.66	33.19	57.90	25.51	17.4
86	Other vehicles ... "	25.62	33.62	7.51	53.65		19.34	22.10	8.89	16.59
Average profit on working a coaching unit one mile—									
87	Per passenger-unit ... <i>Pies</i>	1.83	1.15	1.24	1.10	1.44	1.76	1.42	0.95
88	Other traffic per ton ... "	20.76	0.97	11.37	22.58	13.60	22.60	17.60	19.33
No. VI. GOODS TRAFFIC.									
GROSS RECEIPTS AND TRAIN-MILEAGE—									
89	Receipts from goods traffic ... <i>Rs.</i>	1,68,45,849	(a) 90,92,340	34,10,863	18,10,772	30,31,214	1,472,205	13,32,512	26,39,189
90	Goods train-miles run ... <i>No.</i>	3,336,728	(a) 1,919,661	768,540	507,420	436,364	199,579	400,045	681,224
91	Average goods receipts per train-mile ... <i>Rs.</i>	5.05	4.74	4.44	3.57	6.95	7.37	3.33	3.87
UNITS AND UNIT-MILEAGE—									
92	Tons of goods carried one mile ... <i>Ton-miles</i>	530,218,812	208,675,367	90,537,970	740,417,681	72,121,931	26,415,332	43,653,595	91,583,942
93	Average sum received for carrying a ton one mile ... <i>Pies</i>	6.10	8.57	7.23	8.60	8.07	10.70	5.86	5.53
94	Average number of tons in a train ... <i>Tons</i>	158.90	106.10	117.87	79.65	165.28	132.36	109.12	134.44

(a) Excludes the Bhopal State Railway.

DIX A—contd.

RAILWAYS—(Part II)—contd.

HALF-YEAR ENDED 31st December 1883.

NARROW GAUGE.											
Punjab Northern.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Rangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Achhwa.	Bhavnagar-Gondal.	Progressive number.
2-19	1-76	1-53	1-18	1-98	2-21	1-74	1-15	1-45	1-50	2-70	77
28-47	25-43	18-64	13-69	24-73	22-05	21-27	12-30	16-01	16-18	30-40	78
2-21	1-91	1-09	1-22	1-50	1-91	2-33	1-33	1-55	1-31	1-08	79
23-26	17-64	72-66	12-25	12-38	18-27	79-61	24-92	24-36	4-94	31-54	80
0-39	0-59	1-15	0-99	2-19	0-42	0-47	1-28	1-01	0-97	0-82	81
-15-91	-4-40	-9-54	-5-50	-9-59	-15-28	-14-32	6-40	-4-34	-0-80	-22-87	82
-13-15	7-88	-10-90	-5-16	-10-49	-13-71	-15-08	5-22	-7-38	-5-07	-14-04	83
-21-63	...	...	14-50	...	-17-09	...	6-06	...	11-26	...	84
9-11	8-34	25-19	44-25	12-16	12-89	17-94	10-00	14-75	...	...	85
46-29	16-90	-7-07	22-02	128-85	37-19	-9-04	11-77	7-25	200-83	0-08	86
0-25	0-49	0-96	0-94	1-54	0-22	0-75	1-48	1-18	0-75	0-60	87
25-29	12-00	-18-73	17-19	42-06	23-00	-81-57	26-67	12-30	28-64	9-20	88
7,76,180	2,14,276	9,12,942	39,05,778	53,211	2,43,212	1,94,978	6,39,143	2,22,410	1,11,204	(b) 91,636	89
244,004	65,089	431,488	1,254,564	18,703	64,828	66,434	212,843	116,110	44,340	(c) 31,710	90
3-18	8-29	2-11	8-11	2-85	3-84	2-93	3-00	1-92	2-51	(d) 2-90	91
19,562,899	4,225,747	21,523,475	103,145,451	672,619	4,250,726	2,896,232	11,155,331	5,086,248	2,037,466	1,520,792	92
7-62	9-74	8-14	7-27	15-19	11-26	12-92	11-00	8-40	10-48	11-00	93
80-17	64-92	49-88	82-22	35-96	65-57	43-63	52-41	42-80	45-95	47-95	94

(b) Includes Rs. 2,810, being the receipts from construction trains.
 (c) Includes 1,168 construction train-miles.
 (d) Rs. 3-01, excluding construction trains.

HALF-YEAR ENDED 31st December 1883.

Progressive number.	HEADINGS.	BROAD GAUGE.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Ondh and Behilkhand.	Indus Valley and Kandahar.
	No. VI.—GOODS TRAF- FIC—contd.								
	VEHICLES AND VEHICLE- MILEAGE—								
	Number of goods vehicles hailed one mile—								
95	Loaded ... <i>Vehicle- miles.</i>	66,390,871	30,087,192	13,015,116	8,764,394	12,488,615	3,929,498	7,057,310	11,473,478
96	Empty "	26,466,721	11,300,449	5,809,909	1,723,427	3,750,406	1,252,709	2,673,671	7,407,907
97	Brake-vans "	4,166,444	3,785,732	641,797	1,947,259	352,311	137,909	474,956	954,167
98	Total "	97,024,036	45,173,373	19,466,822	12,435,080	16,591,332	5,320,116	10,205,937	19,835,552
	Average number of vehicles on a goods train—								
99	Freight vehicles <i>No.</i>	27.83	21.56	24.49	20.67	37.21	25.96	24.32	27.72
100	Brake-vans. "	1.25	1.97	0.84	3.84	0.81	0.69	1.19	1.40
101	Total "	29.08	23.53	25.33	24.51	38.02	26.65	25.51	29.12
102	Average earnings per goods vehicle per mile (exclud- ing brakes) ... <i>Pies</i>	34.63	42.13	34.26	33.15	35.84	54.55	26.29	26.84
103	Carrying capacity hailed one mile (excluding brakes) <i>Tons</i>	891,578,973	385,732,814	166,600,467	87,816,034	148,534,372	49,890,623	96,589,150	169,714,953
104	Percentage of freight upon capa- city hailed ... <i>Per cent.</i>	59.47	52.30	54.37	46.03	43.56	52.95	45.20	53.96
105	Average load of a goods vehicle, in- cluding both load- ed and empty ... <i>Tons</i>	5.71	4.92	4.30	3.85	4.44	5.10	4.49	4.85
106	Average load of a loaded goods vehi- cle "	7.99	6.77	6.96	4.61	5.73	6.72	6.19	7.98
	WEIGHT OF TRAIN AND TON- MILEAGE—								
	Gross ton-mileage of all goods trains—								
107	Freight ... <i>Tons</i>	530,218,812	203,675,367	90,587,976	40,417,691	72,121,981	26,415,332	43,653,595	91,583,945
108	Dead-weight "	728,287,613	363,478,049	172,589,491	110,428,227	119,905,773	43,292,054	75,918,419	163,863,881
109	Total "	1,258,506,425	567,153,416	263,177,467	150,845,908	192,027,704	69,707,386	119,572,014	255,447,826
	Average weight of a goods train—								
110	Freight ... <i>Tons</i>	158.90	106.10	117.37	79.65	165.28	132.36	109.12	134.41
111	Dead-weight "	218.27	189.34	224.57	217.63	274.78	216.92	189.78	240.54
112	Total "	377.17	295.44	342.44	297.28	440.06	349.28	298.90	374.95
	COST OF WORKING AND PROFIT—								
113	Average cost of hauling a goods train one mile ... <i>Rs.</i>	2.02	2.90	2.58	2.52	3.69	3.23	2.15	2.23
114	Average cost of hauling a goods vehicle with its load one mile ... <i>Pies</i>	13.91	25.87	20.22	23.41	19.05	23.87	16.96	15.46

DIX A—contd.

RAILWAYS—(Part II)—contd.

HALF-YEAR ENDED 31st December 1883.

NARROW GAGE.											Progressive number.
Punjab Northern.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cannore-Archnera.	Dharmara-Gondak.	
3,111,975	633,345	5,609,320	21,409,906	193,016	1,086,184	1,319,099	3,997,367	1,924,917	679,871	487,316	93
1,363,941	435,590	1,941,128	8,362,940	55,789	463,434	369,558	1,331,368	871,124	290,848	204,327	96
524,722	101,258	250,816	894,360	6,894	98,322	17,263	232,429	55,217	45,443	95,181	97
5,000,638	1,170,193	7,801,264	30,667,206	260,693	1,618,240	1,705,920	5,474,164	2,951,288	1,016,164	716,821	98
18-34	16-14	17-50	23-73	13-57	23-91	25-43	24-63	19-77	21-89	21-81	99
2-15	1-56	0-53	0-71	0-37	1-52	0-26	1-09	0-48	1-02	0-79	100
20-49	17-70	18-08	24-44	13-94	25-43	25-68	25-72	20-25	22-01	22-60	101
											102
33-29	38-49	23-21	25-19	40-25	30-37	22-17	23-41	18-00	22-01	26-01	103
39,830,337	9,479,550	44,261,258	180,809,598	1,218,235	8,577,438	8,443,285	24,231,860	11,339,984	5,508,020	3,456,315	104
49-11	44-57	48-62	57-05	55-21	49-56	34-33	40-04	44-77	30-50	43-96	105
4-15	3-95	2-85	3-47	2-65	2-74	1-72	2-13	2-22	2-10	2-20	106
6-28	6-67	3-84	4-82	3-40	3-91	2-20	2-85	2-64	3-00	3-12	107
19,562,899	4,225,747	21,522,475	103,145,450	672,619	4,250,726	2,898,232	11,155,331	5,086,248	2,037,460	1,520,792	108
44,682,949	10,238,020	40,950,049	155,697,817	1,574,423	7,630,380	7,218,912	24,618,139	10,637,930	4,415,090	3,163,310	109
64,245,848	14,463,767	62,472,524	258,843,267	2,247,047	11,881,106	10,118,144	35,773,470	15,724,178	6,152,366	4,684,111	110
80-17	64-92	49-88	82-22	35-96	65-57	43-63	52-41	43-80	45-93	47-96	111
133-12	157-29	94-90	124-10	84-18	117-70	108-67	115-66	91-62	99-57	99-74	112
263-29	222-21	144-78	206-32	120-14	183-27	152-30	168-07	135-12	146-52	147-60	113
2-71	2-23	1-64	1-90	1-87	2-91	2-19	1-46	1-46	1-79	2-39	114
28-32	26-08	17-97	15-38	26-49	23-36	16-51	11-42	14-09	16-73	26-65	

HALF-YEAR ENDED 31st December 1883.

Progressive number.	Headings.	BROAD GAUGE.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.
No. VI.—GOODS TRAFFIC— contd.									
115	Average cost of hauling a goods unit (viz., one ton) one mile ... <i>Pies</i>	2-44	5-26	4-20	6-08	4-29	4-68	3-78	3-19
115a	Average cost of hauling a goods unit one mile including interest on capital expended on open line at the rate of 5 per cent. per annum ... "	4-92	9-59	8-49	15-09	8-30	8-67	8-28	6-72
116	Average profit on working a goods train one mile ... <i>Rs.</i>	3-03	1-84	1-86	1-05	3-26	4-14	1-18	1-64
117	Average profit on working a goods vehicle with its load one mile ... <i>Pies</i>	20-02	16-31	14-04	9-74	16-79	30-68	9-33	11-38
118	Average profit on working a goods unit (viz., one ton) one mile ... "	3-66	3-31	3-03	2-52	3-78	6-02	2-08	2-34
No. VII, DETAILED PERCENTAGES OF EARNINGS AND EXPENDITURE.									
<i>Percentage to Total Earnings.</i>									
119	Coaching Traffic ... <i>Per cent.</i>	27-37	27-21	32-70	41-86	84-36	52-68	38-18	16-04
120	Goods Traffic ... "	71-05	71-53	65-89	55-44	53-62	56-06	62-80	81-13
121	Sundries, including Telegraph ... "	1-52	1-26	1-41	2-70	2-02	2-47	9-02	0-86
122	Steam-boat Earnings ... "	0-06	...	...	...	...	8-79	...	1-97
	Total ... "	100	100	100	100	100	100	100	100
<i>Percentage of Working Expenses upon Total Earnings.</i>									
123	Maintenance ... <i>Per cent.</i>	15-94	16-86	12-53	15-42	15-20	8-44	12-42	11-66
124	Locomotive Expenses ... "	8-32	23-05	22-53	20-28	13-96	9-93	18-31	23-00
125	Carriage and Wagon Expenses ... "	3-51	8-78	5-11	7-97	7-96	3-97	5-36	5-81
126	Traffic Expenses ... "	6-26	8-51	9-60	10-14	7-17	11-53	9-55	7-70
127	General Charges ... "	3-96	4-43	6-70	6-65	5-67	6-34	8-14	5-18
128	Miscellaneous Expenses ... "	0-66	1-14	0-34	0-46	1-16	0-89	2-39	3-10
129	Steam-boat Expenses ... "	0-06	0-75	0-33	...	...	6-99	...	2-57
130	Total Working Expenses ... "	38-71	63-52	57-14	60-92	51-12	48-09	56-17	59-22

DIX A—contd.

RAILWAYS—(Part II)—contd.

HALF-YEAR ENDED 31st December 1883.

Narrow Gauge.											
Punjab Northern.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nasrur and Chhattisgarh.	Bangkok and Irrawaddy Valley.	Northern Be. gal.	Tirhoot.	Cawnpore-Achmers.	Bhavnagar-Gondal.	Progressive number.
											115
6.48	6.60	6.31	4.44	9.99	8.52	9.62	6.36	6.36	7.50	11.97	115a
16.21	13.37	11.86	7.70	22.53	16.45	16.95	11.13	12.80	12.79	22.79	116
0.47	1.06	0.47	1.21	0.98	0.93	0.74	1.54	0.47	0.72	...	117
4.97	12.41	5.24	9.81	13.76	7.51	5.66	11.99	4.51	0.28	-0.01	118
F14	8.14	1.84	2.83	5.20	2.74	3.30	5.64	2.04	2.98	-0.01	
41.33	48.44	52.00	32.20	65.69	24.80	65.56	27.06	60.04	57.38	66.31	119
46.98	50.35	46.70	66.40	32.58	73.97	32.55	57.74	48.02	40.14	30.00	120
8.69	1.21	1.30	1.40	1.73	1.23	1.89	4.43	4.37	2.48	2.70	121
...	...	...	...	...	...	...	0.85	7.67	...	...	122
100	100	100	100	100	100	100	100	100	100	100	
19.65	26.62	16.64	13.64	14.06	20.93	17.74	10.82	14.40	13.40	21.30	123
33.98	15.21	21.30	25.23	15.71	24.58	23.36	14.48	18.17	19.73	18.75	124
4.88	9.75	7.43	4.88	4.09	4.13	5.11	2.87	5.15	4.57	6.32	125
13.17	10.10	9.16	8.96	10.24	13.62	20.48	7.39	11.37	13.78	16.94	126
7.69	7.03	8.23	5.62	9.75	12.74	9.99	6.69	13.36	12.70	20.87	127
2.03	2.77	4.34	1.19	0.46	1.99	1.01	1.41	1.80	1.98	0.45	128
...	...	...	...	...	...	...	0.29	9.63	...	...	129
81.40	71.54	67.10	59.52	54.31	78.04	77.69	40.94	73.88	66.16	84.63	130

APPEN
STATISTICS OF INDIAN
No. VIII.—WORKING

HALF-YEAR ENDED 31st December 1883.

TABLE A—MAINTENANCE OF WAY,

Progressive number.	HEADINGS.	BROAD GAUGE.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kand. ha.
	PER MILE OF LINE MAINTAINED.								
131a	General Superintendence (including office expenses) Ra.	219.62	154.04	159.75	146.89	237.11	192.87	155.68	123.07
132a	Maintenance and Renewal of permanent-way ... "	2,002.37	831.02	314.07	300.53	707.34	990.74	278.03	250.49
133a	Repairs of Bridges, &c. ... "	127.76	219.01	73.43	43.11	292.71	94.26	40.24	66.62
134a	Conservancy of Rivers ... "	...	...	44.74	...	...	...	...	3.90
135a	Repairs of Stations and Buildings ... "	212.87	80.73	107.79	54.95	67.84	184.63	41.59	73.83
136a	Other Charges (net) ... "	-275.97	196.83	178.62	41.40	266.68	-181.11	57.54	73.45
137a	Total Maintenance, &c. ... "	2,236.65	1,481.63	878.45	586.88	1,571.68	1,281.39	573.08	591.36
	PER MILE OF TRACK, INCLUDING SIDINGS.								
131b	General Superintendence (including office expenses) ... (Ra.)	145.68	111.31	133.99	126.23	192.10	161.98	135.42	109.54
132b	Maintenance and Renewal of Permanent-way ... "	1,328.21	600.51	263.43	258.37	573.06	832.02	241.85	222.96
133b	Repairs of Bridges, &c. ... "	84.75	158.26	61.63	37.06	237.15	79.16	35.00	59.30
134b	Conservancy of Rivers ... "	...	...	37.53	...	...	...	...	3.47
135b	Repairs of Stations and Buildings ... "	141.20	58.34	90.40	47.24	54.98	155.05	36.19	65.72
136b	Other Charges (net) ... "	-183.05	142.23	149.82	35.60	216.07	-152.09	50.05	65.37
137b	Total Maintenance, &c. ... "	1,516.79	1,070.65	736.80	504.55	1,273.36	1,076.12	498.51	526.36
	PER TOTAL TRAIN-MILE.								
131c	General Superintendence (including office expenses) ... Annas	1.14	1.08	1.44	2.15	2.01	1.30	2.06	1.49
132c	Maintenance and Renewal of Permanent-way ... "	10.43	5.83	2.82	4.39	6.99	6.70	3.69	3.03
133c	Repairs of Bridges, &c. ... "	0.67	1.53	0.66	0.63	2.48	0.63	0.53	0.81
134c	Conservancy of Rivers ... "	...	...	0.40	...	...	...	...	0.05
135c	Repairs of Stations and Buildings ... "	1.11	0.56	0.97	0.80	0.58	1.24	0.55	0.89
136c	Other Charges (net) ... "	-1.44	1.39	1.61	0.61	2.26	-1.23	0.77	0.39
137c	Total Maintenance, &c. ... "	11.91	10.98	7.90	8.58	13.32	8.64	7.60	7.16
	PER 1,000 GROSS TON-MILES.								
131d	General Superintendence (including office expenses) ... Ra.	0.22	0.28	0.31	0.56	0.39	0.30	0.47	0.26
132d	Maintenance and Renewal of Permanent-way ... "	1.09	1.49	0.61	1.14	1.15	1.57	0.84	0.54
133d	Repairs of Bridges, &c. ... "	0.13	0.39	0.14	0.16	0.47	0.14	0.12	0.14
134d	Conservancy of Rivers ... "	...	...	0.08	...	...	...	...	0.01
135d	Repairs of Stations and Buildings ... "	0.21	0.15	0.21	0.21	0.11	0.29	0.12	0.16
136d	Other Charges (net) ... "	-0.28	0.35	0.35	0.15	0.43	-0.23	0.18	0.16
137d	Total Maintenance, &c. ... "	2.27	2.66	1.70	2.22	2.55	2.02	1.73	1.27

DIX A—contd.

RAILWAYS—(Part II)—contd.

EXPENSES.

WORKS AND STATIONS.

HALF-YEAR ENDED 31st December 1883.

Narrow Gauge.											Programme number.
Punjab Northern.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chattisgarh.	Burmoen and Irrawady Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Achnera.	Bhavnagar-Goudal.	
157-95	72-40	112-61	108-10	87-63	98-44	141-13	101-13	83-03	51-76	53-98	131a
227-79	812-77	227-93	851-71	140-63	351-19	374-52	320-70	95-05	101-97	215-11	132a
140-20	23-81	45-43	47-39	8-67	22-61	38-89	25-79	13-00	55-09	21-96	133a
47-56	8-91	...	0-33	...	...	...	...	...	...	...	134a
65-13	85-06	28-87	60-48	16-75	13-88	36-37	36-08	80-70	20-60	10-79	135a
86-99	14-44	76-89	96-56	10-11	-7-84	69-04	36-80	158-40	38-53	21-97	136a
725-62	967-39	491-23	664-56	263-79	473-28	659-95	520-56	380-27	263-81	337-80	137a
139-38	66-60	102-45	97-65	78-96	84-97	117-00	90-30	73-35	46-54	62-65	131b
201-02	747-64	207-35	317-68	126-73	319-33	312-88	286-69	63-97	91-69	102-02	132b
123-72	21-01	41-33	42-32	7-82	20-56	32-49	23-05	11-57	50-35	10-59	133b
41-97	8-19	...	0-30	...	...	...	...	...	...	...	134b
57-46	32-26	25-81	54-63	15-09	12-62	30-39	32-24	27-12	18-52	17-00	135b
76-77	13-29	69-95	87-20	9-14	-7-12	57-67	32-89	139-91	34-63	10-61	136b
640-32	889-89	446-89	600-28	237-74	430-36	551-33	405-26	335-02	241-73	301-53	137b
2-16	0-69	1-47	0-98	2-75	2-30	1-40	1-09	1-22	1-06	2-04	131c
3-11	9-96	2-98	3-18	4-41	6-67	3-95	3-47	1-39	2-07	7-43	132c
1-91	0-29	0-59	0-43	0-27	0-56	0-41	0-28	0-19	1-14	0-76	133c
0-65	0-11	...	...	...	...	...	...	...	...	...	134c
0-89	0-43	0-37	0-55	0-53	0-35	0-39	0-30	0-45	0-42	0-69	135c
1-19	0-18	1-01	0-89	0-31	-0-20	0-73	0-10	2-32	0-78	0-76	136c
9-91	11-86	6-42	6-03	8-27	11-68	6-97	5-63	5-57	5-40	11-69	137c
0-57	0-28	0-66	0-36	1-33	0-85	0-72	0-44	0-56	0-50	0-92	131d
0-81	3-19	1-33	1-14	2-22	3-21	1-91	1-40	0-64	0-99	3-29	132d
0-50	0-06	0-26	0-15	0-14	0-21	0-20	0-11	0-09	0-54	0-34	133d
0-17	0-03	...	...	...	...	...	...	...	...	...	134d
0-23	0-14	0-16	0-19	0-26	0-12	0-18	0-16	0-21	0-20	0-31	135d
0-32	0-06	0-45	0-32	0-17	-0-06	0-35	0-16	1-07	0-37	0-34	136d
2-60	3-79	2-86	2-16	4-17	4-33	3-36	2-27	2-54	2-60	5-27	137d

APPEN
STATISTICS OF INDIAN
No. VIII.—WORKING

HALF-YEAR ENDED 31st December 1883.

TABLE A—MAINTENANCE OF WAY,

Progressive number.	Headings.	ROAD GAUGE.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oriss and Behilkhand.	Indus Valley and Kand. Ra.
PER MILE OF LINE MAINTAINED.									
131a	General Superintendence (including office expenses) Rs.	219-62	154-04	159-75	146-89	287-11	192-87	155-68	123-07
132a	Maintenance and Renewal of permanent-way ...	2,002-37	831-02	314-07	300-53	707-34	890-74	278-03	250-49
133a	Repairs of Bridges, &c. ...	127-76	219-01	73-48	43-11	292-71	94-26	40-24	66-62
134a	Conservancy of Rivers ...	...	...	44-74	...	...	...	...	3-90
135a	Repairs of Stations and Buildings ...	212-87	80-73	107-79	54-95	67-84	184-63	41-59	73-83
136a	Other Charges (net) ...	-275-97	196-83	178-62	41-40	266-63	-181-11	57-54	73-45
137a	Total Maintenance, &c. ...	2,286-65	1,481-63	878-45	536-88	1,571-68	1,281-39	573-08	591-36
PER MILE OF TRACK, INCLUDING SIDINGS.									
131b	General Superintendence (including office expenses) (Rs.)	145-68	111-31	133-99	126-28	192-10	161-98	135-42	109-54
132b	Maintenance and Renewal of Permanent-way ...	1,328-21	600-51	263-43	256-37	573-06	832-02	241-85	222-96
133b	Repairs of Bridges, &c. ...	84-75	158-26	61-63	37-06	237-15	79-16	35-00	59-30
134b	Conservancy of Rivers ...	...	...	37-53	...	...	...	...	3-47
135b	Repairs of Stations and Buildings ...	141-20	58-34	90-40	47-24	54-98	155-05	36-19	65-72
136b	Other Charges (net) ...	-183-05	142-23	149-82	35-60	216-07	-152-09	50-05	65-37
137b	Total Maintenance, &c. ...	1,516-79	1,070-65	736-80	504-55	1,273-36	1,076-12	493-51	526-36
PER TOTAL TRAIN-MILE.									
131c	General Superintendence (including office expenses) Annas	1-14	1-08	1-44	2-15	2-01	1-30	2-06	1-49
132c	Maintenance and Renewal of Permanent-way ...	10-43	5-83	2-82	4-39	5-99	6-70	3-69	3-03
133c	Repairs of Bridges, &c. ...	0-67	1-53	0-66	0-63	2-48	0-63	0-53	0-81
134c	Conservancy of Rivers ...	...	...	0-40	...	...	...	...	0-01
135c	Repairs of Stations and Buildings ...	1-11	0-56	0-97	0-80	0-58	1-24	0-55	0-89
136c	Other Charges (net) ...	-1-44	1-38	1-61	0-61	2-26	-1-23	0-77	0-89
137c	Total Maintenance, &c. ...	11-91	10-38	7-90	8-58	13-32	8-64	7-60	7-16
PER 1,000 GROSS TON-MILES.									
131d	General Superintendence (including office expenses) Rs.	0-22	0-28	0-31	0-56	0-39	0-30	0-47	0-26
132d	Maintenance and Renewal of Permanent-way ...	1-99	1-49	0-61	1-14	1-15	1-57	0-84	0-54
133d	Repairs of Bridges, &c. ...	0-13	0-39	0-14	0-16	0-47	0-14	0-12	0-14
134d	Conservancy of Rivers ...	...	...	0-08	...	...	...	...	0-01
135d	Repairs of Stations and Buildings ...	0-21	0-15	0-21	0-21	0-11	0-29	0-12	0-16
136d	Other Charges (net) ...	-0-28	0-35	0-35	0-15	0-43	-0-28	0-18	0-16
137d	Total Maintenance, &c. ...	2-27	2-66	1-70	2-22	2-55	2-02	1-73	1-27

DIX A—contd.

RAILWAYS—(Part II)—contd.

EXPENSES.

WORKS AND STATIONS.

HALF-YEAR ENDED 31st December 1883.

NARROW GAUGE.											Progressive number.
Punjab Northern.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Burdwan and Irawady Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Acharya.	Rhemnar-Gundal.	
157.95	72.40	112.61	108.10	87.63	93.44	141.13	101.13	83.03	51.76	53.98	131a
227.79	812.77	227.93	351.71	140.63	351.19	374.52	320.76	95.03	101.97	215.11	132a
140.20	23.81	45.43	47.89	8.67	22.61	38.89	25.79	13.09	55.99	21.96	133a
47.56	8.91	...	0.33	...	...	...	...	...	...	...	134a
65.13	35.06	28.87	60.48	16.75	13.88	36.37	26.08	30.70	20.60	10.79	135a
86.99	14.44	76.89	96.55	10.11	-7.84	69.04	36.80	158.40	33.53	31.97	136a
725.62	967.33	491.23	664.56	263.79	473.25	659.95	520.56	850.27	263.81	337.80	137a
139.38	66.60	102.45	97.65	78.96	84.07	117.00	90.39	73.35	40.54	53.63	131b
201.02	747.64	207.35	317.68	126.73	319.33	312.88	286.59	83.97	01.60	102.02	132b
123.72	21.91	41.33	42.82	7.82	20.56	82.49	23.05	11.67	50.35	10.59	133b
41.97	8.19	...	0.30	...	...	...	...	...	...	...	134b
57.46	32.26	25.81	54.63	15.09	12.62	30.39	32.24	27.12	18.62	17.80	135b
76.77	13.29	69.95	87.20	9.14	-7.12	57.67	32.80	109.01	34.63	10.01	136b
640.32	889.89	446.89	600.28	237.74	430.36	551.33	465.26	835.02	241.73	301.53	137b
2.16	0.89	1.47	0.98	2.75	2.30	1.49	1.09	1.22	1.05	2.04	131c
3.11	9.96	2.98	3.18	4.41	3.67	3.95	3.47	1.39	2.07	7.43	132c
1.91	0.29	0.59	0.43	0.27	0.56	0.41	0.28	0.10	1.14	0.76	133c
0.65	0.11	...	...	...	...	...	...	...	...	...	134c
0.89	0.43	0.37	0.55	0.53	0.35	0.39	0.30	0.45	0.42	0.00	135c
1.19	0.18	1.01	0.89	0.31	-0.20	0.73	0.40	2.32	0.78	0.76	136c
9.91	11.86	6.42	6.03	3.27	11.68	6.97	5.63	5.57	5.46	11.04	137c
0.57	0.28	0.66	0.36	1.38	0.85	0.72	0.44	0.56	0.50	0.92	131d
0.81	3.19	1.33	1.14	2.22	3.21	1.91	1.40	0.64	0.99	3.30	132d
0.50	0.03	0.26	0.15	0.14	0.21	0.20	0.11	0.09	0.54	0.24	133d
0.17	0.03	...	...	...	...	...	...	...	...	...	134d
0.23	0.14	0.16	0.19	0.26	0.12	0.18	0.16	0.21	0.20	0.31	135d
0.32	0.06	0.45	0.32	0.17	-0.06	0.35	0.16	1.07	0.37	0.24	136d
2.60	3.79	2.36	2.16	4.17	4.33	3.30	2.27	2.57	2.60	5.27	137d

HALF-YEAR ENDED 31st December 1883.

Progressive number.	HEADINGS.	BROAD GAUGE.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.
†	Average price of Fuel per ton in terms of								
	Coal } Br.	1-84	13-35	18-25	...	16-18	8-02	11-87	...
	Wood } "	...	...	...	5-14	...	...	...	5-77
138a	PER TOTAL TRAIN-MILE. General Superintendence (including office expenses) Annas	0-87	0-87	0-92	0-88	0-84	1-27	1-44	1-12
139a	Running Expenses "	1-95	3-19	2-15	2-44	2-65	2-99	1-62	3-18
140	Fuel† ... "	0-64	4-54	5-19	3-63	5-04	3-23	4-14	4-51
141a	Water ... "	0-12	0-39	0-20	0-16	0-30	0-28	0-15	0-29
142a	Oil, tallow, and other stores ... "	0-26	0-41	0-38	0-21	0-32	0-46	0-39	0-36
143a	Maintenance and renewal of Locomotives and Machinery ... "	1-39	3-10	2-69	3-49	1-76	3-29	2-22	3-52
144a	Other Charges (net) ... "	0-97	1-68	2-67	0-48	1-32	-1-34	1-25	0-91
145a	Total Locomotive Expenses ... "	6-22	14-18	14-20	11-29	12-23	10-18	11-21	13-89
†	Fuel consumed in terms of								
	Coal } lbs.	48-66	47-57	89-80	...	48-59	56-28	48-79	...
	Wood } "	...	...	...	98-83	...	...	...	109-49
138b	PER ENGINE-MILE. General Superintendence (including office expenses) Annas	0-78	0-79	0-80	0-77	0-77	1-02	1-11	0-99
139b	Running Expenses "	1-73	2-93	1-87	2-11	2-43	2-39	1-24	2-78
140b	Fuel† ... "	0-57	4-16	4-53	3-15	4-61	2-58	3-18	3-94
141b	Water ... "	0-11	0-36	0-18	0-14	0-27	0-22	0-11	0-26
142b	Oil, tallow, and other stores ... "	0-25	0-37	0-33	0-19	0-29	0-37	0-29	0-31
143b	Maintenance and renewal of Locomotives and Machinery ... "	1-33	2-84	2-35	3-02	1-61	2-62	1-71	3-08
144b	Other Charges (net) ... "	0-86	1-54	2-32	0-41	1-21	-1-07	0-97	0-80
145b	Total Locomotive Expenses ... "	5-53	12-99	12-38	9-79	11-19	8-13	8-61	12-16
†	Fuel consumed in terms of								
	Coal } lbs.	43-32	43-59	34-09	...	39-92	44-95	37-49	...
	Wood } "	...	...	...	85-68	...	...	...	95-83
138c	PER 1,000 GROSS TON-MILES. General Superintendence (including office expenses) Rs.	0-17	0-22	0-20	0-23	0-16	0-30	0-33	0-20
139c	Running Expenses "	0-37	0-82	0-46	0-63	0-51	0-70	0-37	0-56
140c	Fuel† ... "	0-12	1-17	1-11	0-94	0-96	0-76	0-94	0-80
141c	Water ... "	0-02	0-10	0-04	0-04	0-06	0-06	0-04	0-05
142c	Oil, tallow, and other stores ... "	0-05	0-11	0-08	0-06	0-06	0-11	0-09	0-06
143c	Maintenance and renewal of Locomotives and Machinery ... "	0-27	0-79	0-58	0-90	0-34	0-75	0-51	0-63
144c	Other Charges (net) ... "	0-19	0-43	0-58	0-12	0-25	-0-32	0-28	0-16
145c	Total Locomotive Expenses ... "	1-19	3-64	3-05	2-92	2-34	2-37	2-56	2-45
†	Fuel consumed in terms of								
	Coal } lbs.	143-30	195-38	136-69	...	133-45	210-24	178-22	...
	Wood } "	...	...	...	409-29	...	...	...	309-35

HALF-YEAR ENDED 31st December 1883.

Progressive number.	HEADINGS.	BROAD GAUGE.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.
	PER TOTAL TRAIN-MILE.								
146a	General Superintendence (including office expenses) ... <i>Annas</i>	0.23	0.28	0.25	0.35	0.34	0.59	0.24	0.31
147a	Repairs and Renewals of Coaching Vehicles ... "	0.70	2.22	0.77	2.21	1.53	1.95	1.20	1.35
148a	Repairs and Renewals of Goods Vehicles ... "	1.43	2.07	1.30	1.30	4.33	1.01	1.34	1.35
149a	Cleaning and Oiling ... "	0.11	0.50	0.48	0.45	0.28	0.48	0.45	0.44
150a	Other Charges (net) ... "	0.15	0.33	0.42	0.13	0.44	0.04	0.05	0.06
151a	Total Carriage and Wagon Expenses ... "	2.62	5.40	3.22	4.44	6.97	4.07	3.28	3.51
	PER 1,000 VEHICLE MILES RUN BY-HOME VEHICLES.								
146b	General Superintendence (including office expenses) ... <i>Rs.</i>	0.58	0.97	0.77	1.10	0.74	1.76	0.44	0.84
147b	Repairs and Renewals of Coaching Vehicles (a) ... "	6.94	23.80	6.80	16.16	11.33	15.67	9.05	14.68
148b	Repairs and Renewals of Goods Vehicles (a) ... "	4.90	10.68	5.93	7.15	13.34	4.80	3.32	4.90
149b	Cleaning and Oiling ... "	0.28	17.44	1.44	1.41	0.59	1.46	0.83	1.18
150b	Other Charges (net) ... "	0.38	1.13	1.27	0.40	0.96	0.10	0.09	0.17
151b	Total Carriage and Wagon Expenses ... "	6.66	18.78	9.71	13.92	15.05	12.17	6.10	9.56

(a) These two items are calculated respectively upon the coaching and goods vehicle mileage.

DIX A—*contd.*

RAILWAYS—(Part II)—*contd.*

EXPENSES—*contd.*

AND WAGON EXPENSES.

HALF-YEAR ENDED 31st December 1883.

Narrow Gauge.											Progressive number.
Punjab Northern.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Rangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Achutra.	Bhavnagar-Gondal.	
0.19	0.38	0.22	0.19	1.37	1.12	0.37	0.36	0.28	0.33	0.60	146a
0.36	1.09	0.55	0.71	0.31	0.01	0.59	0.41	0.51	0.52	0.72	147a
1.62	2.52	1.79	0.79	0.30	0.50	0.33	0.36	0.62	0.65	0.30	148a
0.28	0.36	0.19	0.29	0.41	0.52	0.21	0.26	0.30	0.20	0.58	149a
0.01	...	0.11	0.18	...	0.18	0.50	0.10	0.10	0.10	1.21	150a
2.46	4.35	2.86	2.16	2.39	2.33	2.00	1.49	1.99	1.80	3.47	151a
0.36	1.75	0.79	0.55	5.53	2.37	1.14	0.96	0.37	1.01	1.70	146b
2.59	7.92	4.45	5.63	2.04	0.12	2.78	3.32	4.02	2.80	3.40	147b
4.60	31.14	11.62	3.39	3.18	1.96	2.96	1.43	3.23	4.41	2.82	148b
0.57	1.62	0.70	0.79	1.69	1.31	0.05	0.60	1.23	0.60	1.74	149b
0.03	0.01	0.41	0.50	...	0.47	1.50	0.29	0.61	0.47	3.61	150b
5.03	19.87	10.30	6.02	9.69	6.00	6.13	4.00	6.25	6.66	10.40	151b

HALF-YEAR ENDED 31st December 1883.

TABLE D—

Progressive number.	Headings.	Broad Gages.							
		East Indian.	Great Indian Peninsula.	Sind, Panjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oodh and Rohilkhand.	Indus Valley and Kandahar.
	PER TOTAL TRAIN-MILE.								
152a	General Superintendence (including office expenses). ... <i>Annas</i>	0.62	0.56	0.80	0.99	0.83	1.29	0.79	0.88
153a	Station Staff ... "	2.60	2.26	2.73	2.79	3.51	7.84	3.17	2.05
154a	Train Staff ... "	0.87	1.98	0.98	0.59	0.55	1.42	0.80	0.87
155a	Fuel, Lighting, Water and General Stores ... "	0.26	0.49	0.61	0.65	0.83	0.86	0.95	0.40
156a	Clothing ... "	0.05	0.12	0.05	0.07	0.10	0.08	0.10	0.04
157a	Printing, Stationery and Tickets ... "	0.22	0.22	0.49	0.46	0.37	0.33	0.34	0.18
158a	Charges for delivery and collection of goods, &c. ... "	...	0.01	0.02	0.01	0.03	...	0.01	0.01
159a	Miscellaneous Expenses ... "	0.06	0.03	0.02	0.04	0.02	...	0.01	0.02
160a	Payments to other lines ... "	...	0.11	0.11	...	...	...	0.25	0.15
161a	Other charges (net). ... "	...	0.05	0.19	0.04	0.03	0.01	0.03	0.05
162a	Total traffic expenses ... "	4.68	5.23	6.05	5.84	6.27	11.81	5.85	4.65
	PER CENT. ON TRAFFIC EARNINGS. <i>(Abstracts H and I of Revenue Accounts.)</i>								
152b	General Superintendence (including office expenses)† ... <i>Per cent.</i>	0.84	0.93	1.30	1.82	0.97	1.42	1.42	1.50
153b	Station Staff ... "	3.53	3.72	4.47	5.16	4.09	8.62	5.69	3.46
154b	Train Staff ... "	1.13	2.28	1.58	1.10	0.64	1.56	1.43	1.47
155b	Fuel, Lighting, Water and General Stores ... "	0.36	0.60	0.98	1.20	0.97	0.94	0.63	0.66
156b	Clothing ... "	0.07	0.20	0.08	0.12	0.12	0.06	0.19	0.07
157b	Printing, Stationery and Tickets... .. "	0.30	0.36	0.78	0.85	0.44	0.37	0.62	0.30
158b	Charges for delivery and collection of goods, &c. ... "	...	0.02	0.03	0.02	0.03	...	0.01	0.01
159b	Miscellaneous Expenses ... "	0.08	0.06	0.03	0.07	0.02	...	0.01	0.04
160b	Payments to other lines ... "	...	0.17	0.17	...	...	...	0.45	0.26
161b	Other charges (net) ... "	...	0.07	0.31	0.08	0.03	0.01	0.05	0.08
162b	Total traffic expenses ... "	6.86	8.61	9.73	10.42	7.31	12.98	10.50	7.92
†	General Superintendence per cent. on traffic earnings (including steamboat) ... "	0.84	0.93	1.30	1.82	0.97	1.29	1.42	1.47

DIX A—contd.

RAILWAYS—(Part II)—contd.

EXPENSES—contd.

TRAFFIC EXPENSES.

HALF-YEAR ENDED 31st December 1883.

NARROW GAUGE.											Progressive number.
Punjab Northern.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Achnera.	Bhavnagar-Goudal.	
											152a
1.04	0.76	0.53	0.61	1.56	1.34	0.97	0.66	1.09	1.82	1.80	153a
2.57	1.94	1.93	1.84	1.87	2.99	3.85	2.20	2.17	2.35	3.26	154a
1.11	0.70	0.37	0.62	0.72	0.74	0.93	0.43	0.40	0.31	0.79	155a
0.58	0.44	0.26	0.53	0.32	0.72	0.63	0.36	0.54	0.37	0.31	156a
0.10	...	0.11	0.11	0.19	0.18	0.10	0.03	0.05	0.10	0.10	157a
0.22	0.22	0.20	0.14	0.04	0.11	1.01	0.10	0.11	0.48	1.27	158a
...	...	...	...	...	...	...	...	...	...	...	159a
0.02	0.03	0.02	0.03	0.06	0.06	0.53	0.04	0.02	0.63	0.21	160a
0.46	0.36	...	0.03	1.25	1.45	...	...	...	0.21	0.80	161a
0.54	...	0.11	...	0.01	0.01	0.02	0.02	0.02	...	1.25	162a
6.64	4.50	3.53	3.96	6.02	7.60	8.04	3.84	4.40	5.62	9.20	162b
											162b
2.26	1.73	1.40	1.42	2.69	2.44	2.52	1.47	3.21	4.59	3.39	163b
5.58	4.40	5.07	4.23	3.24	5.44	10.00	4.94	6.39	5.92	6.11	164
2.41	1.60	0.99	1.41	1.24	1.33	2.41	0.96	1.17	0.77	1.40	165b
1.27	1.00	0.69	1.21	0.56	1.30	1.63	0.82	1.53	0.93	0.58	166b
0.21	0.01	0.29	0.25	0.33	0.34	0.26	0.06	0.15	0.24	0.19	167b
0.46	0.49	0.51	0.33	0.08	0.19	2.62	0.23	0.32	1.09	2.38	168b
...	...	...	...	...	...	...	...	...	...	...	169b
0.04	0.19	0.05	0.06	0.10	0.11	1.37	0.08	0.06	0.06	0.29	160b
1.00	0.81	...	0.19	2.16	2.82	...	...	...	0.53	0.57	161b
1.20	...	0.29	0.02	0.02	0.02	0.06	0.04	0.04	...	2.33	162b
14.43	10.23	9.28	9.08	10.42	13.79	20.87	8.60	12.92	14.13	17.43	†
											†
2.26	1.73	1.40	1.42	2.69	2.44	2.52	1.31	2.95	4.59	3.39	

APPEN
* STATISTICS OF INDIAN
No. VIII.—WORKING
TABLES E AND G—GENERAL CHARGES

HALF-YEAR ENDED 31st December 1883.

Progressive number.	HEADINGS.	BROAD GAUGE.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.
Table E.—General Charges.									
PER TOTAL TRAIN-MILE.									
163z	Home Expenditure <i>Annas</i>	0.23	0.26	0.56	0.52	0.68	0.89	0.94	...
164	Agent's Office—Salaries and Expenses	0.22	0.19	0.36	0.37	0.42	1.15	0.49	0.39
165a	Audit, Accounts and Pay Offices Expenses	0.61	0.65	1.07	1.18	1.16	1.21	1.15	1.10
166a	Stores Department Expenses	0.25	0.21	0.40	0.17	0.71	0.07	0.13	0.32
167a	Medical Department Expenses	0.18	0.13	0.15	0.26	0.21	0.36	0.29	0.20
168a	Rents and Miscellaneous Expenses...	(a)0.57	0.19	0.36	0.15	0.29	0.77	0.31	0.31
169a	Police	0.23	0.31	0.33	0.29	0.50	0.70	0.34	...
170a	Advertising	0.01	0.03	0.03	0.05	0.02	0.13	...	0.01
171a	Electric Telegraph	0.67	0.69	0.81	0.66	0.84	1.08	1.06	0.78
172a	Other Charges (net)	—0.02	0.06	0.15	0.05	0.13	0.13	0.28	0.02
173a	Total General Charges	2.95	2.72	4.22	3.70	4.96	6.49	4.99	3.13
PER CENT. ON TOTAL EARNINGS.									
163t	Home Expenditure <i>Per cent.</i>	0.32	0.42	0.88	0.93	0.78	0.87	1.53	...
164t	Agent's Office—Salaries and Expenses	0.30	0.31	0.57	0.67	0.49	1.12	0.81	0.4
165t	Audit, Accounts and pay Offices Expenses	0.82	1.06	1.70	2.11	1.32	1.13	1.87	1.83
166b	Stores Department Expenses	0.33	0.34	0.65	0.30	0.82	0.07	0.21	0.5
167b	Medical Department Expenses	0.24	0.22	0.25	0.47	0.24	0.35	0.47	0.34
168b	Rents and Miscellaneous Expenses...	(a)0.76	0.31	0.59	0.27	0.33	0.76	0.50	0.51
169b	Police	0.31	0.49	0.52	0.52	0.57	0.68	0.56	...
170b	Advertising	0.01	0.04	0.04	0.09	0.02	0.13	...	0.02
171b	Electric Telegraph	0.89	1.13	1.28	1.19	0.96	1.06	1.74	1.25
172b	Other Charges (net)	—0.02	0.10	0.23	0.10	0.14	0.12	0.45	0.02
173b	Total General Charges	3.96	4.42	6.70	6.65	5.67	6.34	8.14	5.13
Table G.—Special and Miscellaneous Expenses.									
PER CENT. ON GROSS EARNINGS.									
174	Law Charges <i>Per cent.</i>	...	0.03	0.02	0.04	0.03	0.04	0.02	0.0
175	Compensation	0.01	0.05	0.09	0.05	0.06	0.30	0.01	0.2
176	Rates and Taxes	0.12	0.10	0.05	0.26	0.22	0.18	0.01	...
177	Payments to other Lines	0.33	1.68	0.09	...	0.63	0.30	0.17	2.4
178	Other Charges (net)	0.15	0.04	0.09	0.11	0.22	0.03	2.18	0.4
179	Total Special and Miscellaneous Expenses	0.68	1.90	0.34	0.46	1.16	0.85	2.39	3.1

(a) Includes the cost of Government Controlling Establishment.

DIX A—contd.

RAILWAYS—(Part II)—contd.

EXPENSES—concl'd.

AND SPECIAL AND MISCELLANEOUS EXPENSES.

HALF-YEAR ENDED 31st December 1883.

NARROW GAUGE.											Progressive number.
Punjab Northern.	Nizam's	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Bangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Achnura.	Bhavnagar-Gondal.	
...	0.09	0.57	...	...	...	...	...	...	...	...	163a
0.63	0.41	0.38	0.23	1.24	1.66	0.94	0.68	1.46	1.13	2.01	164a
1.44	1.11	0.87	0.81	1.89	1.98	1.21	1.80	1.57	1.74	2.04	165a
0.28	0.29	0.20	0.24	0.42	0.84	0.34	0.07	0.14	0.23	0.48	166a
0.16	0.18	0.12	0.14	0.34	0.11	0.10	0.26	0.12	0.06	0.66	167a
0.44	0.30	0.18	0.24	0.14	0.70	0.38	0.11	0.30	0.72	0.93	168a
...	...	...	...	...	...	...	...	...	-0.08	1.47	169a
0.01	0.02	0.03	0.01	0.02	...	0.04	0.02	0.06	0.01	0.02	170a
0.91	0.76	0.70	0.83	1.69	1.82	0.89	1.03	1.51	1.23	3.04	171a
0.01	...	0.14	-0.01	...	...	0.02	0.01	0.01	0.14	-0.10	172a
3.88	3.16	3.17	2.49	5.74	7.11	3.92	3.48	5.17	6.18	11.45	173a
...	0.22	1.48	...	...	...	...	...	...	...	...	168b
1.25	0.91	0.98	0.53	2.10	2.98	2.40	1.81	3.77	2.76	3.68	164b
2.85	2.50	2.25	1.83	3.22	3.55	3.08	2.43	4.07	4.28	5.37	165b
0.56	0.66	0.53	0.54	0.71	1.50	0.86	0.13	0.30	0.56	0.87	166b
0.32	0.39	0.31	0.31	0.59	0.20	0.27	0.50	0.29	0.16	1.20	167b
0.87	0.67	0.42	0.54	0.25	1.25	0.96	0.22	0.79	1.78	1.60	168b
...	...	...	...	...	...	...	...	...	-0.20	2.07	169b
0.03	0.05	0.08	0.02	0.04	...	0.10	0.04	0.16	0.03	0.04	170b
1.80	1.69	1.82	1.88	2.84	3.27	2.27	1.99	3.90	3.00	5.53	171b
0.01	...	0.36	-0.03	...	...	0.06	0.01	0.02	0.35	-0.18	172b
7.69	7.09	8.23	5.62	9.75	12.75	10.00	6.69	13.36	12.70	20.87	173b
0.08	...	...	...	0.03	...	...	...	0.03	...	...	174
-0.17	0.05	0.02	0.06	...	...	0.02	0.29	0.79	0.03	0.08	175
...	...	0.46	...	...	...	0.61	0.01	0.06	...	...	176
1.71	2.44	0.02	0.30	...	0.96	...	...	0.72	0.11	0.29	177
0.41	0.28	3.53	0.83	0.43	1.03	0.38	1.11	0.20	1.34	0.08	178
2.63	2.77	4.33	1.19	0.46	1.99	1.01	1.41	1.80	1.98	0.45	179

HALF-YEAR ENDED 31st December 1883.

EXTRACT FROM TABLES PRINTED

Progressive number	HEADINGS.	BROAD GAUGE.							
		East Indian.	Great Indian Peninsula.	Sind, Punjab and Delhi.	Madras.	Bombay, Baroda and Central India.	Eastern Bengal.	Oudh and Rohilkhand.	Indus Valley and Kandahar.
FROM APPENDIX I.									
180	Average number of Locomotives on the line ... No.	550	455	159	150	99	48	121	157
181	Average train-mileage hauled per Locomotive per diem ... Miles	56.50	43	51.49	88	52	58.19	38.8	34.08
lbs. coal per train-mile (coal-burning engines)—									
182	Coaching ... lbs.	85.00	47.57	39.80	...	(a)39.91	39.55	19.8	...
183	Goods ... "	42.75					54.41	43.00	...
184	Mixed ... "	43.93					45.81	42.99	...
lbs. wood (wood-burning engines)—									
185	Coaching ... lbs.	...	...	...	85.68	...	...	...	109.49
186	Goods ... "	...	...	...	...	...	...	...	...
187	Mixed ... "	...	...	...	...	...	...	...	...
Average gross weight of trains—									
188	Coaching ... Tons	169.98	129.97	157.33	117.57	143.19	101.29	†	227.46
189	Goods ... "	347.83	249.64	239.35	239.52	438.44	312.89	†	329.80
190	Mixed ... "	208.65	...	229.96	197.45	238.15	190.21	†	269.56
Average through speed of trains—									
191	Coaching ... Miles per hour	24.14	21.82	17.33	18.85	19.25	19.00	19.89	20.89
192	Goods ... "	11.91	11.61	11.53	11.93	9.50	15.00	13.50	11.60
193	Mixed ... "	18.18	14.33	15.34	14.45	13.25	17.00	18.50	11.60
FROM APPENDIX II.									
194	Average mileage per diem of coaching vehicles including brakes ... Miles	174,246.85	105,575.22	49,418.22	43,468.09	39,979.19	18,215.63	29,689.28	27,526.55
195	Goods ditto ... "	531,643.45	245,507.46	107,192.46	57,028.08	90,170.28	29,416.22	54,988.24	102,744.60
FROM APPENDIX IV.									
Average age of rails—									
196	Steel ... Years	7.0	8.0	9.0	8.5	14.5	2.0	4.5	0
197	Iron ... "		19.0	19.5	18.0		17.5	11.0	6.0
Proportion renewed per mile of rail—									
198	Steel ... Per mile	0.08	0.04	0.02	...	0.02	0.01	...	0.0008
199	Iron ... "		...	...	...		...	0.008	0.008
FROM APPENDIX V.									
Average age of sleepers—									
200	Wood ... Years	6.0	...	12.0	6.5	12.0	7.5	11.0	7.0
201	Iron ... "		15.5	11.0	9.5	12.0	11.0	3.5	
Percentage of renewals—									
202	Wood ... Per cent.	7.34	5.75	3.23	5.01	4.10	3.02	0.69	0.21
203	Iron ... "	0.75	0.75	2.44	0.16	0.07	0.27	0.25	

(a) The quantity of coal burnt by each description of train is not shown separately.
 (b) Includes two Engines belonging to the Rajputana-Malwa Railway.
 † Information not available.

DIX A—concl'd.

RAILWAYS—(Part II).—concl'd.

IX.

AS APPENDICES TO THE ANALYSES.

HALF-YEAR ENDED 31st December 1883.

NARROW GAUGE.											Progressive number.	
Punjab Northern.	Nizam's.	South Indian.	Rajputana-Malwa.	Mysore.	Nagpur and Chhattisgarh.	Rangoon and Irrawaddy Valley.	Northern Bengal.	Tirhoot.	Cawnpore-Achnern.	Bhavnagar-Gondal.		
78	9	120	307	15	16	29	36	29	14 (3)	20	180	
45.16	95.27	43.12	41.60	19.07	35.20	50.79	58.53	44.12	43.04	24.80	181	
33.75	...	17.43	21.79	...	...	16.56	21.94	26.58	25.57	(a) 24.28	183
	...	21.52	31.43	...	46.60	32.49	28.34	26.58			183	
	...	26.47	26.58	...	50.88	29.61	34.48	26.58			184	
...	78.25	...	...	88.78	...	...	...	...	...	...	185
...	68.34	186
...	74.70	187
155.78	115.70	100.41	85.35	80.24	96.42	92.68	87.37	91.01	100.03	91.77	188	
	146.47	139.79	163.13	61.12	152.75	132.37	163.50	127.19	123.09	125.03	189	
	163.19	179.52	109.68	89.35	121.80	116.70	133.53	101.55	100.68	94.32	190	
M. L. 12.90	15.31	16 Mail 13 Mixed	15.09	10.52	...	15.00	17.35	17.24	...	...	191
S. L. 11.81	9.24		8.23	11.00	13.17	12.50	11.56	10.56	11.60	10.00	192	
M. L. 11.11 S. L. 10.68	12.63		11.35	10.52	12.52	12.50	13.57	14.32	13.39	14.00	193	
22,956.96	7,504.24	34,265.93	89,897.87	2,325.29	4,317.09	17,702.14	14,325.03	8,196.05	6,955.32	6,234.40	194	
27,177.38	6,382.79	42,343.99	168,081.03	1,416.81	8,433.55	9,367.82	28,924.99	12,562.15	5,279.40	3,895.75	195	
N. S. 2.5 S. S. 5.0	0.5	3.5	2.5	5.0	2.5	7.5	7.0	0.5	3.0	3.5	196	
	10.0	10.5	7.0	...				7.5	8.0	...	197	
3.87	0.01	...	...	...	0.003	0.01	0.002	...	...	0.11	198
		...	0.01	...				0.004	...	...	199
N. S. 2.5 S. S. 3.5	10.0	8.5	6.0	6.0	2.5	7.5	7.0	5.5	3.40	3.5	200	
	10.0	16.0	3.0	...	...	...	4.5	1.0		...	201
0.15	7.91	0.99	0.91	...	1.43	0.49	3.04	1.44	0.11	0.01	202	
...	0.36	0.02	0.18	...	...	...	0.03	0.17		...	203

Statement showing the general results of working of the

No.	RAILWAYS.	MEAN LENGTH OF LINE OPEN—MILES.						
		1879.	1880.	1881.	1882.	1883.	1879.	1880.
1	East Indian	(a) 1,507	(a) 1,507	(a) 1,507	(a) 1,507	(b) 1,653	1,11,77,844	1,16,73,269
2	Great Indian Peninsula	1,272	1,276	1,282	(c) 1,446	(c) 1,444	60,82,221	61,30,903
3	Sind, Punjab and Delhi	663	663	(e) 676	(e) 676	(e) 730	38,76,099	43,83,619
4	Madras	857	858	858	859	861	26,21,195	25,45,839
5	Bombay, Baroda and Central India (f) ...	444	444	444	458	461	23,20,288	27,00,522
6	Eastern Bengal (g)	(h) 172	(h) 172	(h) 172	(j) 177	(k) 205	14,92,425	14,88,015
7	Oudh and Rohilkhand	547	547	547	547	547	17,89,287	19,13,161
8	Indus Valley and Kandahar... ..	(l) 508	(l) 597	(l) 660	(l) 660	(l) 660	7,93,996	18,03,906
9	Punjab Northern	103	228	343	397	421	6,90,372	10,79,731
10	Dhond-Manmad	145	145	145	(m)	(m)	1,93,473	3,20,825
11	Patna-Gya	57	57	57	57	(n)	1,69,452	3,38,392
12	Nizam's	120	120	120	117	120	3,00,359	3,08,771
13	South Indian	(o) 614	(p) 647	(p) 663	(p) 663	(p) 662	(q) 20,03,022	(q) 20,62,513
14	Rajputana	445	484	735	} (r) 1,116	(r) 1,117	} 9,27,916	} 10,66,881
15	Holkar and Sindia-Neemuch	172	254	289				
16	Nagpur and Chhattisgarh ... ..	...	53	62	102	149	...	19,712
17	Rangoon and Irrawaddy Valley	161	161	161	161	161	6,96,980	7,45,221
18	Northern Bengal	(s) 225	(s) 231	(s) 233	(s) 231	(s) 235	4,41,998	5,32,237
19	Tirhoot	(t) 82	(t) 82	(t) 80	(t) 81	(t) 162	2,12,236	2,27,433
20	Cawnpore-Achnera (u) ... ..	...	...	86	86	138	...	...
21	Bhavnagar-Gondal (v) ... ..	...	...	170	193	193	...	...
22	Mysore ... ..	...	...	...	82	87	...	...

(a) Exclusive of the mileage of the State Branch lines worked by the East Indian Railway.
 (b) Includes Branch State lines worked by the undertaking, but excludes the State share of the earnings due to working of the Branch lines by the East Indian Railway.
 (c) Includes Dhond-Manmad, Berar and Bhopal State lines which are worked by the Great Indian Peninsula Railway Company.
 (d) Includes the earnings of the Dhond-Manmad and Berar State lines.
 (e) Includes 13 miles of the East Indian Railway between Ghaziabad and Delhi worked over by the Sind, Punjab and Delhi Railway Company.
 (f) Includes Patri Branch line.
 (g) The earnings include the Company's share of the earnings of the Branch lines worked by it.
 (h) Includes Poradaha Section of the Northern Bengal State Railway.
 (j) Includes Poradaha Section of the Northern Bengal State Railway and Ranaghat Section of the Bengal Central Railway.
 (k) Includes Bengal Central Railway and Poradaha Section of the Northern Bengal State Railway.
 (l) Includes 7 miles of the Sind, Punjab and Delhi Railway worked over.

DIX B—contd.

principal Indian Railways during the years 1879 to 1883.

EARNINGS—RUPEES.								No.
COACHING.			Goods.					
1881.	1882.	1883.	1879.	1880.	1881.	1882.	1883.	
1,18,92,133	1,31,92,309	(b) 1,30,87,817	3,02,19,425	2,98,32,892	3,22,38,495	3,27,67,476	(b) 3,62,95,330	1
63,68,419	(d) 73,18,304	(d) 70,90,634	1,85,21,797	1,83,14,143	2,52,41,441	(d) 2,75,78,253	(d) 2,76,13,379	2
36,43,784	36,01,112	34,36,477	63,83,378	67,34,266	56,94,210	57,78,038	75,63,987	3
26,42,909	29,00,202	27,33,434	37,30,522	33,41,731	34,85,445	38,41,103	37,25,755	4
33,30,487	33,14,842	34,81,024	46,17,278	51,81,628	61,87,158	66,53,319	82,35,279	5
16,17,285	15,48,440	17,71,361	25,10,442	28,73,263	34,40,206	39,71,937	30,81,895	6
20,59,055	21,82,247	19,99,560	21,31,663	22,16,668	25,27,135	27,15,428	29,63,383	7
14,98,701	11,18,467	10,77,472	22,01,809	40,08,327	35,41,392	34,99,326	57,25,167	8
13,52,146	13,96,492	13,37,120	10,99,774	18,78,514	19,89,004	16,34,178	15,37,995	9
3,33,899	(m)	(m)	2,46,822	3,39,760	2,96,622	(m)	(m)	10
3,47,195	3,64,762	(n)	50,009	1,38,952	1,60,133	1,75,541	(n)	11
2,95,196	3,44,291	3,77,127	3,31,623	3,79,944	4,43,951	4,95,234	4,61,577	12
(q) 21,06,450	(q) 21,14,967	(q) 20,68,188	(q) 13,09,593	(q) 14,45,911	(q) 15,41,534	(q) 15,94,462	(q) 17,47,590	13
22,35,699	37,60,874	38,08,020	25,08,999	25,75,546	49,09,907	70,24,583	87,12,553	14
7,41,821			7,08,909	7,83,979	11,95,913			15
87,498	1,38,962	1,90,546	...	83,823	1,89,310	4,59,106	11,17,126	16
7,10,899	8,16,029	8,64,552	2,44,123	5,58,177	7,15,555	7,36,315	6,75,297	17
5,36,915	5,70,693	6,15,744	6,75,877	8,07,999	10,30,935	12,39,265	13,20,180	18
2,30,214	2,60,608	3,71,920	1,48,660	2,03,339	2,40,874	2,97,688	4,17,437	19
1,54,170	1,85,366	3,28,296	...	...	1,22,109	1,68,630	2,34,269	20
3,61,543	4,63,576	4,41,482	...	...	3,18,259	3,99,035	4,35,785	21
...	1,92,555	2,07,486	...	...	...	92,818	90,109	22

(m) Included with the Great Indian Peninsula Railway.

(n) Included with the East Indian Railway.

(o) Includes the mileage of the Pondicherry Branch (8 miles) opened on 16th December 1879.

(p) Includes the Pondicherry Branch, 8 miles.

(q) Excludes earnings of the Pondicherry Branch.

(r) Excludes the mileage of the Mattra-Achnera line worked by the Rajputana-Malwa Railway.

(s) Excludes the Poradaha Branch worked by the Eastern Bengal Railway.

(t) Excludes the mileage of the Barrh Branch (3 miles) worked by the East Indian Railway.

(u) The figures under the columns 1881 and 1882 represent the transactions of the Cawnpore-Farukhabad State Railway only.

(v) Opened for traffic on the 20th December 1880.

Statement shewing the general results of working of the

No.	RAILWAYS.	STEAM BOAT SERVICE—RUPEES.					1879.
		1879.	1880.	1881.	1882.	1883.	
1	East Indian	28,801	30,688	31,849	29,221	31,891	18,90,151
2	Great Indian Peninsula... ..	...	...	...	...	...	6,44,297
3	Sind, Punjab and Delhi... ..	4,48,861	2,43,930	1,53,303	16,569	300	7,06,337
4	Madras ... ..	...	...	...	...	...	2,74,769
5	Bombay, Baroda and Central India (d)	215	...	...	...	...	2,15,007
6	Eastern Bengal (e)	4,38,113	4,84,843	5,72,434	5,02,718	4,17,686	62,945
7	Oudh and Rohilkhand ... ..	...	...	...	...	...	4,23,893
8	Indus Valley and Kandahar	81,224	1,89,723	2,06,471	2,81,505	2,70,846	2,00,511
9	Punjab Northern ... ..	...	...	...	...	— 6,860	59,935
10	Dhond-Manmad ... ..	...	...	...	...	...	77,262
11	Patna-Gya ... ..	...	...	...	...	(g)	11,048
12	Nizam's ... ..	...	...	...	...	...	12,419
13	South Indian ... ..	...	...	...	...	...	(h) 49,452
14	Rajputana ... ..	...	...	...	...	...	1,08,504
15	Holkar and Sindia-Neemuch ... ..	...	...	...	...	...	38,931
16	Nagpur and Chhattisgarh ... ..	...	...	...	...	...	...
17	Rangoon and Irrawaddy Valley ... ..	...	...	...	...	...	14,815
18	Northern Bengal	1,31,949	1,63,505	1,92,708	2,32,765	2,40,459	(k) 1,34,436
19	Tirhoot	74,194	98,143	97,267	85,034	67,629	(m) 23,643
20	Cawnpore-Achnera (o) ... ..	...	...	...	...	...	...
21	Bhavnagar-Gondal ... ..	...	...	...	...	...	...
22	Mysore ... ..	...	...	...	...	...	...

(a) Includes Branch State line worked by the undertaking, but excludes the State share of the earnings due to working of the Branch lines worked by the East Indian Railway.
 (b) Includes the earnings of the Dhond-Manmad and Berar State lines and the amount received for working the Bhopal State line.
 (c) Includes Rs. 2,68,379, being the Government share of earnings due to working of the Branch State lines by the Great Indian Peninsula Railway Company.
 (d) Includes Patri Branch line.
 (e) The earnings include the Company's share of the earnings of the Branch lines worked by it.
 (f) Included with the Great Indian Peninsula Railway.
 (g) Included with the East Indian Railway.

DIX B—contd.

Principal Indian Railways during the years 1879 to 1883—contd.

EARNINGS—contd.

SUNDRIES, INCLUDING TELEGRAPH—REVENUE.				TOTAL REVENUE.				No.	
1880.	1881.	1882.	1883.	1879.	1880.	1881.	1882.		1883.
14,08,269	12,48,996	11,28,589	(a) 9,17,459	4,33,16,221	4,29,45,116	4,54,11,472	4,71,17,595	5,03,32,497	1
5,08,207	4,46,963	(b) 4,66,644	(c) 6,78,731	2,52,48,315	2,49,53,253	3,20,56,322	(b) 3,53,63,201	3,53,82,744	2
10,49,703	6,82,850	6,36,605	4,47,090	1,14,14,676	1,24,11,518	1,01,74,147	1,00,92,324	1,14,47,854	3
2,74,975	1,82,958	1,77,266	1,72,720	66,26,436	61,62,545	63,11,312	69,18,571	66,31,909	4
3,62,225	2,27,487	2,08,028	2,05,906	71,52,788	82,44,375	97,45,132	1,01,76,189	1,10,22,209	5
90,040	72,117	1,02,774	1,13,478	45,03,925	49,36,161	57,02,042	61,25,725	53,64,420	6
3,25,321	3,42,541	3,65,169	4,93,311	43,44,843	44,55,150	49,28,730	52,62,844	54,56,254	7
6,60,426	2,88,596	2,13,262	1,67,691	32,77,540	66,62,382	55,35,161	61,12,560	72,41,176	8
4,10,038	1,28,414	99,842	2,71,737	18,50,081	33,68,284	34,69,564	31,30,512	31,39,972	9
34,509	...	(f)	(f)	4,67,557	6,95,094	6,33,862	(f)	(f)	10
4,212	6,104	5,861	(g)	2,30,509	4,81,556	5,13,431	5,46,164	(g)	11
14,001	17,687	19,892	14,817	6,94,401	7,02,716	7,56,834	8,59,417	8,53,521	12
(h) 51,170	(h) 1,07,704	(h) 49,285	(h) 53,890	(h) 33,62,067	(h) 35,59,594	(h) 37,55,698	(h) 37,58,714	(h) 33,69,608	13
1,81,292	96,641	(j) 1,44,173	1,94,897	35,45,420	37,23,719	72,42,247	(j) 1,09,29,630	1,27,15,470	14
37,564	11,846			11,45,838	14,01,259	19,49,579			15
417	4,721	6,318	12,349	...	1,03,952	2,81,529	6,04,386	13,20,021	16
19,312	17,168	23,346	23,037	9,55,918	13,22,710	15,43,622	15,75,690	15,62,886	17
(l) 1,09,060	(l) 83,331	(l) 1,03,187	1,17,809	(l) 13,84,260	(l) 16,12,801	(l) 18,43,890	(l) 21,45,910	22,94,192	18
(n) 22,152	15,899	16,692	35,455	(m) 4,58,733	(n) 5,51,067	5,84,255	6,60,022	8,92,441	19
...	2,305	4,816	13,422	...	...	2,78,584	3,58,812	5,75,987	20
...	8,584	14,225	16,912	...	...	6,88,385	8,76,836	8,94,170	21
...	...	3,018	5,300	...	...	...	2,88,301	3,02,895	22

(h) Includes amount received for working the Pondicherry line.
 (f) Includes share of profits for working the Muttra-Achnera line.
 (k) Includes share of earnings of the Poradaha branch for the second half of 1878 and two halves of 1879.
 (i) Includes share of earnings of the Poradaha Branch.
 (m) Includes amount credited after adjustment of the account with the East Indian Railway for the working of the Barrh Branch.
 (n) Includes interest on cost of Barrh Branch paid by the East Indian Railway.
 (o) The figures under the columns 1881 and 1882 represent the transactions of the Cawnpore-Farrukhabad State Railway only.

Statement shewing the general results of working of the

No.	RAILWAYS.	EXPEN									
		MAINTENANCE PER MILE OF TRACK INCLUDING SIDINGS— RUPEES.					Total per train-mile—Annas.				
		1879.	1880.	1881.	1882.	1883.	1879.	1880.	1881.	1882.	1883.
1	East Indian ...	1,946	1,974	1,858	2,855	(a)3,021	6.63	7.02	7.43	7.82	(a)6.17
2	Great Indian Peninsula (b) ...	2,264	1,894	2,156	2,125	2,147	13.30	12.92	12.39	11.95	12.5
3	Sind, Punjab and Delhi ...	1,923	1,521	1,925	1,705	1,646	12.18	12.38	13.93	14.45	14.10
4	Madras ...	1,321	1,248	1,259	1,275	1,053	11.86	11.48	11.04	11.06	11.12
5	Bombay, Baroda and Central India (c) ...	1,335	1,391	1,674	3,368	2,629	13.90	16.23	13.80	13.25	12.46
6	Eastern Bengal ...	1,830	(d)1,902	(d)1,569	(d)1,926	(d)2,009	(e)10.11	(e)9.83	(e)12.51	(e)9.85	(e)9.95
7	Oudh and Rohilkhand ...	829	980	1,090	1,535	1,046	9.93	8.79	11.71	12.29	11.24
8	Indus Valley and Kandahar ...	910	1,237	1,144	986	973	14.50	16.54	14.55	10.85	12.89
9	Punjab Northern ...	1,602	1,432	1,284	1,109	1,227	20.96	17.70	21.37	17.82	16.90
10	Dhond-Manmad ...	637	620	(f)	(f)	(f)	18.61	17.25	(f)	(f)	(f)
11	Patna-Gya ...	423	672	603	660	(g)	7.91	10.16	11.92	7.61	(g)
12	Nizam's ...	928	559	636	1,044	1,876	15.38	11.03	9.05	6.97	6.58
13	South Indian (h) ...	832	854	1,029	923	907	10.06	13.17	11.24	9.01	8.44
14	Rajputana ...	962	944	1,197	} (j) 1,055	1,144	11.39	13.44	11.81	} (j) 10.92	10.91
15	Holkar and Sindia-Neemuch ...	907	1,099	1,269			11.24	11.96	11.95		
16	Nagpur and Chhattisgarh ...	...	...	629	1,041	927	...	14.29	11.39	10.88	10.70
17	Rangoon and Irrawaddy Valley ...	1,420	1,132	1,136	1,307	1,332	11.60	9.75	9.80	8.67	8.28
18	Northern Bengal ...	1,175	738	808	869	1,000	9.57	7.65	8.23	8.00	7.81
19	Tirhoot ...	729	706	719	790	652	9.27	8.69	7.61	7.35	7.21
20	Cawnpore-Achnera (i) ...	...	...	409	544	480	...	...	6.68	7.46	8.43
21	Bhavnagar-Gondal ...	...	...	432	581	609	...	...	9.11	7.92	8.78
22	Mysore ...	...	...	...	(m)367	596	...	...	...	11.66	10.50

(a) Includes Branch State lines worked by the undertaking, but excludes the expenditure incurred by the State in working the Branch lines.

(b) Includes expenditure incurred in working the State Branch lines.

(c) Includes Patri Branch.

(d) Includes expenditure on the Poradaha Section of the Northern Bengal State Railway.

(e) Includes expenditure incurred in working the branch lines.

(f) Included with the Great Indian Peninsula Railway.

DIX B—contd.

Principal Indian Railways during the years 1879 to 1883—contd.

MOTIVE.					CARRIAGE AND WAGON.															No.
Cost of fuel per train-mile—Annas.					Repairs per train-mile—Annas.					Per train-mile—Annas.					Repairs of stock per train-mile—Annas.					
1879.	1880.	1881.	1882.	1883.	1879.	1880.	1881.	1882.	1883.	1879.	1880.	1881.	1882.	1883.	1879.	1880.	1881.	1882.	1883.	
1.67	1.58	0.62	0.79	(a)0.74	1.35	1.62	2.68	3.32	(a)1.42	2.44	3.09	2.79	2.60	(a)2.48	1.89	2.56	2.35	2.31	(a)2.03	1
5.51	5.11	4.60	4.19	4.34	2.58	2.59	2.29	2.11	2.42	4.15	5.12	4.73	5.39	4.84	3.30	4.21	3.88	4.53	3.80	2
6.77	6.11	5.70	5.49	5.45	1.84	2.21	2.34	3.18	2.67	2.80	3.15	3.90	4.31	3.42	2.14	2.46	2.65	3.20	2.37	3
4.25	3.96	3.44	3.63	3.68	3.46	3.53	3.44	3.42	3.29	2.72	2.64	4.04	4.21	4.93	1.83	2.56	3.13	3.35	3.93	4
6.74	6.41	5.65	4.95	5.17	2.05	2.61	1.76	3.47	1.94	3.86	2.62	4.24	4.95	5.84	2.08	2.93	3.56	4.16	4.08	5
(e)3.36	(e)3.31	(e)3.39	(e)3.34	(e)3.21	(e)1.75	(e)1.92	(e)3.81	(e)3.51	(e)3.54	(e)4.67	(e)4.84	(e)4.24	(e)3.20	(e)7.89	(e)3.63	(e)3.87	(e)3.26	(e)5.08	(e)7.52	6
4.47	4.03	5.05	4.52	4.33	1.58	1.51	1.85	2.06	2.29	3.03	2.99	3.41	3.70	3.53	2.24	2.25	2.64	2.99	2.80	7
5.64	8.30	6.59	4.51	4.87	2.94	2.93	2.18	1.37	2.85	2.51	2.26	1.91	1.67	2.69	1.54	1.37	1.22	0.99	1.98	8
14.52	10.62	11.39	9.48	8.09	0.86	1.21	2.10	1.89	1.76	1.83	1.42	2.14	2.60	2.51	1.28	0.98	1.63	2.01	1.94	9
10.40	10.03	(f)	(f)	(f)	1.18	2.28	(f)	(f)	(f)	1.02	1.39	(f)	(f)	(f)	0.50	0.74	(f)	(f)	(f)	10
2.97	4.71	4.84	3.24	(g)	0.22	0.99	2.52	0.74	(g)	1.46	2.69	2.97	1.92	(g)	0.51	1.99	1.94	1.17	(g)	11
10.18	6.26	3.70	2.44	1.71	1.07	0.79	0.89	1.19	1.70	0.71	1.79	3.42	2.27	4.40	0.37	1.28	2.96	1.82	3.68	12
4.15	3.86	3.64	3.10	2.88	2.16	2.39	3.45	2.41	2.12	4.71	4.40	3.00	2.68	2.87	1.54	1.59	2.43	2.19	2.33	13
4.84	5.66	4.66	4.38	(k)4.91	1.97	2.82	2.34	1.46	(k)1.77	1.92	1.56	1.51	(j)1.69	1.94	(1.27	1.00	1.13	1.13	(k)1.30	14
4.70	4.20	4.33			1.33	2.27	2.24			4.79	3.36	2.48									2.89	2.31	1.80	15
...	4.99	3.80	4.25	3.65	...	0.53	1.27	1.86	1.89	...	3.72	3.23	3.80	2.36	...	1.63	1.61	2.59	1.19	16
2.57	2.25	2.65	2.41	2.87	3.22	2.36	2.14	1.56	1.46	1.58	1.69	1.75	1.53	2.04	0.64	0.97	1.10	0.89	0.97	17
3.78	3.25	2.95	2.69	2.59	0.99	0.54	0.68	0.90	1.18	1.28	1.11	1.24	1.32	1.37	0.53	0.45	0.40	0.65	0.71	18
2.78	2.78	2.69	2.74	2.55	1.33	1.23	1.33	1.36	1.03	2.11	2.21	1.42	1.66	1.66	1.56	1.46	0.79	1.27	0.96	19
...	...	3.52	3.69	3.56	...	...	0.55	1.03	1.76	...	...	0.55	0.82	1.65	...	...	0.26	0.53	1.09	20
...	...	4.91	2.51	3.02	...	...	0.23	0.86	0.87	...	...	1.19	1.68	2.43	...	...	0.22	0.75	1.09	21
...	...	...	4.62	3.78	...	...	...	0.79	1.20	...	...	...	1.50	2.70	...	...	...	0.55	0.82	22

(a) Included with the East Indian Railway

(b) Includes working expenses of the Pondicherry Railway

(f) Excludes the cost of working the Muttra-Achnera Section.

(k) Includes the cost of working the Muttra-Achnera and Rewari-Ferozepore State Railways.

(l) The figures under the columns 1881 and 1882 represent the transactions of the Cawnpore-Farukhabad State Railway only.

(m) For the second half only. During the first half the cost of maintenance was charged to Capital.

Statement shewing the general results of working of the

No.	RAILWAYS:	TRAFFIC PER CENT. OF TRAFFIC EARNINGS.					GENERAL PER CENT. OF GROSS EARNINGS, EXCLUDING STEAM-BOAT.					EXPEN		
												STRA		
		1879.	1880.	1881.	1883.	1883.	1879.	1880.	1881.	1892.	1883.	1879.	1880.	1881.
1	East Indian ...	6.33	6.24	5.96	5.99	(a)6.05	3.54	3.97	3.81	3.61	(a)3.66	32,231	37,040	28,381
2	Great Indian Peninsula (b) ...	8.95	8.32	6.83	6.72	6.85	4.35	4.15	3.40	3.16	3.18	...	...	...
3	Sind, Punjab, and Delhi ...	6.06	9.58	11.34	10.16	9.16	5.16	5.54	6.73	6.68	5.99	7,79,423	5,56,298	2,95,677
4	Madras ...	11.24	11.21	10.65	10.24	10.55	6.85	7.10	7.13	6.61	6.70	...	...	...
5	Bombay, Baroda and Central India (c) ...	8.44	7.32	6.64	6.48	6.10	6.85	5.87	4.86	5.43	4.42	3,314	1,270	4,252
6	Eastern Bengal (f) ...	11.49	11.58	10.81	10.73	12.42	7.46	6.77	5.97	5.49	6.69	2,89,992	3,04,304	3,14,381
7	Oudh and Rohilkhand ...	13.35	12.93	11.58	10.78	10.36	8.69	8.59	7.92	7.34	7.46	...	...	...
8	Indus Valley and Kandahar ...	14.73	10.83	12.54	10.41	7.21	7.21	5.45	7.88	7.12	4.68	90,661	2,01,586	1,71,595
9	Punjab Northern ...	10.41	11.59	12.48	15.27	16.00	6.07	4.00	6.62	7.56	7.77	...	...	...
10	Dhond-Manmad ...	21.91	12.86	(g)	(g)	(g)	14.59	12.01	(g)	(g)	(g)	...	...	...
11	Patna-Gya ...	11.26	8.05	8.48	8.21	(h)	8.61	9.33	8.45	8.10	(h)	...	...	...
12	Nizam's ...	13.65	12.40	13.25	10.02	10.30	11.08	11.12	8.10	7.08	7.05	...	...	...
13	South Indian (j) ...	9.38	9.71	9.35	9.13	9.14	7.38	7.75	8.56	8.15	8.41	...	...	...
14	Rajputana ...	9.82	9.61	7.86	(k)	7.93	7.75	7.62	5.70	(k)	5.66	...	...	...
15	Holkar and Sindia-Neemuch ...	12.92	12.33	11.00	(k)	7.85	9.16	7.49	7.26	(k)	5.06	...	...	...
16	Nagpur and Chhattisgarh ...	...	21.41	17.71	12.03	7.82	...	15.30	15.33	9.73	6.33	...	...	...
17	Rangoon and Irrawaddy Valley...	14.83	13.39	14.32	15.84	16.62	13.48	9.19	7.71	7.61	7.53	...	...	...
18	Northern Bengal ...	19.59	12.21	9.30	8.68	8.46	20.55	12.97	9.71	9.28	6.89	1,07,824	1,14,006	1,00,121
19	Tirhoot ...	14.46	12.65	13.29	12.36	12.42	14.26	12.27	11.51	9.96	13.41	64,399	48,596	68,891
20	Cawnpore-Aohnara (l) ...	...	...	12.12	11.43	13.14	...	...	21.88	21.45	12.71	...	...	...
21	Bhavnagar-Gondal ...	...	...	12.81	11.79	12.80	...	...	15.89	13.07	15.17	...	...	...
22	Mysore ...	...	...	...	10.56	10.95	...	...	...	11.71	12.60	...	...	...

(a) Includes the Branch State lines worked by the undertaking, but excludes the expenditure incurred by the State in working the Branch lines.
 (b) Includes expenditure incurred in working the Dhond-Manmad, Berar and Bhopal State Railways.
 (c) Excludes the amount paid as rent of State lines worked by the Company.
 (d) Includes Rs. 9,386, being the expenditure incurred by the State in working the Dhond-Manmad and Berar State lines.
 (e) Includes Patri Branch.
 (f) Includes expenditure incurred in working the Branch lines.

DIX B—contd.

principal Indian Railways during the years 1879 to 1883—contd.

DIFFER—contd.

ROAD—REVENUE.		MISCELLANEOUS PER CENT. OF GROSS EARNINGS, EXCLUDING STEAM-ROAD.					TOTAL REVENUE.					No.
1882.	1883.	1879.	1880.	1881.	1882.	1883.	1879.	1880.	1881.	1882.	1883.	
27,921	(a) 29,126	1.83	1.02	0.87	0.95	(a) 0.97	1,42,35,292	1,41,90,698	1,44,63,162	1,74,05,084	(a) 1,86,02,054	1
...	...	3.04	1.98	1.89	(c) 1.33	(d) 2.01	1,50,57,714	1,38,47,702	1,58,37,335	(c) 1,69,73,345	(d) 1,74,64,098	2
1,31,533	28,184	4.23	4.92	4.24	3.62	2.07	68,74,155	69,40,656	70,97,487	66,21,444	65,40,261	3
...	...	1.62	2.33	1.07	0.80	0.62	45,51,316	42,05,409	42,35,456	43,47,730	41,05,360	4
...	1,658	1.27	0.87	1.06	1.20	1.13	33,59,890	35,09,722	39,98,430	51,65,317	51,38,303	5
3,11,704	3,79,507	0.70	1.25	0.95	3.68	0.76	20,70,395	22,11,851	23,32,761	24,87,286	20,99,809	6
...	...	0.99	0.99	1.95	3.88	2.19	25,24,907	25,50,740	29,53,082	34,61,473	29,75,892	7
1,60,753	2,14,502	11.29	11.98	8.24	7.05	5.58	26,60,079	47,39,983	43,57,873	35,36,447	40,22,541	8
...	10,780	23.31	25.83	8.39	4.45	3.20	14,71,192	28,04,113	31,09,966	26,21,494	25,46,954	9
...	...	13.09	8.73	(g)	(g)	(g)	4,95,222	6,06,875	5,11,304	(g)	(g)	10
...	(h)	12.37	11.16	19.52	19.42	(h)	1,28,723	2,70,300	3,34,286	3,30,450	(h)	11
...	...	10.97	6.22	4.43	3.99	2.76	6,04,476	4,78,407	4,64,050	4,84,318	6,15,590	12
...	...	1.79	0.46	0.58	0.35	2.30	22,98,815	26,29,576	25,17,962	23,56,386	25,47,335	13
...	...	0.22	0.16	0.88	(k) 0.92	0.84	23,66,253	24,90,414	43,75,206	(l) 53,00,377	66,34,788	14
...	...	0.29	0.15	0.39			8,54,009	10,47,268	13,47,280				15
...	...	...	0.39	0.16	0.21	1.09	...	82,681	2,15,473	4,15,215	6,36,161	16
...	...	0.41	0.68	1.24	0.99	0.83	8,14,175	8,01,628	8,98,545	9,45,260	10,10,520	17
1,14,475	1,44,735	2.43	1.12	1.15	1.03	1.16	12,59,140	9,69,292	9,44,574	10,52,357	11,28,821	18
64,333	81,194	5.54	0.49	0.46	0.47	1.23	3,50,914	3,10,795	3,48,055	4,05,975	6,32,736	19
...	...	...	...	0.23	0.13	2.01	...	...	1,04,346	2,41,702	3,68,521	20
...	...	...	...	0.72	0.34	0.56	...	...	4,83,131	5,22,189	5,67,566	21
...	...	...	...	...	0.92	0.72	...	...	...	1,84,895	2,03,220	22

(g) Included with the Great Indian Peninsula Railway.

(h) Included with the East Indian Railway.

(j) Includes working expenses of the Pondicherry Railway.

(k) Excludes the cost of working the Muttra-Achuera Section.

(l) The figures under the columns 1881 and 1882 represent the transactions of the Cawpore-Farukhabad State Railway only.

Statement shewing the general results of working of the

No.	RAILWAYS.	RESULTS EXCLUSIVE OF												
		GROSS EARNINGS PER TRAFFIC TRAIN-MILE—RUPEES.					EXPENDITURE PER TRAFFIC TRAIN-MILE—RUPEES.					NET EARNINGS TRAIN-		
		1879.	1880.	1881.	(a) 1882.	(a) 1883.	1879.	1880.	1881.	(a) 1882.	(a) 1883.	1879.	1880.	1881.
1	East Indian ...	5.24	5.61	5.69	5.20	(b) 4.74	1.72	1.85	1.81	1.92	(b) 1.75	3.52	3.76	3.88
2	Great Indian Peninsula (z) ...	4.12	4.24	4.17	4.36	4.30	2.46	2.35	2.06	2.09	2.12	1.66	1.89	2.11
3	Sind, Punjab and Delhi ...	4.31	4.39	3.78	3.73	3.94	2.40	2.30	2.57	2.42	2.24	1.91	2.09	1.21
4	Madras ...	3.20	3.29	3.38	3.52	3.52	2.20	2.25	2.27	2.21	2.18	1.00	1.04	1.11
5	Bombay, Baroda and Central India (g) ...	5.56	6.07	5.92	5.79	5.99	2.59	2.58	2.43	2.94	2.58	2.97	3.49	3.49
6	Eastern Bengal (f) ...	6.07	6.59	6.95	7.08	6.10	2.66	2.82	2.73	2.74	2.85	3.41	3.77	4.21
7	Oudh and Rohilkhand ...	3.98	3.55	3.85	3.82	3.94	1.97	2.03	2.31	2.51	2.15	1.41	1.52	1.54
8	Indus Valley and Kandahar ...	3.51	3.76	2.90	2.53	3.59	2.82	2.64	2.28	1.77	1.96	0.69	1.12	0.62
9	Punjab Northern ...	4.84	3.66	3.12	3.14	3.27	3.85	3.05	2.79	2.63	2.66	0.99	0.61	0.33
10	Dhond-Manmad ...	3.19	3.08	(l)	(l)	(l)	3.38	2.69	(l)	(l)	(l)	-0.19	0.39	(l)
11	Patna-Gya ...	5.36	4.26	5.75	3.45	(m)	2.99	2.39	3.74	2.09	(m)	2.37	1.87	2.01
12	Nizam's ...	2.96	3.04	3.10	2.87	2.83	2.58	2.07	1.90	1.62	2.04	0.38	0.97	1.20
13	South Indian ...	2.90	2.99	3.21	2.63	2.43	1.98	2.21	2.25	1.65	1.60	0.92	0.78	1.05
14	Rajputana ...	2.41	2.75	2.70	2.92	2.93	1.61	1.84	1.63	1.55	1.53	0.80	0.91	1.07
15	Holkar and Sindia-Neemuch ...	2.68	2.74	3.06			2.00	2.05	2.11			0.68	0.69	0.95
16	Nagpur and Chhattisgarh... ...	...	2.66	3.41	3.25	3.79	...	2.12	2.61	2.23	1.83	...	0.54	0.80
17	Rangoon and Irrawaddy Valley ...	3.16	3.93	3.84	3.23	2.74	2.69	2.38	2.24	1.94	1.77	0.47	1.55	1.60
18	Northern Bengal ...	2.73	2.76	3.22	3.11	2.96	2.51	1.63	1.65	1.52	1.42	0.22	1.13	1.57
19	Tirhoot ...	3.08	3.71	3.11	2.35	2.14	2.29	2.15	1.78	1.39	1.43	0.79	1.56	1.33
20	Cawnpore-Achnera (g) ...	...	...	2.12	2.60	2.66	...	...	1.48	1.75	1.70	...	...	0.64
21	Bhavnagar-Gondal ...	...	...	2.39	3.00	3.44	...	...	1.68	1.79	2.18	...	...	0.71
22	Mysore ...	...	...	...	2.84	3.44	...	...	...	1.82	2.31	...	...	...

(a) The results are calculated on total train-mileage.
 (b) Includes Branch State lines worked by the undertaking.
 (c) Includes outlay on Sindia, Patna-Gya and Dildarnagar-Ghazipur State Railways.
 (d) Includes Dhond-Manmad and Berar State lines.
 (e) Includes rent of leased lines.
 (f) Outlay on the Great Indian Peninsula Railway only.
 (g) Includes Patri Branch.
 (h) Includes outlay on Patri Branch.

DIX B—contd.

principal Indian Railways during the years 1879 to 1883—contd.

STEAM-BOAT SERVICE.							CAPITAL EXPENDED ON OPEN LIST, EXCLUSIVE OF ROLLING-STOCK AND STEAM-BOAT, BUT EXCLUDING SUSPENSE—RUPEES.					No.
PER TRAFFIC MILE—RUPEES.		AVERAGE GROSS EARNINGS PER MILE PER WEEK—RUPEES.										
(a) 1882.	(a) 1883.	1879.	1880.	1881.	1882.	1883.	1879.	1880.	1881.	1882.	1883.	
3.28	(b) 2.99	554	548	580	601	(k) 585	32,94,21,094	33,03,98,294	33,26,62,788	33,77,59,915	(c) 35,23,34,018	1
(e) 2.27	2.18	383	377	481	470	471	(f) 24,85,83,445	(f) 24,99,77,200	(f) 25,10,35,907	(f) 25,22,49,649	(f) 25,34,93,202	2
1.31	1.70	312	353	285	285	302	11,37,04,800	11,52,29,919	11,61,01,033	11,60,15,535	11,75,28,376	3
1.31	1.34	149	138	141	155	148	11,05,95,550	11,08,55,385	11,12,28,364	11,15,44,508	11,17,22,586	4
2.85	3.41	310	357	422	427	497	8,23,22,437	8,21,07,375	8,37,48,793	(h) 8,55,40,307	(h) 8,67,97,460	5
4.34	3.25	455	498	574	611	466	(k) 3,42,84,355	(k) 3,45,85,309	(k) 3,46,50,090	(k) 3,45,95,393	(k) 3,48,01,340	6
1.31	1.79	153	157	173	185	192	5,61,92,646	5,81,44,361	6,01,94,626	5,87,01,518	5,89,01,465	7
0.76	1.63	121	209	155	141	203	5,70,01,762	6,92,82,608	7,44,77,194	7,84,56,114	8,10,88,009	8
0.51	0.61	345	423	195	151	144	2,45,80,202	4,04,24,501	6,19,34,964	6,10,71,973	7,12,66,290	9
(l)	(l)	76	92	(l)	(l)	(l)	95,38,053	1,04,58,463	99,49,345	99,25,269	1,00,45,315	10
1.36	(m)	122	162	173	184	(m)	28,45,078	32,20,951	35,04,401	37,97,742	(n)	11
1.25	0.79	111	112	121	141	137	1,16,10,466	1,20,62,228	1,21,75,473	1,21,86,480	1,22,11,715	12
0.98	0.83	105	107	109	109	112	(n) 4,09,09,354	(n) 4,16,72,963	(n) 4,28,06,756	(n) 4,30,21,420	(n) 4,32,72,177	13
1.37	1.40	156	154	189	188	218	3,09,43,568	3,40,61,947	5,20,44,975	8,74,13,893	9,03,51,433	14
		129	118	130			2,00,13,727	2,53,37,858	3,16,69,537			
1.02	1.96	...	51	87	114	170	...	30,37,689	69,01,473	87,95,174	93,27,495	16
1.29	0.97	114	158	184	188	187	1,18,94,894	1,23,07,244	1,24,92,079	1,26,82,765	1,31,87,905	17
1.59	1.54	107	121	136	159	168	(o) 1,90,96,004	(o) 2,00,98,652	(o) 2,03,79,182	(o) 2,05,17,179	(o) 2,11,01,241	18
0.96	0.71	90	106	117	137	98	(p) 51,33,919	(p) 53,45,746	(p) 56,52,428	(p) 64,47,495	(p) 1,16,84,330	19
0.85	0.96	...	...	62	80	80	...	...	31,26,855	31,31,013	(u) 53,50,902	20
1.21	1.26	...	...	78	87	89	...	...	67,34,108	83,60,328	87,82,250	21
1.02	1.13	...	...	...	68	67	...	...	...	37,10,516	40,52,528	22

(f) Includes working expenses and share of earnings of the Bengal Central Railway and the Poradaha Section of the Northern Bengal State Railway.

(k) Expenditure on the Eastern Bengal Railway only.

(l) Included with the Great Indian Peninsula Railway.

(m) Included with the East Indian Railway.

(n) Excludes the expenditure on the Pondicherry line.

(o) Includes cost of the Poradaha Branch which is worked by the Eastern Bengal Railway Company.

(p) Includes cost of the Barrh Branch which is worked by the East Indian Railway.

(q) The figures under the columns 1881 and 1882 represent the transactions of the Cawnpore-Farakhabad State Railway only.

Statement shewing the general results of working of the

No.	RAILWAYS.	NET EARNINGS—RUPEES.				
		1879.	1880.	1881.	1882.	1883.
1	East Indian	2,90,80,929	2,87,54,418	3,09,48,310	2,97,12,511	(a)3,17,29,543
2	Great Indian Peninsula (b)	1,01,90,601	1,11,05,551	1,62,19,488	(c)1,83,89,856	(d)1,79,28,031
3	Sind, Punjab and Delhi	45,40,520	54,70,862	30,76,660	34,10,880	49,07,593
4	Madras	20,75,170	19,57,136	20,75,856	25,70,841	25,26,549
5	Bombay, Baroda and Central India (g)	37,92,898	47,34,653	57,45,702	50,10,872	67,83,906
6	Eastern Bengal (h)	24,33,530	27,24,310	33,69,281	36,38,437	26,84,611
7	Oudh and Rohilkhand	18,19,936	19,04,410	19,75,698	18,01,371	24,80,362
8	Indus Valley and Kandahar	6,17,459	19,22,399	11,77,288	15,76,113	32,18,635
9	Punjab Northern	3,78,889	5,64,171	3,59,598	5,09,018	5,93,018
10	Dhond-Manmad	-27,664	88,219	1,22,558	(f)	(f)
11	Patna-Gya	1,01,787	2,11,256	1,79,145	2,15,705	(e)
12	Nizam's	89,925	2,24,309	2,92,775	3,75,099	2,37,932
13	South Indian	10,63,252	9,30,018	12,37,726	14,02,328	13,22,333
14	Rajputana	11,79,167	12,33,305	28,67,041	51,29,253	60,80,692
15	Holkar and Sindia-Neemuch	2,91,828	3,53,991	6,02,299		
16	Nagpur and Chhattisgarh ... ..	...	21,271	66,056	1,89,171	6,83,860
17	Rangoon and Irrawaddy Valley	1,41,743	5,21,084	6,45,077	6,30,430	5,52,366
18	Northern Bengal	1,25,120	6,43,509	8,99,316	10,93,553	11,65,371
19	Tirhoot	1,07,818	2,40,272	2,36,200	2,54,047	2,59,705
20	Cawnpore-Achnera (i) ... ..	...	...	84,238	1,17,110	2,07,466
21	Bhavnagar-Gondal ... ..	...	...	2,05,254	3,54,647	3,26,613
22	Mysore ... ..	...	...	...	1,03,495	99,675

(a) Includes Branch State lines worked by the undertaking.

(b) Includes Dhond-Manmad and Berar State lines.

(c) Includes Rs. 2,40,023 payable to the State on account of rent of the Dhond-Manmad and Berar lines leased by the Company.

(d) Includes Rs. 2,58,993, being the net profits derived from the working of the Dhond-Manmad and Berar State lines.

(e) 7-20 deducting amount paid to Government as above.

(f) Calculated on total capital outlay Rs. 26,44,55,753, which includes State Branch lines.

DIX B—concl'd.

Principal Indian Railways during the years 1879 to 1883—concl'd.

PERCENTAGE OF EXPENSES TO EARNINGS.					PER CENT. OF PROFITS PER ANNUM ON CAPITAL EXPENDITURE INCLUDING STEAM-BOAT, BUT EXCLUDING EXPENSE.					No.
1879.	1880.	1881.	1882.	1883.	1879.	1880.	1881.	1882.	1883.	
32.86	33.04	31.85	36.94	(a) 36.96	8.83	8.70	9.30	8.80	(a) 8.99	1
59.64	55.49	49.40	48.00	49.36	4.10	4.44	6.46	(e) 7.29	(f) 6.78	2
60.22	55.92	69.76	66.00	57.13	3.99	4.75	2.65	2.94	4.18	3
68.68	68.24	67.11	62.84	61.90	1.88	1.77	1.87	3.30	2.26	4
46.97	42.57	41.04	50.76	43.10	4.61	5.77	6.86	6.86	7.82	5
45.97	44.81	40.91	40.60	50.14	7.10	7.88	9.72	10.52	7.71	6
58.11	57.25	59.91	65.77	54.54	3.24	3.28	3.28	3.07	4.21	7
81.16	71.15	78.73	69.17	55.55	1.08	2.77	1.58	2.01	3.97	8
79.52	83.25	89.64	83.74	81.11	1.54	1.40	0.58	0.83	0.83	9
105.92	87.31	80.66	(j)	(j)	-0.29	0.84	1.23	(j)	(j)	10
55.84	56.13	65.11	60.51	(k)	3.58	6.56	5.11	5.68	(k)	11
87.01	68.08	61.32	56.35	72.12	0.77	1.86	2.40	3.08	1.95	12
68.38	73.87	67.04	62.69	65.83	2.60	2.23	2.89	3.26	3.06	13
66.74	66.88	60.41	53.07	52.18	3.81	3.62	5.51	5.87	6.73	14
74.53	74.74	69.11			1.46	1.40	1.90				15
...	79.54	76.53	68.70	48.19	...	0.70	0.95	2.15	7.33	16
85.17	60.60	58.21	59.99	64.66	1.19	4.23	5.16	4.97	4.19	17
90.96	60.10	51.23	49.04	49.20	0.66	3.20	4.41	5.33	5.52	18
76.49	56.40	59.57	61.50	70.90	2.10	4.49	4.18	3.94	2.22	19
...	...	69.76	67.36	63.98	...	...	2.70	3.74	3.88	20
...	...	70.18	59.55	63.47	...	...	3.05	4.24	3.72	21
...	...	...	64.11	67.09	...	...	...	2.79	2.46	22

(g) Includes Patri Branch.

(h) Includes working expenses and share of earnings of the Bengal Central Railway and the Poradaha Section of the Northern Bengal State Railway.

(j) Included with the Great Indian Peninsula Railway.

(k) Included with the East Indian Railway.

(l) The figures under the columns 1881 and 1882 represent the traactions of the Cawnporefarukhabad State Railway only.

Statement showing the mileage, age, cost and general results
(Steam-boat earnings and expenses and suspense items have

Number.	RAILWAY.	Miles open at end of year.	Mean mileage open during year.	Mean age of lines at end of year.	Capital outlay at close of year.	Cost per mile open.	Gross earnings during year.	Working expenses during year.	Net profits of year.	PERCENTAGE ON CAPITAL COST OF			Gross earnings per mile per week.	REMARKS.
										Gross earnings.	Working expenses.	Net profits.		
	BROAD GAUGE. <i>5 feet 6 inches.</i>				Rs.	Rs.	Rs.	Rs.	Rs.				Rs.	
1	East Indian ...	1,509.46	1,508.58	20.66	33,94,67,364	2,24,893	4,94,35,194	1,82,48,618	3,11,86,576	14.56	5.37	9.19	630	
2	Madras ...	860.86	860.86	19.70	11,17,22,586	1,29,780	66,31,909	41,05,360	25,26,549	5.94	3.68	2.26	148	
3	Great Indian Peninsula.	1,288.25	1,298.25	19.34	25,34,93,202	1,96,773	3,44,01,093	1,67,41,440	1,76,59,653	13.57	6.60	6.97	466	
4	Bombay, Baroda and Central India. (a)	460.90	460.90	17.34	8,67,97,460	1,88,322	1,19,22,209	51,36,645	67,85,564	13.74	5.92	7.82	497	
5	Eastern Bengal (b)	159.64	159.64	18.59	3,34,12,450	2,09,299	49,66,734	23,20,302	26,46,432	14.86	6.94	7.92 (c)	466	
6	Sind, Punjab and Delhi. (d)	692.90	682.63	16.93	11,37,26,651	1,64,131	1,12,37,290	63,01,813	49,35,477	9.88	5.54	4.34 (e)	296	
7	Ondh and Rohilkhand.	546.85	546.85	11.28	5,89,01,465	1,07,710	54,56,255	29,75,893	24,80,362	9.26	5.05	4.21	192	
8	Punjab Northern	420.50	419.37	4.22	7,12,66,290	1,69,480	31,46,852	25,57,733	5,89,119	4.42	3.59	0.83	144	
9	Indus Valley and Kandahar.	652.49	652.49	4.96	8,06,24,083	1,23,564	69,70,329	38,08,040	31,62,289	8.64	4.72	3.92 (f)	203	
10	Sindia ...	74.42	74.42	4.87	89,54,482	1,20,324	3,38,511	1,78,794	1,59,717	3.78	2.00	1.78	87	
11	Wardha Coal (g)	45.00	45.00	7.66	52,94,597	1,17,658	2,94,585	1,76,156	1,18,429	5.56	3.33	2.23	126	
12	Dhond and Manmad.	145.75	145.75	5.74	1,00,45,315	68,922	8,22,833	6,30,694	1,92,139	8.19	6.28	1.91	109	
13	Calcutta and South-Eastern.	56.00	51.94	11.16	90,44,419	1,61,507	2,95,380	1,62,383	1,32,997	3.27	1.80	1.47	109	
14	Patna-Gya ...	57.20	57.20	4.64	37,13,703	64,925	4,71,163	2,44,653	2,26,510	12.68	6.59	6.09	158	
15	Dildarnagar-Ghazipur.	12.00	12.00	3.24	6,98,469	53,206	49,628	24,748	24,880	7.10	3.54	3.56	80	
16	Bhopal ...	11.50	11.50	1.58	6,08,822	52,941	25,573	34,708	-9,135	4.20	5.70	-1.50	43	
17	Khamgaon ...	8.00	8.00	13.83	4,82,570	60,321	62,657	40,188	22,439	12.98	8.32	4.66	151	
18	Amraoti ...	6.00	6.00	12.87	4,34,666	72,444	96,160	51,774	44,386	22.12	11.91	10.21	308	
19	Nizam's ...	120.44	120.44	9.23	1,22,11,715	1,04,284	8,53,520	6,15,588	2,37,932	6.98	5.04	1.94	137	
20	Bengal Central...	52.00	32.55	0.71	28,30,516	54,433	1,07,954	1,47,344	-39,390	3.81	5.20	-1.39	64	
	Total and average	7,180.16	7,144.37	15.43	1,20,37,30,825	1,67,725	13,75,85,829	6,45,02,674	7,30,82,955	11.43	5.36	6.07	366	

(a) Includes Patri Branch.

(b) Includes working expenses of the Poradaha Section of the Northern Bengal State Railway and the Locomotive, Carriage and Wagon and Traffic and a portion of the general charges of the Bengal Central Railway and the share of earnings of the Bengal Central Railway and Poradaha Section of the Northern Bengal State Railway.

(c) Calculated on the total mileage, including the branch lines worked by it (203.08 miles).

(d) Excludes 48 miles of Bupar Branch.

(e) Calculated on 730.20 miles.

(f) Calculated on 658.66 miles, i.e., including 7 miles of the Sind, Punjab and Delhi Railway from Mooltan to Muzafferabad.

(g) Excluding colliery.

(h) Calculated on 117.10 miles.

DIX C—contd.

of working of Indian Railways for the year 1883.
(been excluded from the following figures.)

Number.	RAILWAYS.	Miles open at end of year.	Mean mileage open during year.	Mean age of lines at end of year.	Capital outlay at close of year.	Cost per mile open.	Gross earnings during year.	Working expenses during year.	Net profits of year.	PERCENTAGE ON CAPITAL COST OF			Gross earnings per mile per week.	Remarks.
										Gross earnings.	Working expenses.	Net profits.		
	NARROW GAUGE.				Rs.	Rs.	Rs.	Rs.	Rs.				Rs.	
	<i>Metre.</i>													
1	South Indian ...	654·00	654·00	10·49	4,32,72,177	66,165	(i)38,69,668	(i)25,47,335	13,22,333	8·94	5·89	3·05	(A) 112	
2	Rajputana-Malwa	1,117·24	1,117·24	6·06	9,03,51,433	80,870	1,27,15,470	66,34,788	60,80,682	14·07	7·34	6·73	219	
3	Bewari-Ferozepore.	88·75	69·78	0·79	40,60,857	45,756	2,72,709	2,21,648	51,061	6·72	5·40	1·26	75	
4	Nalhati ...	27·25	27·25	20·03	3,15,110	11,564	80,973	56,379	24,594	25·69	17·89	7·80	57	4 ft. gauge.
5	Northern Bengal	256·00	247·80	5·71	2,06,98,887	80,855	20,53,732	9,84,036	10,69,696	9·92	4·75	5·17	(D) 169	
6	Kanua-Dhurla...	32·28	32·28	2·23	7,66,158	23,735	55,116	44,914	10,202	7·18	5·86	1·33	89	
7	Tirhoot ...	192·89	153·56	3·17	1,11,85,714	57,990	8,24,812	5,51,541	2,73,271	7·37	4·93	2·44	103	
8	Cawnpore-Achnera	138·25	138·25	3·94	53,50,962	38,705	5,75,986	3,68,520	2,07,466	10·76	6·89	3·87	80	
9	Nagpur and Chhattisgarh.	149·00	149·00	2·45	93,27,495	62,601	13,20,021	6,36,161	6,83,860	14·15	6·82	7·33	170	
10	Rangoon and Irrawaddy Valley.	161·00	161·00	6·67	1,31,87,905	81,912	15,62,886	10,10,519	5,52,367	11·85	7·66	4·19	187	
11	Bhavnagar-Gondal	193·21	193·21	2·99	87,82,250	45,454	8,94,180	5,67,567	3,26,613	10·18	6·46	3·72	89	
12	His Highness the Gaekwar's.	58·85	58·85	6·29	12,49,239	21,228	1,46,970	1,08,385	38,585	11·77	8·08	3·09	48	2 ft. 6 inch gauge.
13	Mysore ...	87·05	86·41	2·50	40,52,528	46,554	3,02,895	2,03,220	99,675	7·47	5·01	2·46	67	
14	Jodhpore ...	18·50	18·50	1·43	4,99,866	27,020	40,361	17,251	23,110	8·07	3·45	4·62	42	
15	Deogarh ...	5·50	4·75	0·83	2,73,331	49,697	19,639	13,397	6,242	7·18	4·90	2·28	79	
16	Assam ...	38·81	17·97	0·46	22,22,253	57,260	48,220	83,595	-35,375	2·17	3·76	-1·59	52	
17	Darjeeling-Himalayan.	50·00	50·00	3·11	26,04,304	52,086	4,21,944	2,66,219	1,55,725	16·20	10·22	6·98	162	2 ft. gauge.
	Total and average.	3,268·58	3,179·85	6·04	21,82,00,469	66,757	2,52,05,582	1,43,15,475	1,08,90,107	11·55	6·56	4·99	153	
	Total and average Guaranteed.	4,663·40	4,653·13	16·64	70,13,25,991	1,50,386	7,84,85,158	4,01,28,788	3,83,56,370	11·19	5·72	5·47	318	
	Total and average, State.	5,785·34	5,671·09	9·16	72,06,05,303	1,24,629	8,43,06,253	3,86,89,561	4,56,16,692	11·70	5·37	6·33	286	
	GRAND TOTAL AND AVERAGE.	10,448·74	10,324·22	12·49	1,42,19,31,294	1,36,129	16,27,91,411	7,88,18,349	8,39,73,062	11·45	5·54	5·91	301	

(i) Includes amount received for working the Pondicherry Line.

(j) Includes working expenses of the Pondicherry Line.

(k) Calculated on 662 miles.

(l) Calculated on 234·50 miles, i.e., exclusive of the Poradaha Section.

PARTICULARS.	ASSAM RAILWAYS.							BENGAL CENTRAL RAILWAY.				
	Steamer Ghat to Dinjan.	Dinjan to Makum Junction.	Junction to Dum-Duma.	Dum-Duma to Talup.	Junction to Borbeel.	Borbeel to Margherita.	Whole line.	Baraset District.	Bongong District.	Jessore District.	Whole line.	
	Length of Railway in miles ...	14.75	23.75	8.50	8	12	11	77	43	40	42	125
Survey ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Acquisition of land ...	1.00	1.00	0.95	0.95	0.95	0.95	0.97	1.00	1.00	0.96	0.98	
Earthwork ...	1.00	1.00	1.00	0.50	1.00	1.00	0.91	1.00	1.00	1.00	1.00	
Minor bridges ...	1.00	1.00	1.00	0.70	1.00	1.00	0.97	0.95	1.00	0.90	0.95	
Large bridges ...	*	*	*	0.00	*	*	0.00	1.00	0.96	Nil	0.98	
Tunnels ...	*	*	*	*	*	*	*	*	*	*	*	
Level crossings ...	1.00	1.00	1.00	0.00	*	*	0.89	0.80	0.92	0.75	0.82	
Mile and gradient posts ...	1.00	1.00	1.00	0.00	1.00	1.00	0.89	0.98	0.98	0.90	0.95	
Fencing ...	*	*	*	*	*	*	*	0.80	1.00	0.60	0.80	
Electric Telegraph ...	1.00	1.00	0.80	0.80	0.80	0.80	0.90	1.00	1.00	1.00	1.00	
Ballasting ...	*	*	*	*	*	*	*	0.95	0.80	0.70	0.81	
Sleeper supply ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Permanent-way supply ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ditto laying ...	1.00	1.00	1.00	0.60	1.00	1.00	0.96	0.90	1.00	1.00	0.96	
Stations and offices ...	1.00	0.50	0.50	0.00	0.50	0.50	0.54	0.95	0.95	0.60	0.83	
Workshops and store buildings ...	1.00	1.00	*	*	*	*	1.00	Nil	Nil	Nil	Nil	
Staff quarters ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.65	0.60	0.70	
Station machinery ...	1.00	1.00	0.50	0.50	0.50	0.50	0.76	0.80	0.95	0.60	0.78	
Plant, Engineering ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ditto, Locomotive ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	...	...	...	...
Ditto, Carriage and wagon ...	1.00	1.00	1.00	0.85	0.85	0.85	0.94	...	...	...	...
Station and office furniture ...	1.00	1.00	1.00	0.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	
Steam ferries ...	*	*	*	*	*	*	*	...	...	...	...
Locomotive erection ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	...	...	...	0.45
Carriage and wagon erection ...	1.00	1.00	1.00	0.85	0.85	0.85	0.94	...	...	...	0.97
Total Average ...	1.00	0.98	0.98	0.70	0.98	0.98	0.95	0.95	0.97	0.90	0.94	
Date of opening for traffic ...								2nd May 1884.				22nd April 1884.
Date of completion of line ...								2nd May 1884.				22nd April 1884.

NOTE.— { 0.00 signifies that no commencement has been made.
 { 1.00 " completion of work.

DIX D.
ILLWAYS.
ending 31st March 1884.

COMPANIES.

BENGAL AND NORTH-WESTERN RAILWAY.					ROHILKHAND-KUMAON RAILWAY.			PARTICULARS.
Chupra District.	Sewan District.	Goruckpur District.	Gonda District.	Whole line.	Lower Section.	Upper Section.	Whole line.	
53	56	81	100.77	290.77	27.25	27	54.25	... Length of Railway in miles.
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	... Survey.
0.99	1.00	1.00	0.98	0.99	0.95	0.95	0.95	... Acquisition of land.
0.95	0.95	0.97	0.98	0.96	1.00	1.00	1.00	... Earthwork.
0.91	0.90	0.80	0.95	0.89	0.90	0.90	0.90	... Minor bridges.
0.30	0.60	0.30	0.40	0.40	0.45	0.20	0.32	... Large bridges.
*	*	*	*	*	...	...	...	... Tunnels.
0.00	0.75	0.75	0.97	0.69	0.80	0.50	0.65	... Level crossings.
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	... Mile and gradient posts.
0.00	0.00	0.15	0.00	0.04	0.10	0.10	0.10	... Fencing.
*	*	*	*	*	1.00	1.00	1.00	... Electric Telegraph.
0.33	0.75	0.55	0.70	0.60	0.20	0.50	0.35	... Ballasting.
0.95	0.95	0.05	0.74	0.63	1.00	1.00	1.00	... Sleeper supply.
0.95	0.95	0.05	0.74	0.63	1.00	0.90	0.95	... Permanent-way supply.
0.95	0.95	0.05	0.74	0.63	1.00	0.50	0.75	... Ditto laying.
0.20	0.30	0.20	0.90	0.46	0.20	0.20	0.20	... Stations and offices.
0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.10	... Workshops and store buildings.
0.60	0.57	0.58	0.65	0.60	0.30	0.35	0.32	... Staff quarters.
0.20	0.25	0.15	0.52	0.30	0.50	0.50	0.50	... Station machinery.
0.50	1.00	0.60	0.95	0.78	0.30	0.30	0.30	... Plant, Engineering.
...	...	...	...	0.30				... Ditto, Locomotive.
...	...	...	...	0.30				... Ditto, Carriage and wagon.
...	...	...	...	0.25	...	...	...	... Station and office furniture.
...	...	...	...	0.00	...	...	...	... Steam ferries.
...	...	...	...	0.30	1.00	1.00	1.00	... Locomotive erection.
...	...	...	...	0.30	0.15	0.15	0.15	... Carriage and wagon erection.
0.41	0.50	0.33	0.52	0.50	...	...	...	... Total Average.
				73 miles on 2nd April 1884. Remainder on 1st December 1884. June 1885			1st October 1884.	... Date of opening for traffic.
							31st December 1884.	... Date of completion of line.

0.30 signifies that $\frac{3}{10}$ ths of the work has been done.

* " that no provision has to be made under this head.

APPEN
INDIAN RAI
Progress Table for quarter

PARTICULARS.	ASSISTED COMPANIES.									
	SOUTHERN-MAHARAJA RAILWAY.									
	East Deccan Section.	South Deccan Section.			West Deccan Section.					Ganges bridge and approaches.
		Habli Division.	Bellary Division.	Whole line.	Fijuri Division.	Karad Division.	Miraj Division.	Londa Division.	Whole line.	
Length of Railway in miles	173.50	111	93	204	83.50	64.50	61	64.50	273.50	5.75
Survey	1.00	1.00	1.00	1.00	0.80	0.00	0.00	0.00	0.00	1.00
Acquisition of land	1.00	0.95	0.65	0.81	0.00	0.00	0.00	0.00	0.00	1.00
Earthwork	0.99	0.59	0.92	0.74	0.10	0.00	0.00	0.00	0.00	0.98
Minor bridges	0.99	0.08	0.59	0.31	0.00	0.00	0.00	0.00	0.00	0.98
Large bridges	0.95	0.04	0.60	0.29	0.00	0.00	0.00	0.00	0.00	0.50
Tunnels	*	0.05	*	0.02	0.00	0.00	0.00	0.00	0.00	*
Level crossings	0.20	0.00	0.23	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Mile and gradient posts	0.25	0.00	0.80	0.40	0.00	0.00	0.00	0.00	0.00	0.00
Fencing	0.00	0.00	0.39	0.15	0.00	0.00	0.00	0.00	0.00	0.40
Electric Telegraph...	0.90	0.00	0.48	0.24	0.00	0.00	0.00	0.00	0.00	*
Ballasting	0.80	0.19	0.65	0.40	0.00	0.00	0.00	0.00	0.00	0.60
Sleeper supply	1.00	0.15	0.50	0.30	0.00	0.00	0.00	0.00	0.00	1.00
Permanent-way supply	1.00	0.00	1.00	0.50	0.00	0.00	0.00	0.00	0.00	1.00
Ditto laying	0.90	0.00	0.50	0.25	0.00	0.00	0.00	0.00	0.00	0.60
Stations and offices	0.90	0.05	0.50	0.28	0.00	0.00	0.00	0.00	0.00	0.80
Workshops and store buildings	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Staff quarters	0.85	0.10	0.50	0.30	0.00	0.00	0.00	0.00	0.00	0.80
Station machinery	0.90	0.01	0.35	0.18	0.00	0.00	0.00	0.00	0.00	0.80
Plant, Engineering	1.00	0.00	0.90	0.45	0.00	0.00	0.00	0.00	0.00	0.70
Ditto, Locomotive...	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*
Ditto, Carriage and wagon		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*
Station and office furniture	0.50	0.15	0.90	0.53	0.00	0.00	0.00	0.00	0.00	*
Steam ferries	*	*	*	*	*	*	*	*	*	*
Locomotive erection	...	...	...	...	0.00	0.00	0.00	0.00	0.00	*
Carriage and wagon erection	...	...	...	...	0.00	0.00	0.00	0.00	0.00	*
Total Average	0.76	0.15	0.54	0.35	0.04	...	...	...	...	...
Date of opening for traffic	Septem-ber 1884.	Bellary-Hospett, March 1884. Hospett-Dharwar, March 1885.			...	...	...	...	...	January 1886.
Date of completion of line	1885	Dharwar to Portuguese fron-tier, January 1887. 1887			...	...	...	...	...	July 1886.

† These are figures for temporary staff quarters.

NOTE- { 0.00 signifies that no commencement has been made.
1.00 " completion of work.

DIX D—contd.

L W A Y S.

ending 31st March 1884—contd.

GUARANTEED RAILWAYS.									PARTICULARS.
ODDH AND ROHILKHAND RAILWAY, NORTHERN EXTENSION.								SIND, PUN- JAB AND DELHI RAILWAY.	
Sub-division No. 1.	Sub-division No. 2.	Sub-division No. 3.	Sub-division No. 4.	Sub-division No. 5.	Sub-division No. 6.	Sub-division No. 7.	Whole line Extension and Branch.	Raiwind Branch Extension.	
19.89	23.36	23.20	12.31	18.18	21.97	17.05	136.47	25.50	Length of Railway in miles.
1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.98	1.00	Survey.
1.00	1.00	0.95	1.00	1.00	1.00	0.00	0.85	1.00	Acquisition of land.
1.00	1.00	0.98	0.98	0.80	0.90	0.00	0.81	0.95	Earthwork.
1.00	1.00	0.25	0.05	0.50	0.50	0.00	0.47	0.90	Minor bridges.
*	*	0.05	0.01	0.05	0.20	0.00	0.06	1.00	Large bridges.
*	*	*	*	*	*	*	*	*	Tunnels.
1.00	1.00	0.22	0.75	0.25	0.75	0.00	0.56	0.90	Level crossings.
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	Mile and gradient posts.
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*	Fencing.
1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.85	1.00	Electric Telegraph.
0.75	0.75	0.80	0.15	0.25	0.15	0.00	0.40	1.00	Ballasting.
1.00	0.75	0.00	0.00	0.00	0.00	0.00	0.25	1.00	Sleeper supply.
1.00	1.00	0.80	0.00	0.00	0.00	0.00	0.40	1.00	Permanent-way supply.
1.00	1.00	0.80	0.00	0.00	0.00	0.00	0.40	1.00	Ditto laying.
0.75	0.12	0.40	0.10	0.05	0.25	0.00	0.24	1.00	Stations and offices.
1.00	1.00	0.85	0.00	1.00	0.00	0.00	0.55	*	Workshops and store buildings.
†1.00	†1.00	†1.00	†1.00	†0.96	†1.00	0.00	†0.85	0.80	Staff quarters.
0.75	0.00	0.30	0.00	0.05	0.00	0.00	0.16	1.00	Station machinery.
1.00	0.25	0.50	0.20	0.50	0.75	0.00	0.46	*	Plant, Engineering.
*	*	*	*	*	*	*	*	*	Ditto, Locomotive.
*	*	*	*	*	*	*	*	*	Ditto, Carriage and wagon.
*	*	0.35	0.00	0.00	1.00	0.00	0.19	1.00	Station and office furniture.
*	*	*	*	*	*	*	*	*	Steam ferries.
*	*	*	*	*	*	*	*	*	Locomotive erection.
*	*	*	*	*	*	*	*	*	Carriage and wagon erection.
...	...	...	...	...	...	...	...	0.95	Total Average.
Moradabad to Nagina, 47 miles, 30th September 1884.				Ganges bridge, 1st Jan. 1887.		Saharanpur Ganges, 1st June 1885.		16th December 1883.	... Date of opening for traffic.
30th September 1884				1st July 1887.		1st January 1886		30th June 1884	... Date of completion of line.

0.30 signifies that 3/10ths of the work has been done.

* that no provision has to be made under this head.

APPEN
INDIAN RAI
Progress Table for quarter

PARTICULARS.	EAST INDIAN AND EASTERN BENGAL JUNCTION.				IMPERIAL STATE				
	Hoogli Bridge Works.				JHANSI-MANIKPUR STATE RAILWAY.				RAJPUTANA MALWA RAILWAY.
	Hoogli Section.	Bridge.	Naihati Section.	Whole line.	First Division.	Second Division.	Third Division.	Whole line.	Ujjain Branch.
Length of Railway in miles ...	...	...	...	...	65.25	56	58.75	180	2
Survey ...	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.98	1.00
Acquisition of land ...	0.00	0.55	0.00	0.27	0.90	0.80	0.70	0.80	1.00
Earthwork ...	0.00	0.00	0.00	0.00	0.31	0.43	0.15	0.29	0.97
Minor bridges ...	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.01	0.95
Large bridges ...	*	0.25	*	0.25	0.03	0.15	0.02	0.06	0.85
Tunnels ...	*	*	*	*	*	*	*	*	*
Level crossings ...	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.01	0.95
Mile and gradient posts ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fencing ...	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.01	0.95
Electric Telegraph ...	0.00	0.00	0.00	0.00	0.00	0.10	0.90	0.32	0.80
Ballasting ...	0.00	0.00	0.00	0.00	0.01	0.07	0.01	0.02	0.80
Sleeper supply ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Permanent-way supply ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ditto laying ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95
Stations and offices ...	*	*	*	*	0.00	0.00	0.00	0.00	0.80
Workshops and store buildings ...	*	*	*	*	0.40	0.00	0.00	0.14	1.00
Staff quarters ...	*	*	*	*	0.41	0.38	0.40	0.39	0.90
Station machinery ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70
Plant, Engineering ...	*	*	*	*	0.30	0.30	0.30	0.30	0.95
Ditto, Locomotive ...	*	*	*	*	0.00	0.00	0.00	0.00	*
Ditto, Carriage and wagon ...	*	*	*	*	0.00	0.00	0.00	0.00	*
Station and office furniture ...	*	*	*	*	0.01	0.01	0.01	0.01	0.70
Steam ferries ...	*	*	*	*	*	*	*	*	*
Locomotive erection ...	*	*	*	*	0.00	0.00	0.00	0.00	*
Carriage and wagon erection ...	*	*	*	*	0.00	0.00	0.00	0.00	*
Total Average ...	...	...	...	...	0.03	0.03	0.03	0.03	...
Date of opening for traffic ...									1st Mar. 1884.
Date of completion of line ...									Sipra Bridge 7th July 1884. 1st March 1884. Sipra Bridge 7th July 1884.

NOTE.-- { 0.00 signifies that no commencement has been made.
 { 1.00 " completion of work.

DIX D—contd.

L W A Y S.

ending 31st March 1884—contd.

RAILWAYS.				NATIVE STATES.				PARTICULARS.
REWARI-FEROZEPUR STATE RAILWAY.				BHOPAL STATE RAILWAY.	MYSORE STATE RAILWAY.			
Rewari Division.	Sirsa Division.	Ferozepore Division and Fazilka Branch.	Whole line.	Whole line.	Bangalore-Tumkur.			
					District No. 1.	District No. 2.	Whole line.	
89	98	113	300	57	21.50	21.50	43	Length of Railway in miles.
1.00	1.00	0.95	0.98	1.00	1.00	1.00	1.00	Survey.
1.00	1.00	0.70	0.89	1.00	1.00	1.00	1.00	Acquisition of land.
1.00	1.00	0.90	0.96	1.00	0.95	0.91	0.93	Earthwork.
1.00	0.85	0.30	0.69	1.00	0.98	0.90	0.94	Minor bridges.
1.00	0.80	0.60	0.78	0.98	1.00	1.00	1.00	Large bridges.
*	*	*	*	*	*	*	*	Tunnels.
0.00	0.00	0.00	0.00	0.74	0.75	0.40	0.58	Level crossings.
1.00	0.20	0.00	0.36	0.40	0.98	0.60	0.79	Mile and gradient posts.
0.00	0.00	0.00	0.00	0.92	0.75	0.90	0.83	Fencing.
1.00	1.00	0.50	0.81	1.00	1.00	1.00	1.00	Electric Telegraph.
0.97	0.00	0.00	0.29	0.68	0.75	0.25	0.50	Ballasting.
1.00	1.00	0.80	0.92	1.00	1.00	1.00	1.00	Sleeper supply.
1.00	1.00	0.80	0.92	1.00	1.00	1.00	1.00	Permanent-way supply.
1.00	1.00	0.26	0.72	0.40	1.00	0.95	0.98	Ditto laying.
1.00	0.50	0.03	0.47	0.75	1.00	0.75	0.88	Station and offices.
*	*	*	*	*	1.00	0.00	0.50	Workshops and store buildings.
1.00	0.20	0.02	0.37	0.82	1.00	0.00	0.50	Staff quarters.
0.95	0.50	0.01	0.29	0.69	0.85	0.60	0.73	Station machinery.
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	Plant, Engineering.
1.00	0.50	0.00	0.46	*	1.00	1.00	1.00	Ditto, Locomotive.
1.00	0.50	0.00	0.46	*	1.00	1.00	1.00	Ditto, Carriage and wagon.
1.00	0.50	0.00	0.46	0.41	0.90	0.90	0.90	Station and office furniture.
*	*	*	*	*	*	*	*	Steam ferries.
...	...	...	...	*	1.00	1.00	1.00	Locomotive erection.
...	...	...	...	*	0.75	0.75	0.75	Carriage and wagon erection.
...	...	...	0.60	0.99	...	...	0.86	Total Average.
To Hissar. 1st May 1883.	To Sirsa. 1st March 1884.	1st October 1884. Fazilka Branch 1st February 1885. 1st July 1885. to Ferozepur. 1st July 1885. to Fazilka.	1st February 1885.	Sept. 1884.	Sept. 1884.	Sept. 1884.	Sept. 1884.	Date of opening for traffic.
...	...	...	...	Sept. 1884.	Sept. 1884.	Sept. 1884.	Sept. 1884.	Date of completion of line

0.30 signifies that $\frac{3}{10}$ ths of the work has been done.

* that no provision has to be made under this head.

PARTICULARS.	PROVINCIAL										
	AMRITSAB-PATHANKOTE RAILWAY.				BARBILLY-PHILIBHIT RAILWAY.			CAWNPORE-ACHHNERA RAILWAY.			
	First Section.	Second Section.	Third Section.	Whole line.	Sections A. & B.	Section C.	Whole line.	C. F. Extension.	Soran Branch.	Jumna Bridge.	Whole line.
Length of Railway in miles ...	24	20	22	66	12	24	36	102	9.35	1.50	112.85
Survey ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Acquisition of Land ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Earthwork ...	1.00	1.00	0.97	0.99	0.99	0.96	0.97	0.99	0.99	0.80	0.98
Minor bridges ...	1.00	1.00	1.00	1.00	0.98	0.60	0.73	0.98	0.75	0.98	0.96
Large bridges ...	1.00	1.00	0.95	0.98	*	0.70	0.70	0.94	0.15	0.75	0.87
Tunnels ...	*	*	*	*	*	*	*	*	*	*	*
Level crossings ...	1.00	0.78	0.45	0.75	0.80	0.60	0.66	0.60	0.50	0.70	0.60
Mile and gradient posts...	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.80	0.00	0.10	0.72
Fencing ...	*	0.50	0.40	0.65	0.85	*	0.85	0.65	0.00	0.80	0.60
Electric Telegraph ...	0.70	*	*	*	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ballasting ...	1.00	0.93	1.00	0.87	0.80	0.25	0.43	0.90	0.50	0.80	0.86
Sleeper supply ...	1.00	1.00	0.85	0.95	1.00	0.75	0.83	0.92	0.00	1.00	0.84
Permanent-way supply ...	1.00	1.00	1.00	1.00	1.00	0.20	0.46	1.00	0.00	1.00	0.80
Ditto laying ...	1.00	1.00	0.80	0.93	0.92	0.15	0.41	0.76	0.00	0.80	0.70
Stations and offices ...	*	0.90	0.70	0.87	0.75	0.15	0.35	0.91	0.10	*	0.82
Workshops and store buildings ...	1.00	*	*	*	*	*	*	0.40	*	1.00	0.41
Staff quarters ...	1.00	0.90	0.70	0.87	0.40	0.00	0.13	0.78	0.95	1.00	0.80
Station machinery ...	1.00	1.00	0.70	0.90	0.45	0.10	0.22	0.80	0.20	0.80	0.78
Plant, Engineering ...	...	...	...	1.00	1.00	1.00	1.00	0.20	*	1.00	0.50
Ditto, Locomotive ...	...	...	...	0.38	*	*	*	0.00	*	*	0.00
Ditto, Carriage and wagon ...	...	...	...	0.25	*	*	*	0.00	*	*	0.00
Station and office furniture ...	...	...	...	0.90	0.00	0.00	0.00	1.00	0.70	*	0.98
Steam ferries ...	*	*	*	*	*	*	*	*	*	*	*
Locomotive erection ...	*	*	*	*	*	*	*	0.20	*	*	0.20
Carriage and wagon erection ...	*	*	*	*	*	*	*	0.75	*	*	0.75
Total Average ...	1.00	0.94	0.85	0.93	...	...	...	...	0.45	0.86	...
Date of opening for traffic ...											1st July 1884
Date of completion of line ...											Ditto.

NOTE.— { 0.00 signifies that no commencement has been made.
 { 1.00 " completion of work.

DIX D—concl'd.

ILWAYS.

ending 31st March 1884—concl'd.

STATE RAILWAYS.

DACCA-MYRENSINGH STATE RAILWAY.			NORTH-BEN BENGAL State Railway.	RANGOON AND SITTAUNG VALLEY STATE RAILWAY.						TIRHOOR STATE RAILWAY.	PARTICULARS.	
First Division.	Second Division.	Whole line.	Dinsajpur Extension.	Rangoon Division.	Dabeau Division.	Pegu Division.	Pyuntaza Division.	Toungoo Division.	Whole line.	Hajipur Extension.		
32	54	86	19-25	5-50	39	39-50	40	42-60	166-60	34	... Length of Railway in miles.	
1-00	1-00	1-00	1-00	1-00	1-00	1-00	1-00	1-00	1-00	1-00	... Survey.	
0-92	0-92	0-92	0-97	1-00	1-00	1-00	1-00	1-00	1-00	1-00	... Acquisition of land.	
0-95	0-75	0-82	0-99	1-00	0-98	0-98	0-85	0-95	0-95	0-99	... Earthwork.	
0-25	0-05	0-12	1-00	1-00	1-00	0-97	0-30	0-10	0-85	0-70	... Minor bridges.	
0-20	0-08	0-12	0-98	1-00	1-00	0-90	0-50	0-10	0-60	0-55	... Large bridges.	
*	*	*	*	*	*	*	*	*	*	*	... Tunnels.	
0-22	0-20	0-21	0-98	1-00	0-90	0-50	0-30	0-10	0-46	0-55	... Level crossings.	
0-00	0-00	0-00	1-00	1-00	0-75	0-00	0-00	0-00	0-20	0-00	... Mile and gradient posts.	
0-05	0-00	0-02	0-90	1-00	1-00	0-80	0-05	0-00	0-48	0-20	... Fencing.	
0-05	0-05	0-05	0-70	1-00	1-00	1-00	0-90	0-90	0-95	1-00	... Electric Telegraph.	
0-25	0-10	0-15	0-75	1-00	0-90	0-75	0-15	0-20	0-55	0-55	... Ballasting.	
0-90	0-75	0-80	1-00	1-00	1-00	1-00	1-00	1-00	1-00	0-87	... Sleeper supply.	
1-00	0-75	0-84	1-00	1-00	1-00	1-00	1-00	0-60	0-92	0-96	... Permanent-way supply.	
0-15	0-05	0-09	1-00	1-00	1-00	1-00	1-00	0-40	0-75	0-82	... Ditto laying.	
0-10	0-01	0-04	0-90	1-00	1-00	1-00	0-58	0-20	0-80	0-48	... Stations and offices.	
0-08	0-00	0-03	*	*	*	*	*	*	*	*	... Workshops and store buildings.	
0-15	0-05	0-08	0-98	1-00	1-00	1-00	0-20	0-65	0-72	0-50	... Staff quarters.	
0-10	0-00	0-04	0-80	1-00	1-00	0-90	0-50	0-05	0-60	0-20	... Station machinery.	
0-10	0-10	0-10	0-98	1-00	1-00	0-95	0-95	0-75	0-90	1-00	... Plant, Engineering.	
0-30	0-00	0-11	*	*	*	*	*	*	*	*	... Ditto, Locomotive.	
0-75	0-00	0-28	*	*	*	*	*	*	*	*	... Ditto, Carriage and wagon.	
0-00	0-00	0-00	0-25	1-00	1-00	1-00	0-20	0-10	0-55	0-20	... Station and office furniture.	
*	*	*	*	*	*	*	*	*	*	*	... Steam ferries.	
0-30	0-00	0-11	*	*	*	*	*	*	0-40	0-00	... Locomotive erection.	
0-20	0-00	0-07	*	*	*	*	*	*	0-70	0-00	... Carriage and wagon erection.	
0-35	0-21	0-27	0-97	0-99	0-99	0-96	0-40	0-36	0-75	0-68	... Total Average.	
May 1885.			16th May 1884.	92 miles on 3rd July 1884.					...	Sept. 1884.	...	Date of opening for traffic.
Ditto.			Ditto.					31st March 1885.	October 1884.	...	Date of completion of line.

0-30 signifies that $\frac{3}{10}$ ths of the work has been done.

... that no provision has to be made under this head.

APPENDIX E.

Enclosure to Railway Circular No. 13 of 1884.

REVISED RULES OF THE STATE RAILWAY SAVINGS BANK AND PROVIDENT INSTITUTION WITH SUBSIDIARY ORDERS.

Rules.

The Institution was authorised under Resolution of the Government of India in the Department of Finance and Commerce, No. 128, dated 10th January 1880.

The following Revised Rules will have effect from 1st January 1885, the bonuses being credited and the accounts adjusted for the period ending 31st December 1884 in accordance with the original rules :—

I.—In these rules, unless there be something repugnant in the subject or context,—

- (a) "State Railway" means a State Railway open to Public traffic :
- (b) "Manager" means the Manager or other chief officer of a State Railway :
- (c) "Salary" means monthly salary, and does not include overtime, batta, travelling, personal, or other fluctuating or extra allowances :
- (d) "Servant" means a public servant serving on the permanent or temporary establishment of a State Railway, even if partly employed on construction—
 - (i) who is not an apprentice or on probation ;
 - (ii) whose salary is not less than Rs. 15 ;
 - (iii) who is not serving under special covenant ; or if he is so serving, has nevertheless signified in writing his desire to be admitted to the benefits of these rules ; and
 - (iv) who is already a member of the State Railway Provident Institution or who joins the public service in the State Railway Department on or after the 1st January 1885 ; or, if he has joined earlier, either is promoted after that date, or signifies in writing his desire to be admitted to the benefits of these rules ;
- (e) "Savings Bank" means a Government Savings Bank opened under Rule II :
- (f) "Depositor" means a servant by or on whose behalf a deposit is made under these rules :
- (g) "Deposit" means a deposit in a Savings Bank :
- (h) "Interest" includes compound interest :
- (i) "Compulsory deposit" means a deposit made under Rule III, with the interest accruing thereon :
- (j) "Bonus" means a bonus added to a deposit under Rule VIII, with the interest accruing thereon.

II.—A Government Savings Bank, of which the Manager shall be Secretary, shall be opened in the office of every Manager.

III.—Each Manager shall deduct and withhold the following sums from the salary of every servant employed under him, and deposit them in the Savings Bank on behalf of the said servant, namely :—

- (a) From each rupee of the salary of every married servant, or widower with children dependent on him, not being of purely Asiatic descent, and of any other servant who may in writing so desire, the Manager shall deduct one anna :
- (b) From each rupee of the salary of every other servant the Manager shall deduct half an anna.

IV.—After the expiry of each half-year, the deposit account of each servant of the non-pensionable superior staff and of each servant of the subordinate staff whether pensionable or non-pensionable, shall be provisionally credited with a bonus equal to one-half of the compulsory deposits made on his behalf during the half-year.

V.—As soon as the Revenue Account of a State Railway for a half-year is made up, one-half per centum of the ascertained net earnings during the half-year shall, subject to the proviso in Rule VI, at the discretion of the Government, and till further orders, be provisionally distributed as bonus among the depositors of the Railway in proportion to the compulsory deposits made on their behalf during the said half-year.

VI.—The aggregate bonus granted for any half-year to a depositor shall in no case exceed the compulsory deposits made on his behalf during the same period.

APPENDIX E—*contd.*

VII.—If the bonus calculated under Rules IV and V appears to the Government in any case insufficient, the Government of India will deal with the case specially according to its discretion, but subject always to the limit in Rule VI.

VIII.—Any bonus accruing to a depositor under Rule IV or V shall be added provisionally to his deposits with effect from the date on which the Revenue Accounts of the railway on which he was serving during the period for which the contribution is made have been finally passed and sent forward for transmission to the Government of India. Any bonus accruing under Rule VII shall be added provisionally as soon as practicable after intimation of the amount has been received by the Secretary of the Institution: all bonuses, and all interest provisionally accruing thereon, shall be shown in a separate column in his account, and shall be subject to the condition prescribed in Rule XIV.

IX.—A servant or any employé on a State Railway may, at his discretion, make voluntary deposits in the Provident Institution in addition to the compulsory deposits (if any) made on his behalf. Such voluntary deposits, and the interest accruing thereon, shall be entered in a separate column in the depositor's account and held at his free disposal under the ordinary Government Savings Bank Rules.

Deposits shall be subject to all the rules as to interest and to all other conditions affecting ordinary deposits in Government Savings Banks, excepting that the voluntary deposits under clause 1 of this rule only are to be reckoned in applying the maximum limits as regards amount of deposit and interest allowable.

X.—Saving with the particular sanction of the Government of India, no compulsory deposit or bonus shall be withdrawn, excepting—

- (i) on the decease of the depositor,
- (ii) on his leaving the public service,
- (iii) with the permission of the Manager under Rule XI,
- (iv) on ceasing to be a servant by transfer to other Government service when the balance at credit of depositor is less than Rs. 10.

XI.—On the Manager being satisfied that the pecuniary circumstances of a depositor are such that the indulgence is absolutely necessary, the compulsory deposits of the depositor and, if they do not suffice, his bonuses or any part of his bonuses, may be withdrawn temporarily—

- (i) to pay for the passage of the depositor proceeding to Europe on medical certificate, or returning after such absence;
- (ii) to pay for the passage of any member of the depositor's family coming from Europe to join him, or proceeding to Europe sick or from other urgent cause.

XII.—In addition to the compulsory deductions under Rule III, the Manager shall withhold monthly from the salary of such depositor, and deposit again in the Savings Bank, one-twentieth part of any sum withdrawn under Rule XI. Such deduction shall be made whenever full salary is drawn until the whole is refunded, the withdrawals from the bonus account, if any, being first made good.

XIII.—When a deposit account is first opened, the depositor shall be required to give the Manager a certificate under his signature and in his own handwriting giving the name or names and addresses of any person or persons whom he believes to be his next-of-kin or to whom he has bequeathed the whole or any portion or portions of his deposit. Each depositor should be invited to revise this certificate at least once a year. All such certificates still in force should be carefully recorded in the Manager's Office.

XIV.—If a depositor is dismissed from the public service, the Manager may, with the sanction of the Local Government concerned or the Director General of Railways, withhold all or any part of the bonus provisionally allotted to him with the interest accrued thereon, and pay to the depositor only the balance at his credit without such bonuses and the interest thereon. In the case of there being any outstandings against a depositor who may have absconded, resigned or been dismissed, the Manager may deduct the amount of such outstandings from his compulsory or voluntary deposits and pay to him the balance only after such deduction.

XV.—Any bonus and interest withheld from a dismissed depositor under Rule XIV shall be credited to the Fines Fund of the Railway.

XVI.—All bonuses granted to depositors under these rules shall be debited as a separate item to the revenue of the Railway under Abstract G, "Special and Miscellaneous Expenditure," Sub-head VI, Contribution to State Railway Provident Fund.

XVII.—These rules do not necessarily apply to railways the property of Native States, but they are recommended for adoption on such railways.

XVIII.—These rules are applicable to the staff employed on the Warora Collieries, and the combined earnings of the Wardha Coal Railway and the Collieries shall be taken to determine the bonus under Rule V.

APPENDIX E—*contd.*

SUBSIDIARY ORDERS.

- (1) The books of the Institution are to be kept in the Manager's office; and the detailed returns of the Institution are to be submitted by the Manager, as Secretary, direct to the Comptroller General. The Comptroller General will furnish the Manager with detailed rules and forms. The Examiner of Accounts will be concerned with the Provident Institution only as it affects the interest of Government and the accounts of the railway.
 - (2) The Examiner of Accounts will open a suspense head of account, not affecting the budget grant, to be called "State Railway Provident Institution."
 - (3) The Manager, as Secretary of the Provident Institution, will arrange with Heads of Departments that deductions are regularly made from the salary bills. These deductions will be treated in the same manner as deductions for rent, advances, &c., the head "State Railway Provident Institution" being credited in the cash book or journal. The Examiner of Accounts should furnish the Manager with a certified list of deductions actually credited in each month's accounts to the State Railway Provident Institution.
 - (4) Cheques passed by the Secretary for withdrawals of deposits from the Provident Institution should be paid from the general funds of the railway; and these payments should be debited by the Examiner of Accounts to the account "State Railway Provident Institution." The Examiner of Accounts will not be responsible that the individual accounts have assets sufficient to meet these cheques; he must, however, see that the account "State Railway Provident Institution" has and that the slips or cheques are passed by the Manager of the line as Secretary.
 - (5) The balance of the account "State Railway Provident Institution" will be carried on at each period the books are closed and in the same manner as the balance of the account "Deposits" is dealt with.
 - (6) The necessary adjustments in the Examiner's books will be made to effect the settlement of the interest due and the Government contribution to the Provident Institution under Rules IV, V and VII. The debit of the interest will be to Civil Department under "Transfers Miscellaneous," and of the Government contribution to a special sub-head in Abstract G, Special and Miscellaneous Expenditure, styled "Contribution to State Railway Provident Institution."
 - (7) The Examiner of Accounts will occupy towards the State Railway Provident Institution the same position that the Civil Accountant General holds towards the District Savings Banks; and he should furnish the Comptroller General direct with monthly statements, as described in Rule 9, Chapter 44, of the Civil Account Code.
 - (8) Compulsory deposits can only be made by deductions from such salaries as are disbursed by the railway authorities. An employé absent from the line can continue to make voluntary deposits provided he makes his own arrangements for payment of the same.
 - (9) Officers belonging to other branches of the Government service and employed on State Railways *on probation* are not included in the term "Servants" of the rules.
2. (1) The Examiner of Accounts may be required by the Manager of a State Railway to keep the accounts and books, and to perform, on the Manager's responsibility, the whole of the accounting work of the Provident Institution.
 - (2) The Manager, as Secretary of the Provident Institution, will render the under-noted accounts to the Comptroller General:—
 - The Weekly Account as prescribed in Rule 38, chapter 18 of the Civil Account Code.
 - Monthly Statements as prescribed in Rule 39, chapter 18 of the Civil Account Code.
 - Annual Statements as prescribed in Rule 45, chapter 18 of the Civil Account Code.
 - (3) The Comptroller General will maintain the same accounts in his office as he does of other Savings Banks, *viz.*, a copy of each depositor's ledger.
 - (4) The Examiner of Accounts will send to the Comptroller General a monthly statement of the total debits and credits in his books to the head "State Railway Provident Institution." He will ascertain and certify on this statement that the amounts agree with the figures previously reported in detail by the Manager. The Examiner of Accounts must himself settle all differences with the Manager.

APPENDIX E—*contd.*

- (5) The Examiner of Accounts must obtain each year from the Comptroller General a certificate of the total balance in the State Railway Provident Institution books; and submit to the Accountant General, Public Works Department, as soon after the 1st May as possible, a copy thereof, and at the same time certify that the amount in his books agrees with that on those of the Comptroller General.
 - (6) The Manager will advise the Comptroller General of bonuses credited to the various accounts.
 - (7) The accounts of the State Railway Provident Institution including the accounts of depositors, must be made up annually at the close of the financial year, and at no other period.
 - (8) The Institution must be kept open on every working day.
 - (9) No change can be allowed in any of the forms required to be submitted to the Comptroller General, nor, without the previous consent of the Comptroller General, in any of the forms prescribed for the purpose in the Civil Account Code; but Managers may add any subsidiary forms for use on their own railway, provided they are found absolutely necessary. It is imagined, however, that any such extra forms will not be needed.
3. The question having been raised whether the amount of money standing at the credit of a State Railway employé in a State Railway Provident Institution is liable to attachment by a Court of law, it is stated for information and guidance that neither compulsory deposits nor bonuses, *i.e.*, money added by Government to compulsory deposits, nor the interest thereon can be so attached; but that Voluntary deposits and the interest thereon standing at the credit of a depositor on any given date, are open to attachment on that date.

OPINION OF THE HON'BLE THE ADVOCATE GENERAL.

The question on which my opinion is sought relates to three subjects;—

1st.—Voluntary Deposits.

2nd.—Compulsory Deposits.

3rd.—Bonuses.

It is clear that the *1st*—Voluntary Deposits—can be attached by judgment-creditors. They are sums of money payable on demand due by the Government to the Railway servants who have deposited them.

As to the *3rd*—Bonuses—it is equally clear that these cannot be attached by judgment-creditors. These neither belong to the Railway servants, nor do they constitute property over which these servants have a disposing power which they can exercise for their own benefit.

As to the *2nd*—Compulsory Deposits—I am of opinion that these cannot be attached by judgment-creditors.

These can only be withdrawn—

- (1) on decease of the depositor;
- (2) on his leaving the public service;
- (3) with the permission of the Manager under Rule XI.

These deposits are not the property of railway servants, nor are they property over which they can be said to have a disposing power *for their own benefit*. It is true that upon their death, these deposits are payable to their representatives, and they may dispose of them by will. But this would not be and is not a disposal for their own benefit.

The analogy of a policy of Life Assurance does not hold. A person who holds such a policy has a present interest capable of valuation, and he may at any time dispose of a policy on his life and appropriate the proceeds to his own use.

11th June 1884.

G. C. PAUL.

4. Security deposits received from contractors and others may be lodged in the Bank of the Provident Institution, provided the procedure of District Savings Bank security deposits is observed.

5. It is not necessary to enter in three separate pages of the Provident Institution Journal the three different kinds of transactions (*viz.*, Compulsory Deposits, Voluntary Deposits, and Deposits on account of Bonus) which occur in the Railway Provident Institution. They may be entered separately one after the other in the same page of the Journal. As regards the Depositor's ledger, one leaf which contains four columns may be assigned to each Depositor, and the three kinds of transactions may be posted in the first three columns, *viz.*, Compulsory in the first, Voluntary in the second, and Bonus in the third, as shown in

APPENDIX E—*contd.*

antique type in the accompanying form (No. 61) leaving the fourth as reserve. The alterations in the form may be made by hand.

S. B. FORM No. 61 (*left side of book.*)

No. *State Railway Provident Institution No.* of 188 *8*

NAME.						RESIDENCE.						OCCUPATION.											
COMPULSORY.												VOLUNTARY.											
Date.	Deposit.		With-drawal.		Balance after each transaction.		Principal or lowest balance of each month.		Interest on lowest balance.		Date.	Deposit.		With-drawal.		Balance after each transaction.		Principal or lowest balance of each month.		Interest on lowest balance.			
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.		Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.		

S. B. FORM No. 61 (*right side of book.*)

No. *State Railway Provident Institution No.* of 188 *8*

NAME.						RESIDENCE.						OCCUPATION.										
BONUS.																						
Date.	Deposit.		With-drawal.		Balance after each transaction.		Principal or lowest balance of each month.		Interest on lowest balance.		Date.	Deposit.		With-drawal.		Balance after each transaction.		Principal or lowest balance of each month.		Interest on lowest balance.		
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.		Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	

6. The cost of such extra establishment as may be required for the 'business' of the Institution shall be a charge against the current revenues of the railway concerned.

7. Compulsory or voluntary deposits cannot be forfeited under any circumstances; but the Manager can, when a claim is presented for the balance at credit, deduct, like any other creditor who has security in his possession, the amount due to him before handing over the property of the claimant.

8. A railway servant who entered the State Railway service prior to the 1st January 1885 signifying in writing his acceptance of the rules of the State Railway Provident Institution, *vide* Rules I (d), (iv); may be allowed the following advantage, provided his written application is received by the Head of his Department before the 30th June 1885, *viz.*—

He may be allowed to subscribe with retrospective effect from 1st January 1885, receiving all the advantages which would have accrued had he been a regular subscriber from that date.

9. Assets of the Fines Fund, and securities, when deposited in State Railway Provident Institutions, should be treated as voluntary deposits, and nothing should be added on account of bonus.

10. Both voluntary and compulsory deposits in State Railway Provident Institutions made by deductions from salary at the time of audit should be considered as paid into the fund on the 1st of the month succeeding that for which the salaries from which deductions are made are due. This rule is applicable to all Imperial and Provincial State Railways.

11. No Provident Institution should be opened on any State Railway in future without reporting to the Comptroller General that one is about to be opened; and obtaining the necessary forms, &c., from that officer.

12. (1) A "servant" transferred to another line or to another branch of the Department in the interests of the public service should be allowed, on the accounts of the half-year being made up, the benefit of the bonus in proportion to the amount of his compulsory subscription

APPENDIX E—contd.

of the half-year. This ruling applies also in the case of death; the heirs or estate of a deceased servant should be credited with a proportionate share of the bonus due to the amount of compulsory deposits made by, or on behalf of, the deceased during the half-year in which he died.

(2) But in the case of the resignation or dismissal of a "servant" or his transfer elsewhere, either at his own request or for not performing his duties satisfactorily, such "servant" should not receive any share of a bonus not already declared.

(3) The manager should decide in each case whether a "servant" has been transferred in the interests of the public service or not.

13. The following form should be used for recording transactions of the State Railway Provident Institution in Minutes of official Meetings:—

The following statement is an abstract of the transactions of the Provident Institution during the month of _____ 188 . —

Interest credited up to the end of the month is included in the figures.

	Voluntary.		Compulsory.		Bonus.	Total.		Fine Fund.	(a)	Grand Total.	Remarks.
	No.	Rs. A. P.	No.	Rs. A. P.	Rs. A. P.	No.	Rs. A. P.	Rs. A. P.			
Balance on 31st May 1881.	71	4,021 8 6	256	6,940 8 6	2,372 1 4	310	13,334 0 4	3,000 3 0	3,100	18,593 3 4	
Additions during June 1881.	5	600 0 0	153	462 5 3	420 2 5	58	1,103 8 0	15 0 0	100	1,307 8 0	* Transferred from State Railway.
Withdrawals during June 1881.	2	325 8 6	8	237 8 3	38 4 6	9	601 5 3	450 0 0	...	651 3 3	† Contribution to Institute at.
Balance on 30th June 1881.	74	4,296 0 0	304	7,165 0 0	2,353 15 1	357	13,535 5 1	3,024 3 0	2,200	19,149 8 1	

(a) Columns should be added for other allowable deposits, such as Contractors' securities, &c.

Any member making both voluntary and compulsory deposits is counted in both the No. columns.

The No. column under Total gives the actual number of the staff depositing.

14. (1) So long as His Highness the Nizam's State Railway is worked under the present arrangement and thereafter if arranged by mutual agreement, the assets of the fund of that Railway may be lodged in the Political Treasury at Hyderabad.

(2) The Comptroller General will have no concern with the detailed accounts of the Institution on the Nizam's State Railway; these will be dealt with solely by the Manager of the line who will have only one account with the District Savings Bank, from which he will receive a pass book, and obtain interest like an ordinary depositor, but without limit of amount.

(3) Acting under these orders, the transactions of the Fund will not in the ordinary course appear in the accounts of the Railway. The Government of India, however, considers it desirable that they should be duly recorded in the books of the line, and it is desired that the following procedure may be adopted. A head of Account, "District Savings Bank" should be opened; when any sum is realised from employes and lodged in the Savings bank by the Manager, the head "Provident Institution" should be credited and "District Savings Bank" debited, and when money is withdrawn "District Savings Bank" should be credited and "Provident Institution" debited.

(4) The balances of these two accounts will always be equal, and will represent the amount in the District Savings Bank to the credit of the Provident Institution.

15. Opinion of the Hon'ble the Advocate General, regarding deductions made in respect of outstandings against a depositor in a State Railway Provident Institution who may have absconded, resigned, or been dismissed, from his compulsory or voluntary deposit, without the order of a Civil Court is attached.

OPINION.

Under the original rules there seems to be no provision for the purpose mentioned in the question submitted to me. But under the 8th paragraph of Instructions, dated 28th May 1880, called Circular No. 8, the Manager is empowered to make the deduction of any amount due before paying over the balance of a compulsory or voluntary deposit. Assuming this Circular is a part of the rules of the Department, I am of opinion that deductions can be

APPENDIX E—*contd.*

made in respect of outstandings against a depositor in a State Railway Provident Institution who may have absconded, resigned, or been dismissed, from his compulsory or voluntary deposit, without the order of a Civil Court.

22nd February 1882.

G. C. PAUL.

N.B.—Since this opinion was given the necessary provision has been made under Rule XIV.

16. Civil Surgeons in medical charge of State Railways cannot subscribe to the Provident Institution, but Apothecaries and other Medical Subordinates can join the Institution as compulsory depositors.

17. With regard to Rule V it is to be understood that any amount which cannot be distributed owing to the restriction imposed under Rule VI, shall be excluded from the aggregate bonus of the railway. For example, suppose the compulsory deposits of all members who are entitled to a bonus under Rule IV amount to Rs. 2,000, and the compulsory deposits of all other members amount to Rs. 1,000, the net earnings for the half-year being Rs. 4,50,000, then the bonus under Rule IV would be Rs. 1,000, and there would be Rs. 2,250, equal to half per cent. of the net earnings to be divided ratably among all members, *i.e.*, as regards the two classes in the ratio of 2 to 1, which in this case would be Rs. 1,500 and Rs. 750. But under Rule VI those members who had received a bonus under Rule IV could only receive Rs. 1,000 and the balance of Rs. 500 would lapse and be excluded from the aggregate bonus which would become Rs. 1,000 + 1,000 + 750 = Rs. 2,750.

18. The bonus admissible under Rule V shall be calculated on the net earnings ascertained before any contribution to the institution has been added to the working expenses.

19. (1) Each voluntary deposit should be acknowledged by a formal receipt being granted to the depositor. Such receipt should terminate with the words "The balance at your credit under voluntary deposits, including the amount now acknowledged, is Rs. As. P."

(2) Each compulsory deposit will not be acknowledged, but every depositor must be furnished with an annual account in the following form :—

APPENDIX E—*concl'd.*

20. Only those European and Native Mechanics employed in workshops are included under the definition of "Servant" who are on a monthly salary and who are subject to a month's notice before dismissal.

21. The Manager, Nizam's State Railway, should, in the case of transfers to or from his Provident Institution, inform the Comptroller General of the date on which the amount has been brought on or taken off his interest bearing balance, when steps will be taken by the Comptroller General to have the interest for the time of transfer added, in the first case, to that payable on the Nizam's State Railway Provident Institution account, and in the second case, to that payable on the Savings Bank account of the depositor in his new Bank.

22. (1) On a Depositor leaving the service of Government, his account shall be closed and a notice given to the depositor in writing, stating the amount at his credit, and informing him that unless the amount be withdrawn within certain periods, *viz.*—

For a balance of Rs. 10 or under, 1 year,

For a balance over Rs. 10, 3 years,

it will be written off as a "dead account," and only repaid under orders of the Comptroller General.

(2) On a depositor ceasing to be a "servant" as defined in the rules, but still remaining in Government employ, his account shall be dealt with as follows:—

When the balance at the credit of the depositor is *less than Rs. 10*, notice shall be given to the depositor that his account will be closed, and that, if the balance be not claimed within one year from the date of such notice, it will be written off as a "dead account," and only repaid under orders of the Comptroller General.

When the balance at the credit of the depositor is *Rs. 10 or more*, the account shall not be closed, so long as the depositor remains in the service of Government, without the sanction of the Government under which the depositor may be serving after transfer; and during such time as the depositor is not a "servant" as defined in the rules, no deposit shall be accepted from him, but interest shall be allowed on the balance of the account until it is closed.

(3) All applications for the refund of sums written off as "dead accounts" must be forwarded to the Comptroller General, through the Secretary of the Provident Institution from which the amount has been written off.

23. Interest may be allowed on the balance at the credit of the estates of deceased depositors of the State Railway Provident Institution until these are withdrawn.

This procedure is in accordance with the provision of paragraph 42 of the Rules for District Savings Banks, read in connection with paragraphs 39 to 41, *vide* pages 143 and 144 of the Civil Account Code, Volume I.

24. The accompanying form of declaration is authorised to be adopted by depositors of the State Railway Provident Institution desiring to bequeath their deposits to relatives and others after death, in accordance with Rule XIII of the Rules of the Institution.

State Railway Provident Institution.

Form of Declaration.

I hereby declare the following to be the name and address of the person who, in the event of my death, will be entitled to receive payment of my deposit in the Railway Provident Institution, and I make this my will so far as regards such deposit.

Name _____

Address _____

Whether the above is }
 next-of-kin, or obtains the }
 deposit by bequest of de- }
 positor. } _____

Signed _____

Two witnesses to signature _____

Date _____

APPENDIX F.

STATEMENT SHOWING THE TRANSACTIONS OF THE FINE FUNDS ON THE SEVERAL STATE RAILWAYS FOR THE YEAR 1883-84.

Railways.	Amount at credit of the Fund on 1st April 1883.	Receipts during the year.	Total amount at credit of the Fund.	Disbursements during the year.	Balance on 31st March 1884.	REMARKS.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Punjab Northern ...	12,427 10 11	4,458 1 7	16,885 12 6	4,394 3 1	12,491 9 5	
Judus Valley ...	5,070 0 4	6,080 11 7	11,150 11 11	5,481 13 0	5,668 14 11	
Rajputana-Malwa (a) ...	6,051 1 9	11,055 2 8	17,106 4 5	14,189 12 4	2,916 8 1	
Wardha Coal ...	993 10 1	773 5 6	1,766 15 7	1,350 5 0	416 10 7	
Calcutta and South Eastern ...	404 0 0	177 0 0	581 0 0	136 0 0	445 0 0	
Nalhati ...	399 0 0	43 0 0	442 0 0	83 0 0	359 0 0	
Northern Bengal ...	758 0 0	2,418 0 0	3,176 0 0	2,045 0 0	1,131 0 0	
Tirhoot ...	1,971 0 0	595 0 0	2,566 0 0	661 0 0	1,905 0 0	
Cawnpore-Achnera ...	1,187 10 3	235 0 7	1,422 10 10	82 5 8	1,340 5 2	
Nagpur and Chhattisgarh ...	1,416 2 2	989 9 0	2,405 11 2	1,366 8 9	1,039 2 5	
British Burma State Railway ...	1,437 6 4	777 1 11	2,214 8 3	1,303 7 2	911 1 1	
Bhavnagar-Gondal ...	10 0 1	1,033 9 5	1,033 9 6	541 7 7	552 1 11	
Nizam's ...	645 5 0	525 15 9	1,171 4 9	1,036 13 0	134 7 9	
Mysore ...	162 9 6	167 12 2	330 5 8	148 1 9	162 3 11	

(a) The accounts of the past official year have not yet been closed, so the figures given above represent the transactions as far as known up to the end of that year.

(b) Includes Rs. 512, being the balance of the Fund on the Patna-Gya State Railway.

(c) Includes a sum of Rs. 15-1-2, being cost of seeds included in last year's transactions, but subsequently charged to Revenue estimates.

APPENDIX G.

Statement showing the mileage of Railways during the year 1883 earning over 4 per cent.

Percentage of net earnings on total Capital outlay.*	Railway.	Mean mileage worked.	Total mean mileage worked.	Remarks.
Over 9 per cent....	Amroati	6	6	
Over 8 per cent....	East Indian	1,653	1,659	
Over 7 per cent....	Bombay, Baroda and Central India....	461	2,429	
	Eastern Bengal	160		
	Nagpur and Chhattisgarh	149		
Over 6 per cent....	Great Indian Peninsula	1,288	4,904	
	Rajputana-Malwa	1,187		
Over 5 per cent....	Northern Bengal	247	5,201	
	Darjelling-Himalayan....	50		
Over 4 per cent....	Sind, Punjab and Delhi	730	6,119	
	Rangoon and Irrawaddy Valley	161		
	Jodhpur	19		
	Khamgaon	8		

* This is the outlay on open line only, including steam boat and suspense.

APPENDIX H.

Statement showing Railway Schools attended by Railway Employés and their children during 1883.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.				Annual Expenditure.	Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Government Grant.	Railway Grant.	Average school fees.	Total.		
	Number on the rolls.	Average daily attendance.	Number on the rolls.	Average daily attendance.						
EAST INDIAN RAILWAY.										
<i>Europeans and East Indians.</i>										
					Rs.	Rs. A.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
East Indian Railway School, Ranegunge.	15	18	...	...	288	300 0	504 0 0	1,092 0 0	1,000 0 0	
East Indian Railway School, Asansol.	48	42	...	...	792	870 0	1,776 0 0	3,438 0 0	3,418 11 0	
East Indian Railway School, Rampore Haut.	9	7	...	...	360	360 0	204 0 0	924 0 0	855 0 0	
East Indian Railway School, Sahebgunge.	19	16	...	...	360	360 0	324 0 0	1,044 0 0	1,211 0 0	Difference obtained by donations, subscriptions, &c.
East Indian Railway School, Jamalpur, for boys.	46	41	...	...	2,985	2,121 8	1,023 0 0	18,234 4 0	17,321 4 6	The expenditure is that of the whole school.
East Indian Railway School, Jamalpur, for girls.	...	21	...	...			1,143 0 0			
East Indian Railway School, Jamalpur, for apprentices.	37	30			240 0				721 12 0
East Indian Railway School, Dinapur.	34	28	...	...	600	750 0	756 0 0	2,106 0 0	1,771 4 2	
East Indian Railway School, Buxar.	38	27	...	...	1,068	960 0	828 0 0	2,856 0 0	2,825 5 0	
East Indian Railway School, Moghalserai.	14	12	...	...	360	720 0	156 0 0	1,236 0 0	1,160 4 0	
East Indian Railway School, Cawnpore.	35	29	...	...	360	720 0	551 8 0	1,631 8 0	1,616 15 9	
Apprentices night School, East Indian Railway, Allahabad.	...	...	12	12	Nil	Nil	288 0 0	288 0 0	288 0 0	
East Indian Railway School, Tundia.	41	35	...	...	570	600 0	588 0 0	1,758 0 0	1,758 0 0	
East Indian Railway School, Aligarh.	21	17	...	...	360	360 0	253 0 0	978 0 0	1,236 7 5	* This does not include the Oudh and Rohilkhand grant of Rs. 25 per mensem.
East Indian Railway School, Ghazalbad.	19	18	...	...	360	600 0	219 12 0	1,179 12 0	1,757 0 0	† This does not include the Sind, Punjab and Delhi Railway grant of Rs. 60 per mensem.
<i>Natives.</i>										
Native Adult School, Howrah	Nil	Nil	99	52	Nil	120	40 0 0	160 0 0	121 4 6	
Native Adult School, Burdwan.	...	...	34	18	...	120	18 3 0	138 3 0	120 0 0	

APPENDIX H—contd..

Statement showing Railway Schools attended by Railway Employés and their children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.				Annual Expenditure.	Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Government Grant.	Railway Grant.	Average School fees	Total.		
	Number on the rolls.	Average daily attendance.	Number on the rolls.	Average daily attendance.						
EAST INDIAN RAILWAY.										
<i>Natives—concl.</i>										
					Rs.	Rs. A.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
East Indian Rail- way aided A. V. School, Asansol.	13	10	...	...	...	120	72 0 0	192 0 0	...	
Native Adult School, Asansol.	9	4-62	160	11-2	...	120	84 0 0	204 0 0	120 0 0	
East Indian Rail- way aided A. V. School, Rampur Haut.	4	4	...	...	480	240	27 12 0	747 12 0	...	
Native Adult School, Rampur Haut.	Nil	Nil	71	37	...	120	33 9 6	153 9 6	137 8 0	
Native Adult School, Madhu- pur.	...	...	66	29-34	...	120	22 0 0	142 0 0	120 0 0	
Native Adult School, Nawa- dih.	19	10	148	28	...	120	90 3 0	210 3 0	120 0 0	
Night School, Rampur Haut.	8	2	3	2	...	180	...	...	180 0 0	
A. V. School, Sa- hebgunge.	13	8-8	...	...	234	192	226 } 154 }	806 0 0	745 0 0	
Native Adult School, Saheb- gunge.	...	...	47	14-5	...	120	7 2 0	127 2 0	137 2 0	
A. V. School, Ja- malpur.	161	142	...	...	888	420	2,824 12 0	4,132 12 0	...	
Native Adult School, Jawal- pur.	4	4	62	21	...	120	39 15 0	159 15 0	120 0 0	
A. V. School, Mo- ghaiserai.	7	7	...	...	...	192	83 5 0	275 5 0	252 0 0	
Native Adult School, Moka- meh.	4	2-67	35	21-68	Nil	120	18 9 0	138 9 0	120 0 0	
Native Adult School, Gya.	Nil	Nil	20	13-5	...	60	11 4 0	71 4 0	60 0 0	
Native Adult School, Dina- pur.	...	...	107	30-85	...	120	75 2 0	195 2 0	192 0 0	
Native Adult School, Buxar.	76	5	95	45-43	...	120	19 14 6	139 14 6	120 0 0	
Native Adult School, Moghol- serai.	Nil	Nil	55	34	Nil	120	24 3 0	144 3 0	120 0 0	
Native Adult School, Allaha- bad.	...	...	119	27-75	...	120	53 4 0	173 4 0	120 0 0	
Native Adult School, Sutna.	...	...	31	19-16	...	120	7 6 0	127 6 0	120 0 0	
Native Adult School, Jubbui- pur.	2	2	54	35-5	...	120	31 4 6	151 4 6	120 0 0	
Native Adult School, Cawn- pore.	...	...	79	35	...	120	60 6 6	180 6 6	142 5 0	
Native Adult School, Tundla.	12	11-3	149	59	...	120	104 2 6	224 2 6	120 0 0	
Native Adult School, Aligarh.	1	1	9	9	...	...	3 10 6	3 10 6	36 0 0	
Native Adult School, Ghazia- bad.	13	12	36	22-71	...	120	24 4 0	144 4 0	120 0 0	

APPENDIX H—contd.

Statement showing Railway Schools attended by Railway Employés and their Children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.				Annual Expenditure.	Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Government Grant.	Railway Grant.	Average School-fees.	Total.		
	Number on the rolls.	Average daily attendance.	Number on the rolls.	Average daily attendance.						
MADRAS RAILWAY.										
Perambúr- ...	44	41.4	...	...	Rs. ...	Rs. 383	Rs. 642	Rs. 1,025	Rs. 1,025	The Railway schools are intended for European and Eurasian children only. (a) Includes Rs. 764, rental of building, paid to the Great Indian Peninsula Railway Company, total outlay divided between the two Companies.
Jalárpét ...	34	31.8	...	...	...	1,064	379	1,443	1,525	
Pódanúr ...	43	29.5	...	...	...	362	446	1,308	1,399	
Gooty ...	20	17.9	...	...	...	387	199	556	559	
Raichoor ...	26	20.1	...	...	...	685	216	901	(a) 1,373	
Total ...	167	140.7	...	...	...	3,381	1,852	5,233	5,880	
GREAT INDIAN PENINSULA RAILWAY.										
Sholapur ...	26	16.96	...	...	Rs. 193	Rs. As. 423	Rs. As. (a) 188 0	Rs. A. P. 749 0 0	Rs. A. P. 561 0 0	(a) Rs. 16-10-8 average monthly fees.
Egutpoora ...	34	28.7	...	...	...	2,482 0	(b) 188 8	2,670 8 0	2,482 0 0	(b) Rs. 18-13-7 average monthly fees.
Lanowlee ...	69	58.46	...	...	595	2,952 0	(c) 445 8	3,992 8 0	3,547 0 0	(c) Rs. 40-8-0 average monthly fees.
Bhosawal Khandwa (Joint School) ...	37	27	...	...	226	2,681 0	(d) 303 12	3,210 12 0	2,907 0 0	(d) Rs. 27-9-10 average monthly fees.
	48	31	...	...	...	834 4	(e) 642 3	1,476 7 0	834 4 0	(e) Rs. 53-8-0 average monthly fees.
BOMBAY BARODA AND CENTRAL INDIA RAILWAY.										
Parel day School, Parel.	35.5	28.13	...	...	Rs. 131	Rs. As. 2,448 13	Rs. As. P. 351 15 2	Rs. As. P. 2,981 12 2	Rs. A. P. 2,682 0 5	Rs. 2,188—Pay of 5 Teachers. " 250—5 Xmas. treats. " 60—From 8 Railways Officers.
SIND, PUNJAB AND DELHI RAILWAY.										
Railway School, Moolbar ...	12	11	...	...	Rs. ...	Rs. 480	Rs. A. P. 189 0 0	Rs. A. P. 669 0 0	Rs. 649	
Railway School, Ghaziabad ...	9	8	...	...	180	600	86 4 0	866 4 0	816	
Railway School, Lahore ...	29	24	...	...	...	840	408 0 0	1,248 0 0	...	* Information not received.
Railway School, Saharanpur ...	37	35	...	...	480	480	1,200 0 0	2,160 0 0	2,060	
Fairlawn, Mussoorie ...	42	40	...	...	600	2,520	4,113 0 0	7,233 0 0	7,377	
OUDE AND ROHILKHAND RAILWAY.										
Charbagh Railway School, Lucknow.	20	...	...	...	...	† 540	475 8 0	1,015 8 0	...	† Salary of school Mistress @ Rs. 45 per mensem.
Railway Aided School, Allyghur.	7	...	...	...	...	‡ 300	124 0 0	424 0 0	...	‡ Aid given by Oude and Rohilkhand Railway @ Rs. 25 per mensem.

(c) Fees recovered from parents of the boys belonging to Great Indian Peninsula and the Rajputana-Malwa Railways, Rs. 315. Rajputana-Malwa Railway share of the school expenses for the year 1883, Rs. 327-3-0.

APPENDIX H—contd.

Statement showing Railway Schools attended by Railway Employés and their Children during 1883.

Name and location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.				Annual expenditure.	Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Government grant.	Railway grant.	Average School fees.	Total.		
	Number on the rolls.	Average daily attendance.	Number on the rolls.	Average daily attendance.						
PUNJAB NORTHERN STATE RAILWAY.										
Punjab Northern State Railway, Native Adult School ...	...	...	2,386	1,124	...	Rs. ...	Rs. A. P. ...	Rs. A. P. ...	Rs. 540	
Punjab Northern State Railway, European School	122	107.34	...	...	...	1,200	143 0 0	1,343 0 0	1,343	
Total ...	122	107.34	2,386	1,124	...	1,200	143 0 0	1,343 0 0	1,883	
INDUS VALLEY AND KANDAHAR STATE RAILWAY.										
European Rail- way School, Mooltan.	2	2	...	...	Rs. 40 per men- sem.	Rs. 2 per child of Railway employé.	Rs. 3 per mensem per child.	...	Not known	Joint. School with Sind, Punjab and Delhi Rail- way. The children be- longing to this Railway only are shown in this return.
European Rail- way School, Sukkur.	25	23	...	...	20 per men- sem from Sukkur Mu- nicipality, and Rs. 238 for the year 1883-84 from the Gov- ernment of Bombay.	2½ up to a maximum of Rs. 100.	2 per mensem per child.	...	2,000	
Railway night School, Sukkur.	...	...	95	30	...	20 per men- sem.	As. 4 per men- sem per child.	...	240	
European School, Kotri.	8	7	...	...	10 per men- sem from Kotri Muni- cipality.	2½ per child of Railway employé up to a maximum of Rs. 50.	2 per mensem per child.	...	800	
Punjabi School, Sukkur.	28	23	...	...	10 per men- sem from Sukkur Mu- nicipality and 89 for the year 1883-84 from the Government of Bombay.	1 per child of Railway employé up to a maximum of Rs. 30.	1 to 1-8 per mensem per child per cent. on in- come of guar- dian.	...	1,000	
Railway night School, Jacoba- bad.	...	...	44	20	...	...	As. 4 per men- sem per child.	...	120	
RAJPUTANA-MALWA RAILWAY.										
Mhow Railway School, Mhow.	14	9	...	...	...	Rs. A. P. 360 0 0	Rs. A. P. 270 0 0	Rs. A. P. 680 0 0	Rs. A. P. 770 0 0	Attendance improved under new School Mis- tress since January 1884.
Bandikui Railway School, Bandi- kui.	30.5	28	...	...	...	611 0 0	768 0 0	1,379 0 0	1,379 0 0	
Joint Railway School, Khandwa.	85	20	...	...	...	327 8 4	315 0 0	642 8 4	834 4 2	The School is supported by the two lines of Rail- ways, viz., Great Indian Peninsula and Raj- putana-Malwa Railways.
Neemuch Rail- way School, Neemuch.	23	21	...	...	...	137 8 0	163 8 0	306 0 0	306 0 0	The School opened from 1st August 1883, and the expenditure is given from that period only.

APPENDIX H—contd.

Statement showing Railway Schools attended by Railway Employés and their Children during 1883—contd.

Name and location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.				Annual expenditure.	Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Government grant.	Railway grant.	Average School Fees.	Total.		
	Number on the rolls.	Average daily attendance.	Number on the rolls.	Average daily attendance.						
NORTHERN BENGAL STATE RAILWAY										
Night School, Saidpur.	3	25	23	10.4	...	240 0 0	...	240	240 0 0	
European day School, Saidpur.	19	12	...	...	300	600 0 0	288 0 0	1,188 0 0	1,104 0 0	
High Class English School, Saidpur.	63	57	...	...	300	360 0 0	349 8 0	1,009 8 0	940 0 0	The roll includes the average number of 18 other boys who are not the children of Railway employés.
TIRHOOT STATE RAILWAY.										
					Rs.	Rs. A. P.	Rs.	Rs. A. P.	Rs. A. P.	
Night School, Samastipur.	...	...	20	5.56	...	140 0 0	...	140 0 0	...	Average annual schooling fees of these students.
Government Boarding School, Kurseong.	6	...	...	...	...	...	...	...	1,176 0 0	
Bengalee Infant School,* Nya Bazar, Durbhunga.	15	8	...	...	...	...	10	10 0 0	...	*This school was established in April 1882, by the Bengalee residents of Durbhunga, most of whom are the employés of Tirhoot State Railway for the education of their little boys and girls in English and Bengalee, and the school being maintained by local subscription, donations and schooling fees.
CAWNPORE-ACHNERA STATE RAILWAY.										
					Rs.	Rs. A. P.	Rs.	Rs. A. P.	Rs. A. P.	
Railway workmen's school established in March 1883.	10.3	10.2	12	5.2	...	68 3 10	...	68 3 10	68 3 10	Rs. A. P. Teacher's pay for 10 months @ 5, 50 0 0 Contingencies 18 3 10 Total ... 68 3 10

BURMA STATE RAILWAY.

Nil.

There are no Railway Schools on this line. It is in contemplation to grant scholarships to a limited number of children of the poorer Railway employés to enable them to send their children to local schools in Rangoon.

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employés and their children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School Fees.	Total.	
	Number on the rolls.	Average daily attendance.	Number on the rolls.	Average daily attendance.				
EAST INDIAN RAILWAY.								
<i>Europeans and East Indians.</i>								
Free School, Calcutta ...	1	1	Nil	Nil	Nil	Unknown	Unknown	
La Martiniere, „ ...	5	5	...	...	...	...	...
St. Joseph's, „ ...	8	8	...	...	...	...	...
Girls' School, „ ...	4	3	...	...	...	...	...
St. Xavier's College, Calcutta ...	8	6	...	...	...	...	...
Do. day School, Calcutta ...	1	1	...	...	...	...	...
Loretto Branch „ „ ...	2	2	...	...	...	...	...
„ Girls' „ „ ...	1	1	...	...	...	...	...
„ Convent „ „ ...	1	1	...	...	...	...	...
Deveton College, Calcutta ...	2	2	...	...	...	Unknown	Unknown	
St. James' School, „ ...	3	3	...	...	...	...	...
Moorghcehatta Orphanage, Calcutta ...	3	3	...	...	...	...	...
St. Johns' School, Calcutta ...	2	2	...	...	...	...	...
St. Chrysostum's School, Calcutta ...	1	1	...	...	...	...	...
Parochial „ „ ...	1	1	...	...	...	...	...
Calcutta boys' „ „ ...	1	1	...	...	...	...	...
Revd. Welland's day School, Calcutta ...	5	5	...	...	...	...	...
Cathedral Orphanage, Calcutta ...	2	2	...	...	...	...	...
Entally Convent ...	1	1	...	...	...	Unknown	Unknown	
St. Agnes' School, Howrah ...	31	29	...	...	...	...	...
St. Thomas' „ „ ...	22	16	...	...	360	542	902	
Bishop Milman's School, Howrah ...	4	4	...	...	360	...	...
Mrs. Whitham's „ „ ...	6	6	...	...	...	Unknown	Unknown	
Mrs. Grose's „ „ ...	1	1	...	...	...	...	...
St. Paul's School, Asansol ...	7	6	...	...	...	...	...
Middle class, English School, Giridih ...	1	1	...	...	...	...	...
High „ „ „ Puch- umba.	2	2	...	...	...	...	...
Private School, Madhupur ...	12	8	...	...	...	Unknown	Unknown	
St. Michael's School, Bankipur ...	2	2	...	...	...	...	...
St. Joseph's Convent, „ ...	3	3	...	...	...	...	...

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employés and their children during 1893—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway grant.	Average School Fees.	Total.	
	Number on the rolls.	Average daily attendance.	Number on the rolls.	Average daily attendance.				
EAST INDIAN RAILWAY.								
<i>Europeans and East Indians—concl'd.</i>								
St. Paul's School, Darjeeling ...	7	6	...	...	...	...	...	...
St. Joseph's Seminary, Darjeeling ...	4	4	...	...	...	...	...	...
Loretto Convent, " ...	1	1	...	...	...	...	...	...
All Saints' School, Allahabad ...	32	...	...	...	...	...	...	...
Convent " ...	27	...	...	...	...	...	...	...
Boys' High School, " ...	6	5	...	...	...	...	...	...
Girls' " " " ...	13	...	...	...	...	Unknown	Unknown	...
City free " " ...	11	10	...	...	...	...	...	...
St. Joseph's Seminary, Allahabad... ..	3	2	...	...	...	...	...	...
Cannington Day School, " ...	3	2	...	...	...	...	...	...
Girls' High School, Cawnpore ...	2	2	...	...	...	...	...	...
LaMartiniere School, Lucknow ...	3	3	...	...	...	...	...	...
S. P. G. Mission, Delhi ...	1	1	...	...	...	...	...	...
Christ Church School, Jabalpur ...	7	6	...	...	...	...	...	...
St. Joseph's Convent School, Jabalpur.	22	12	...	...	...	...	...	...
Diocesan School, Naini Tal ...	5	5	...	...	...	Unknown	Unknown	...
Private " " ...	2	2	...	...	...	...	...	...
Mussoorie School ...	4	4	...	...	...	...	...	...
Lawrence Military Asylum, Murree	3	...	...	...	...	...	...	...
" " " Kasauli	1	1	...	...	...	...	...	...
<i>Natives.</i>								
Free Church Institution, Calcutta	2	2	...	...	Nil	Unknown	Unknown	...
Calcutta City School ...	6	6	...	...	...	...	...	...
" Metropolitan Institution ...	1	1	...	...	...	...	...	...
London Missionary Institution, Bhowanipur.	1	1	...	...	...	...	...	...
Bhowanipur English School ...	1	1	...	...	...	...	...	...

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employés and their children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School Fees.	Total.	
	Number on the rolls.	Average daily attendance.	Number on the rolls.	Average daily attendance.				
EAST INDIAN RAILWAY.								
<i>Natives—contd.</i>								
Bible School, Howrah	42	30	...	...	240	317 4 0	557 4 0	
Government School, Howrah	8	...	...	...	...	...	...
Training Academy, "	3	3	...	...	...	...	...
Khooroot Training Academy, Howrah	8	...	...	...	...	...	...
Isoba Mondolye A. V. School, Howrah.	1	1	...	...	...	Unknown	Unknown	
Sulkia School, Howrah	8	...	...	...	...	...	...
Ramkishnapore School, Howrah	2	2	...	...	...	...	...
Batra " "	4	4	...	...	...	...	...
Sibpore " "	10	10	...	...	...	...	...
Satragachee " "	13	...	...	...	...	...	...
Bagnan " "	1	1	...	...	...	...	...
Serampore College, "	4	4	...	...	...	...	...
Panechatty Government-aided School	2	2	...	...	...	Unknown	Unknown	
Augurparh " " "	2	2	...	...	...	...	...
Belghoria " " "	1	1	...	...	...	...	...
Beloor A. V. School	1	1	...	...	...	...	...
Duckhinessur Government aided School.	1	1	...	...	...	...	...
Bullabpur Government aided Vernacular School.	4	4	...	...	...	...	...
Chatra School	2	2	...	...	...	...	...
Bolootty School	2	2	...	...	...	...	...
Chandernagore School	1	1	...	...	...	...	...
Hooghly College	1	1	...	...	...	Unknown	Unknown	
Saroda Prasad Institution, Chukdighi	1	1	...	...	...	...	...
Subarnopur A. V. School	2	2	...	...	...	...	...
Patoolee English School	1	1	...	...	...	...	...
Mahesh High English School	2	2	...	...	...	...	...
Middle Class Vernacular School, Pali-gram—Burdwan District.	2	2	...	...	...	...	...
Lakoordy Vernacular School	1	1	...	...	...	...	...

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employés and their children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School fees.	Total.	
	Number on the rolls.	Average daily attendance.	Number on the rolls.	Average daily attendance.				
EAST INDIAN RAILWAY.								
<i>Natives—concld.</i>								
Bhagulpur Government School ...	1	1	...	...	...	...	...
Bhagulpur Anglo-Vernacular School	2	2	...	...	...	Unknown	Unknown	
Jamalpur boys' and girls' mixed "	10	...	...	...	...	...	...
" Vernacular Patshala ...	8	...	...	...	...	...	...
Monghyr Government School ...	7	...	...	...	...	...	...
" A. V. School ...	24	...	...	...	...	...	...
" Infant " ...	9	...	...	...	...	...	...
" Zillah " ...	8	...	...	...	...	...	...
" Mission " ...	3	...	...	...	...	...	...
Daranagar School, Allahabad ...	1	1	...	...	...	Unknown	Unknown	
Naraur " " ...	1	1	...	...	...	...	...
Mooteegunge Mission School, Allahabad.	1	1	...	...	...	...	...
Pawoni School, Allahabad ...	9	9	...	...	...	...	...
Andhun " " ...	1	1	...	...	...	...	...
Government High School, Allahabad	3	3	...	...	...	...	...
Muir Central College, Allahabad ...	1	1	...	...	...	...	...
Jumna Mission High School, "	2	2	...	...	...	...	...
Anglo-Bengallee Preparatory School, Allahabad.	2	2	...	...	...	...	...
Government Village School, Koilwara, Jabalpur District.	1	1	...	...	...	Unknown	Unknown	
Marwara School, Marwara-Katni ...	3	3	...	...	...	...	...
MADRAS RAILWAY.								
642 Schools are attended by employés of all races and their children.	2,352*	1855-00	22	14-75	...	Rs. A. P. 0 9 2 per mensem.	...	* Of this number 435 are European and Eurasian paying on an average Rs. 1-2-2 each per mensem.
SOUTH INDIAN RAILWAY.								
30 Schools are attended by the children of European and Eurasian employés.	116	99-34	...	...	...	•	...	* Correct information not available.
258 Schools are attended by the children of Native employés.	566	"	...	...	...	•	...

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employés and their children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School-fees.	Total.	
	Number on the rolls.	Average daily attendance.	Number on the rolls.	Average daily attendance.				
GREAT INDIAN PENINSULA RAILWAY.								
					Rs.	Rs. A. P.	Rs. A. P.	
Cathedral High School, Bombay	4	...	...	...	...	...	...
John Cannon High School, Do.	6	...	...	...	...	...	...
Scottish High School, Do.	1	...	...	...	...	...	...
Methodist School, Do.	8	...	...	...	...	...	...
B. E. S. School, Byculla	20	...	...	...	...	...	...
Scottish High School, Do.	19	...	...	...	...	...	...
Scottish School, Do.	1	...	...	...	...	...	...
Byculla School	4	...	...	...	...	...	...
St. Mary's Institution, Mazagaon	16	...	...	...	...	...	...
St. Peter's School, Do.	4	...	...	...	...	...	...
J. M. Convent, Do.	2	...	...	...	...	...	...
Convent, Do.	1	...	...	...	...	...	...
Methodist Episcopal School, Do.	2	...	...	...	...	...	...
Candy School	2	...	...	...	...	...	...
Grant Road School, Girgaum	1	...	...	...	...	...	...
Church Mission School, Do.	2	...	...	...	...	...	...
Trinity School, Do.	2	...	...	...	...	...	...
J. F. N. S. and Society's Girls' School, Do.	1	...	...	...	...	...	...
Indo-British Institution, Sonapur	7	...	...	...	...	...	...
St. Joseph's Convent School, Bandora	2	...	...	...	...	...	...
Roman Catholic Chapel School, Tanna	1	...	...	...	...	...	...
Byramjee High School, Do.	1	...	...	...	...	...	...
St. Francis de Sales School, Nagpur	3	...	...	...	...	...	...
Convent, Bombay	6	...	...	...	...	...	...
Convent, Parol	2	...	...	...	...	...	...
Scottish Orphanage, Mahim	2	...	...	...	...	...	...
Roman Catholic School, Jubbulpur	1	...	...	...	...	...	...
Egutpoora	1	...	...	...	...	...	...
Methodist School, Egutpoora	7	...	...	...	...	...	...
Girls' School, Akola	1	...	...	...	...	...	...
Roman Catholic School, Nagpur	3	...	...	...	...	...	...
Convent, Do.	1	...	...	...	...	...	...
Bishop School, Do.	1	...	...	...	...	...	...
Christ Church School, Jubbulpore	26	...	...	...	600	...	...
Convent, Do.	5	...	...	...	...	...	...
Roman Catholic Boys' and Girls' School, Do.	2	...	...	...	...	...	...
Bishop High School, Poona	2	...	...	...	...	...	...
Victoria High School, Do.	4	...	...	...	...	...	...
St. Xavier's School, Do.	2	...	...	...	...	...	...
Roman Catholic Convent, Do.	2	...	...	...	...	...	...
Convent, Secunderabad	2	...	...	...	...	...	...
College School, Hyderabad	2	...	...	...	...	...	...
La Martiniere College, Lucknow	1	...	...	...	...	...	...
Howrah School	1	...	...	...	...	...	...
Allahabad School	2	...	...	...	...	...	...
Diocesan School, Naini Tal	2	...	...	...	...	...	...
Christ Church School, Hurda	3	...	...	...	600	...	...
BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.*								
					Rs.	Rs. A. P.	Rs. A. P.	
Civil Engineering College, Poona	1	1	...	...	230	273 0 0	503 0 0	
Cathedral High School, Fort	1	1.16	...	...	40	143 0 0	183 0 0	
St. Xavier's School, Esplanade	6	6	...	...	294	234 0 0	528 0 0	
St. Stanislaus Institution, Bandora	2	2	...	...	30	30 0 0	60 0 0	

The figures shown in columns "Railway grant" and "average school-fees" include boarding charges.

APPENDIX H—contd.

Statement showing Local and District Schools attended by the Railway Employes and their children during the year 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	*CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School Fees.	Total.	
	Number on the Rolls.	Average daily attend- ance.	Number on the Rolls.	Average daily attend- ance.				
BOMBAY, BARODA AND CENTRAL INDIA RAILWAY—contd.								
					Rs.	Rs. A. P.	Rs. A. P.	
St. Joseph's Convent School, Bandora.	6	3.75	...	...	368	410 0 0	778 0 0	
Young Ladies, Institution, Fort ...	1	1	...	...	30	30 0 0	60 0 0	
John Connon, High School, Fort ...	1	1.75	...	...	67	199 0 0	266 0 0	
B. E. Society School, Byculla ...	3	4.66	...	...	478	478 0 0	956 0 0	
Mission School Ahmedabad, Ahmedabad.	...	0.62	...	...	9	9 0 0	18 0 0	For 2½ months.
St. Mary's Institution, Mazagon ...	6	6	...	...	768	783 0 0	1,551 0 0	
Poona Convent, Poona ...	...	0.44	...	...	30	30 0 0	60 0 0	For 8 months.
High School Panchgani, Panchgani ...	...	1.83	...	...	380	415 0 0	745 0 0	For 11 months.
Convent Boarding School, Parel ...	...	1.04	...	...	158	181 0 0	319 0 0	
Scottish High School, Byculla ...	6	6	...	...	1,085	1,113 0 0	2,198 0 0	
Anglo-Indian School, Baroda ...	7	6.50	...	...	174	174 0 0	348 0 0	
Bishop High School, Poona ...	...	1.70	...	...	51	53 0 0	104 0 0	
St. Mary's School, Poona ...	1	2.25	...	...	53	106 0 0	159 0 0	
St. Peter's Girls' School, Mazagon ...	...	1	...	...	30	90 0 0	120 0 0	For 6 months.
Boys' High School, Lahore ...	...	0.50	...	...	51	80 0 0	131 0 0	Ditto.
Convent of Sacred Heart of Jesus and Mary, Lower Mahim ...	...	0.41	...	...	5	6 0 0	10 0 0	For 5 months.
EASTERN BENGAL RAILWAY.								
					Rs.	Rs. A. P.	Rs. A. P.	
Albert College, Calcutta ...	3	3	...	...	...	96 0 0	96 0 0	
Ahiritala School do. ...	1	1	...	...	...	9 0 0	9 0 0	
Anglo-Vernacular School, Borah, 24-Pergunnahs.	1	1	...	...	...	6 0 0	6 0 0	
Anglo-Vernacular Aided School, Belghurriah.	1	1	...	...	...	6 0 0	6 0 0	
Aided School, Goorope, Burdwan ...	1	1	...	...	...	12 0 0	12 0 0	
Anglo-Vernacular School, Naihati ...	1	1	...	...	...	6 0 0	6 0 0	
Bara School ...	2	2	...	...	...	13 8 0	13 8 0	
Bacool Bagan School ...	1	1	...	...	...	3 0 0	3 0 0	
Bow Bazar Anglo-Vernacular School, Calcutta.	2	2	...	...	...	24 0 0	24 0 0	
Bow Bazar Christian Institution, Calcutta.	1	1	...	...	...	Free.	...	
Broughton's Institution, Calcutta ...	1	1	...	...	...	12 0 0	12 0 0	
Bengal Patsala, Rajpore, 24-Pergunnahs.	1	1	...	...	...	6 0 0	6 0 0	
Baradee School, Baradee ...	1	1	...	...	...	9 0 0	9 0 0	
Beliaghata School, 24-Pergunnahs...	3	3	...	...	...	30 0 0	30 0 0	
Calcutta Boys' School, Calcutta ...	3	3	...	...	...	98 0 0	98 0 0	
Convent School, Entally ...	2	2	...	...	...	528 0 0	528 0 0	
Campbell Cottage School, Calcutta ...	3	3	...	...	...	156 0 0	156 0 0	
Convent School, Darjeeling ...	4	4	...	...	...	1,212 0 0	1,212 0 0	
Camolpore School, Camolpore ...	3	3	...	...	...	18 0 0	18 0 0	
hogdaha School ...	3	3	...	...	...	18 0 0	18 0 0	
Chakdeges School ...	1	1	...	...	...	4 8 0	4 8 0	
City College, Calcutta ...	1	1	...	...	...	36 0 0	36 0 0	
Duff's School, Calcutta ...	1	1	...	...	...	12 0 0	12 0 0	
English Hallishabar School ...	14	2	...	...	...	96 0 0	96 0 0	
English School, Dugachai, Pubns ...	2	2	...	...	...	12 0 0	12 0 0	
English School, Dum-Dum ...	1	1	...	...	...	12 0 0	12 0 0	
English School, Goalundo ...	172	130	...	...	...	145 0 0	145 0 0	
Entally Institution, Ssuburb ...	1	1	...	...	...	6 0 0	6 0 0	
Entally Vernacular School ...	1	1	...	...	...	6 0 0	6 0 0	
Free Church Institution, Chinsur ...	2	2	...	...	...	15 0 0	15 0 0	
Fortabad Vernacular School ...	2	2	...	...	...	7 8 0	7 8 0	
Government School, Baraset ...	2	2	...	...	...	36 0 0	36 0 0	
Government School, Baraset ...	2	2	...	...	...	36 0 0	36 0 0	
Garden Reach School ...	2	2	...	...	...	36 0 0	36 0 0	
General Assembly's Institution, Calcutta.	1	1	...	...	...	36 0 0	36 0 0	
Government School, Krishnagar ...	1	1	...	...	...	12 0 0	12 0 0	
Girls' School, Hallishabar ...	2	2	...	...	...	6 0 0	6 0 0	

* The figures shown in columns "Railway grant" and "average school-fees" include boarding charges.

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employes and their children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School-fees.		
	Number on the rolls.	Average daily attendance.	Number on the rolls.	Average daily attendance.		Rs.	Rs. A. P.	
GREAT INDIAN PENINSULA RAILWAY.								
Cathedral High School, Bombay ...	4	...	...	...	...	...	...	...
John Cannon High School, Do. ...	6	...	...	...	...	...	...	...
Scottish High School, Do. ...	1	...	...	...	...	...	...	...
Methodist School, Do. ...	8	...	...	...	...	...	...	...
B. E. S. School, Byculla ...	20	...	...	...	...	...	...	...
Scottish High School, Do. ...	19	...	...	...	...	...	...	...
Scottish School, Do. ...	1	...	...	...	...	...	...	...
Byculla School ...	4	...	...	...	...	...	...	...
St. Mary's Institution, Mazagaon ...	16	...	...	...	...	...	...	...
St. Peter's School, Do. ...	4	...	...	...	...	...	...	...
J. M. Convent, Do. ...	2	...	...	...	...	...	...	...
Convent, Do. ...	1	...	...	...	...	...	...	...
Methodist Episcopal School, Do. ...	2	...	...	...	...	...	...	...
Candy School ...	2	...	...	...	...	...	...	...
Grant Road School, Girgum ...	1	...	...	...	...	...	...	...
Church Mission School, Do. ...	2	...	...	...	...	...	...	...
Trinity School, Do. ...	2	...	...	...	...	...	...	...
J. E. N. S. and Society's Girls' School, Do. ...	1	...	...	...	...	...	...	...
Indo-British Institution, Sonapur ...	7	...	...	...	...	...	...	...
St. Joseph's Convent School, Bandora ...	2	...	...	...	...	...	...	...
Roman Catholic Chapel School, Tanna ...	1	...	...	...	...	...	...	...
Byramjee High School, Do. ...	1	...	...	...	...	...	...	...
St. Francis de Sales School, Nagpur ...	3	...	...	...	...	...	...	...
Convent, Bombay ...	6	...	...	...	...	...	...	...
Convent, Parel ...	2	...	...	...	...	...	...	...
Scottish Orphanage, Mahim ...	2	...	...	...	...	...	...	...
Roman Catholic School, Jubbulpur ...	1	...	...	...	...	...	...	...
Egutpoora ...	1	...	...	...	...	...	...	...
Methodist School, Egutpoora ...	7	...	...	...	...	...	...	...
Girls' School, Akola ...	1	...	...	...	...	...	...	...
Roman Catholic School, Nagpur ...	3	...	...	...	...	...	...	...
Convent, Do. ...	1	...	...	...	...	...	...	...
Bishop School, Do. ...	1	...	...	...	...	...	...	...
Christ Church School, Jubbulpore ...	26	...	...	...	600	...	...	...
Convent, Do. ...	5	...	...	...	...	...	...	...
Roman Catholic Boys' and Girls' School, Do. ...	2	...	...	...	...	...	...	...
Bishop High School, Poona ...	2	...	...	...	...	...	...	...
Victoria High School, Do. ...	4	...	...	...	...	...	...	...
St. Xavier's School, Do. ...	2	...	...	...	...	...	...	...
Roman Catholic Convent, Do. ...	2	...	...	...	...	...	...	...
Convent, Secunderabad ...	2	...	...	...	...	...	...	...
College School, Hyderabad ...	2	...	...	...	...	...	...	...
La Martiniere College, Lucknow ...	1	...	...	...	...	...	...	...
Howrah School ...	1	...	...	...	...	...	...	...
Allahabad School ...	2	...	...	...	...	...	...	...
Diocesan School, Naini Tal ...	2	...	...	...	...	...	...	...
Christ Church School, Hurda ...	3	...	...	...	600	...	...	...
BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.*								
					Rs.	Rs. A. P.	Rs. A. P.	
Civil Engineering College, Poona ...	1	1	...	...	280	273 0 0	503 0 0	
Cathedral High School, Fort ...	1	1.16	...	...	40	143 0 0	183 0 0	
St. Xavier's School, Esplanade ...	6	6	...	...	294	294 0 0	588 0 0	
St. Stanislaus Institution, Bandora ...	2	2	...	...	30	30 0 0	60 0 0	

The figures shown in columns "Railway grant" and "average school-fees" include boarding charges.

APPENDIX H—contd.

Statement showing Local and District Schools attended by the Railway Employes and their children during the year 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School Fees.	Total.	
	Number on the Rolls.	Average daily attendance.	Number on the Rolls.	Average daily attendance.				
BOMBAY, BARODA AND CENTRAL INDIA RAILWAY—contd.								
					Rs.	Rs. A. P.	Rs. A. P.	
St. Joseph's Convent School, Bandora.	6	3.75	...	...	868	410 0 0	778 0 0	
Young Ladies, Institution, Fort ...	1	1	...	...	80	80 0 0	60 0 0	
John Connon, High School, Fort ...	1	1.75	...	...	67	199 0 0	266 0 0	
B. E. Society School, Byculla ...	3	4.66	...	...	478	478 0 0	956 0 0	
Mission School Ahmedabad, Ahmedabad.	...	0.62	...	...	9	9 0 0	18 0 0	For 2½ months.
St. Mary's Institution, Mazagon ...	6	6	...	...	768	783 0 0	1,551 0 0	
Poonia Convent, Poona ...	...	0.44	...	...	30	80 0 0	60 0 0	For 6 months.
High School Panchgani, Panchgani	...	1.83	...	...	330	415 0 0	745 0 0	For 11 months.
Convent Boarding School, Parel ...	...	1.04	...	...	153	161 0 0	319 0 0	
Scottish High School, Byculla ...	6	6	...	...	1,085	1,113 0 0	2,198 0 0	
Anglo-Indian School, Baroda ...	7	6.50	...	...	174	174 0 0	348 0 0	
Bishop High School, Poona ...	...	1.70	...	...	51	53 0 0	104 0 0	
St. Mary's School, Poona ...	1	2.25	...	...	53	106 0 0	169 0 0	
St. Peter's Girls' School, Mazagon ...	...	1	...	...	80	80 0 0	120 0 0	For 6 months.
Boys' High School, Lahore ...	...	0.50	...	...	51	80 0 0	131 0 0	Ditto.
Convent of Sacred Heart of Jesua and Mary, Lower Mahim ...	...	0.41	...	...	5	5 0 0	10 0 0	For 5 months.
EASTERN BENGAL RAILWAY.								
					Rs.	Rs. A. P.	Rs. A. P.	
Albert College, Calcutta ...	3	3	...	...	...	96 0 0	96 0 0	
Alhritala School do. ...	1	1	...	...	...	9 0 0	9 0 0	
Anglo-Vernacular School, Rerah, 24-Pergunnahs.	1	1	...	...	...	6 0 0	6 0 0	
Anglo-Vernacular Aided School, Belghurriah.	1	1	...	...	...	6 0 0	6 0 0	
Aided School, Goorope, Burdwan ...	1	1	...	...	...	12 0 0	12 0 0	
Anglo-Vernacular School, Naihati ...	1	1	...	...	...	6 0 0	6 0 0	
Bara School ...	2	2	...	...	...	13 8 0	13 8 0	
Bacool Bagan School ...	1	1	...	...	...	3 0 0	3 0 0	
Bow Bazar Anglo-Vernacular School, Calcutta.	2	2	...	...	...	24 0 0	24 0 0	
Bow Bazar Christian Institution, Calcutta.	1	1	...	...	...	Free.	...	
Broughton's Institution, Calcutta ...	1	1	...	...	...	12 0 0	12 0 0	
Bengalee Patsala, Rajpore, 24-Pergunnahs.	1	1	...	...	...	6 0 0	6 0 0	
Baradee School, Baradee ...	1	1	...	...	...	9 0 0	9 0 0	
Belinghata School, 24-Pergunnahs...	3	3	...	...	...	30 0 0	30 0 0	
Calcutta Boys' School, Calcutta ...	3	3	...	...	...	98 0 0	98 0 0	
Convent School, Entally ...	2	2	...	...	...	528 0 0	523 0 0	
Campbell Cottage School, Calcutta	3	3	...	...	...	156 0 0	156 0 0	
Convent School, Darjeeling ...	4	4	...	...	...	1,212 0 0	1,212 0 0	
Camolpore School, Camolpore	3	3	...	...	...	18 0 0	18 0 0	
hogdaha School ...	3	3	...	...	...	18 0 0	18 0 0	
Chakdegee School ...	1	1	...	...	...	4 8 0	4 8 0	
City College, Calcutta ...	1	1	...	...	...	36 0 0	36 0 0	
Duff's School, Calcutta ...	1	1	...	...	...	12 0 0	12 0 0	
English Hallishahar School ...	14	2	...	...	...	96 0 0	96 0 0	
English School, Dugachai, Fubna ...	2	2	...	...	...	12 0 0	12 0 0	
English School, Dum-Dum ...	1	1	...	...	...	12 0 0	12 0 0	
English School, Goalundo ...	172	130	...	...	...	145 0 0	145 0 0	
Entally Institution, Suburb ...	1	1	...	...	...	6 0 0	6 0 0	
Entally Vernacular School ...	1	1	...	...	...	6 0 0	6 0 0	
Free Church Institution, Chinsur...	2	2	...	...	...	15 0 0	15 0 0	
Fartabad Vernacular School ...	2	2	...	...	...	7 8 0	7 8 0	
Government School, Baraset ...	2	2	...	...	...	36 0 0	36 0 0	
Garden Reach School ...	2	2	...	...	...	36 0 0	36 0 0	
General Assembly's Institution, Calcutta.	1	1	...	...	...	36 0 0	36 0 0	
Government School, Krishnagar ...	1	1	...	...	...	12 0 0	12 0 0	
Girls' School, Hallishahar ...	2	2	...	...	...	6 0 0	6 0 0	

* The figures shown in columns "Railway grant" and "average school-fees" include boarding charges.

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employes and their children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School Fees.	Total.	
	Number on the Rolls.	Average Daily Attendance.	Number on the Rolls.	Average Daily Attendance.				
EASTERN BENGAL RAILWAY—contd.								
					Rs.	Rs. A. P.	Rs. A. P.	
Government Aided School, Rajarhat, Bistoopur.	2	2	...	...	...	9 0 0	9 0 0	
Government Aided School, Chandernagore.	1	1	...	...	...	13 8 0	13 8 0	
Government Aided School, Hatgatcha, Hooghly.	1	1	...	...	...	6 0 0	6 0 0	
Government Boarding School, Kurseong, Darjeeling.	5	...	...	...	...	...	...
Hare School, Calcutta	4	4	...	...	...	192 0 0	192 0 0	
Hooghly College, Chinsurah	2	2	...	...	...	66 0 0	66 0 0	
Hooghly Branch School	2	2	...	...	...	48 0 0	48 0 0	
Haliahahar Government School	3	3	...	...	...	27 0 0	27 0 0	
Higher Class English School, Ranghat.	1	1	...	...	...	18 0 0	18 0 0	
Higher Class English School, Angarpara.	1	1	...	...	...	6 0 0	6 0 0	
Higher Class English School, Comercolly.	2	2	...	...	...	36 0 0	36 0 0	
Hughli Collegiate School	1	1	...	...	...	36 0 0	36 0 0	
Ichafa School	1	1	...	...	...	24 0 0	24 0 0	
Ichhapur School	2	2	...	...	...	15 0 0	15 0 0	
Ichhapur Vernacular School	1	1	...	...	...	6 0 0	6 0 0	
Kalna Mission School	1	1	...	...	...	6 0 0	6 0 0	
Kidderpore Vernacular School	1	1	...	...	...	6 0 0	6 0 0	
Kooshtea School, Kooshtea	3	3	...	...	...	24 0 0	24 0 0	
Kooshtea Patsala	1	1	...	...	...	3 0 0	3 0 0	
Krishnagar College	1	1	...	...	...	12 0 0	12 0 0	
Lady School, Kalighat	2	2	...	...	...	24 0 0	24 0 0	
London Missionary School, Bhawanipore.	1	1	...	...	...	12 0 0	12 0 0	
Loretto Convent, Calcutta	2	2	...	...	...	168 0 0	168 0 0	
Metropolitan Institution, Calcutta	4	4	...	...	...	120 0 0	120 0 0	
Mahesh School	1	1	...	...	...	24 0 0	24 0 0	
Moorgehatta School, Calcutta	2	2	...	...	...	96 0 0	96 0 0	
Middle Class School, Bongong	1	1	...	...	...	4 8 0	4 8 0	
Nimtolla Patsala, Calcutta	3	3	...	...	...	18 0 0	18 0 0	
Northbrook School, Calcutta	1	1	...	...	...	12 0 0	12 0 0	
Normal School, Chinsurah	1	1	...	...	...	6 0 0	6 0 0	
Nawpara Middle Class School, Sub-Division Barrackpore.	1	1	...	...	...	6 0 0	6 0 0	
Old Church School	1	1	...	...	...	24 0 0	24 0 0	
Old Church Day School	2	2	...	...	...	432 0 0	432 0 0	
Oodibari School, Oodibari	1	1	...	...	...	9 0 0	9 0 0	
Presidency School, Calcutta	2	2	...	...	...	42 0 0	42 0 0	
Pataldanga School, Calcutta	2	2	...	...	...	24 0 0	24 0 0	
Pratt's Memorial School, Calcutta	3	3	...	...	...	146 0 0	146 0 0	
Private School, Barrackpore	1	1	...	...	...	75 0 0	75 0 0	
Preonagar School	1	1	...	...	...	3 0 0	3 0 0	
Pangsa School, Pangsa	1	1	...	...	...	6 0 0	6 0 0	
Private School, Chandernagore	3	3	...	...	...	36 0 0	36 0 0	
Private School Talatia, 24-Pergunnahs.	2	2	...	...	...	12 0 0	12 0 0	
Patsala, Kalighat	1	1	...	...	...	3 0 0	3 0 0	
Panihati Vernacular School	1	1	...	...	...	6 0 0	6 0 0	
Reverend Thoburn's School, Calcutta	2	2	...	...	...	84 0 0	84 0 0	
Reverend Hall's School, Calcutta	1	1	...	...	...	26 0 0	26 0 0	
Rajah's School, Burdwan	2	2	...	...	...	24 0 0	21 0 0	
Sanserit College, Calcutta	1	1	...	...	...	36 0 0	36 0 0	
Sampooker School, Calcutta	1	1	...	...	...	18 0 0	18 0 0	
Shahapur Patsala	1	1	...	...	...	3 0 0	3 0 0	
Suburban School, Suburb	1	1	...	...	...	12 0 0	12 0 0	
Sreedhurpar School	1	1	...	...	...	6 0 0	6 0 0	
St. Joseph's School, Calcutta	7	7	...	...	...	768 0 0	768 0 0	
St. Paul's School, Calcutta	9	9	...	...	...	216 0 0	216 0 0	
St. Xavier's College Calcutta,	4	4	...	...	...	228 0 0	228 0 0	
St. Chrysostom's School, Calcutta	2	2	...	...	...	72 0 0	72 0 0	
St. Joseph's Convent, Chandernagore.	1	1	...	...	...	480 0 0	480 0 0	
Sulkea School	1	1	...	...	...	12 0 0	12 0 0	
Sreedhur Bungshidhur School, Chunarpoore and Barrackpore.	2	2	...	...	...	15 0 0	15 0 0	
Shibpore College	1	1	...	...	...	240 0 0	240 0 0	
Tala School, Suburb	1	1	...	...	...	6 0 0	6 0 0	
Training Academy, Calcutta	5	5	...	...	...	48 0 0	48 0 0	

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employés and their children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School Fees.	Total.	
	Number on the Rolls.	Average daily Attendance.	Number on the Rolls.	Average daily Attendance.				
EASTERN BENGAL RAILWAY—concl'd.								
					Rs.	Rs. A. P.	Rs. A. P.	
Uttarparah Government School ...	1	1	...	...	...	Free.	...	
Vernacular School, Kaikhali ...	2	2	...	...	...	12 0 0	12 0 0	
Vernacular School, Calcutta ...	4	4	...	...	...	24 0 0	24 0 0	
Vernacular School, Gobindpore, 24-Pergunnahs.	1	1	...	...	...	3 0 0	3 0 0	
Vernacular School, Bongong ...	2	2	...	...	...	6 0 0	6 0 0	
Vernacular School, Hallishabar ...	2	2	...	...	...	12 0 0	12 0 0	
Vernacular School, Shamnagar ...	1	1	...	...	...	6 0 0	6 0 0	
Vernacular Patsala, Rungpore ...	1	1	...	...	...	12 0 0	12 0 0	
Village Patsala, Chandernagore ...	2	2	...	...	...	24 0 0	24 0 0	
Vernacular School, Dum-Dum ...	1	1	...	...	...	6 0 0	6 0 0	
Vernacular School, Kalighat ...	1	1	...	...	...	6 0 0	6 0 0	
SIND, PUNJAB AND DELHI RAILWAY.								
					Rs.	Rs. A. P.	Rs. A. P.	
St. Patrick's School, Kurrachee ...	15	13	...	...	...	132 0 0	132 0 0	
St. Joseph's School, Kurrachee ...	17	11	...	...	...	125 0 0	125 0 0	Three children are free and for 2 others nothing, has been paid during the whole year.
Diocesan boys' School, Naini Tal ...	1	1	...	...	...	Rs. 20 per unit and extras.	...	
St. James' School, Lahore { Male	14 } 7	17	...	...	...	423 0 0	423 0 0	
Female								
St. Georges' College, Mussoorie ...	3	3	...	...	...	90 per mensem		
Private School, Dalhousie ...	2	2	...	...	...	16 per mensem		
Boys' High School, Allahabad ...	1	1	...	...	...	20 per mensem		
Grammar School, Kurrachee ...	3	3	...	...	...	9 per mensem		
Girls' High School, Allahabad ...	1	1	...	...	...	15 per mensem		
Girls' High School, Cawnpore ...	2	2	...	...	...	51 per mensem		
Mayo School, Simla ...	3	3	...	...	...	10 per mensem		
Stokes' School, Mussoorie ...	2	2	...	...	...	92 per mensem		
Boys' High School, Lahore ...	3	3	...	...	...	17 per mensem		
St. Thomas' College, Murree ...	2	2	...	...	...	45 per mensem		
St. Fidelis' School, Mussoorie ...	2	2	...	...	...	20 per mensem		
St. John's Private School, Meerut ...	3	3	...	...	...	6 per mensem		
Educational Society, Bombay ...	2	2	...	...	...	50 per mensem		
Girls' School, Kurrachee ...	1	1	...	...	...	1 per mensem		
Zenana School, Bombay ...	2	2	...	...	...	20 per mensem		
Alexandra School, Amritsar ...	3	3	...	...	...	15 per mensem		
Government Zilla school, Muzaffarnagar.	3	3	...	...	...	9 annas per mensem.		
Mission School, Delhi ...	1	1	...	...	...	4 per mensem		
Mission School, Lahore ...	3	3	...	...	...	4 per mensem		
Convent School, Mussoorie ...	2	2	...	...	...	80 per mensem		
Convent School, Simla.	2	2	...	...	...	40 per mensem		
Convent School, Naini Tal ...	2	2	...	...	...	45 per mensem		
Convent School, Lahore ...	4	4	...	...	...	30 per mensem		
Convent School, Murree ...	4	4	...	...	...	72-8 per mensem		
Woodstock School, Landour ...	1	1	...	...	...	40 per mensem		
La Martinere College, Lucknow ...	7	6	...	...	...	163 per mensem		
La Martinere College, Calcutta ...	2	2	...	...	...	59 per mensem		
Lawrance Military Asylum, Sanawar ...	2	2	...	...	...	Free.		
Miss Goodwin's School, Mussoorie ...	7	6	...	...	...	165 per mensem		
Bishop Cottons School, Simla ...	1	1	...	...	...	36 per mensem		
Auckland House, Simla ...	1	1	...	...	...	30 per mensem		

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employés and their children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School Fees.	Total.	
	Number on the Rolls.	Average daily Attendance.	Number on the Rolls.	Average daily Attendance.				
ODDH AND ROHILKHAND RAILWAY.								
					Rs.	Rs. A. P.	Rs. A. P.	
Private School, Lucknow ...	4	...	...	...	...	132 0 0	132 0 0	
La Martineero College, Lucknow ...	10	...	...	...	...	1,236 0 0	1,236 0 0	
Church Mission School, Lucknow ...	3	...	...	...	...	24 0 0	24 0 0	One free.
Christ Church School, Lucknow ...	1	...	...	...	...	...	...	Free.
Loretto House Schools (Convent) Lucknow.	13	...	...	...	...	2,196 0 0	2,196 0 0	
Girls' High School, Cawnpore ...	3	...	...	...	...	572 0 0	572 0 0	
Memorial School, Cawnpore ...	1	...	...	...	...	192 0 0	192 0 0	
Girls' High School, Allahabad ...	3	...	...	...	...	520 8 0	520 8 0	
Old Church Day School, Calcutta ...	1	...	...	...	...	...	...	Free.
St. Xavier's College, Calcutta ...	2	...	...	...	...	720 0 0	720 0 0	
St. Mary's Convent, Naini Tal ...	2	...	...	...	120	264 0 0	384 0 0	One free.
Diocesan School, Naini Tal ...	24	...	...	...	1,104	5,064 0 0	6,168 0 0	
High School, Naini Tal ...	3	...	...	...	...	540 0 0	540 0 0	
Boarding School, Dehra Doon ...	2	...	...	...	...	...	...	Free.
St. Joseph's Seminary, Darjeeling ...	3	...	...	...	...	504 0 0	504 0 0	
Loretto House School, Darjeeling ...	1	...	...	...	120	420 0 0	540 0 0	
Lawrence Military Asylum, Kasauli ...	5	...	...	...	...	192 0 0	192 0 0	One free.
Private School, Bareilly ...	1	...	...	...	...	240 0 0	240 0 0	
PUNJAB NORTHERN STATE RAILWAY.								
					Rs.	Rs. A. P.	Rs. A. P.	
Rawalpindi Mission School ...	2	...	...	...	...	9 0 0	9 0 0	
Rawalpindi Government School ...	3	...	...	...	...	21 0 0	21 0 0	
Bengal Government School ...	2	...	...	...	...	12 0 0	12 0 0	
Delhi Government School ...	2	...	...	...	...	24 0 0	24 0 0	
Lahore Government School ...	6	...	...	...	...	81 0 0	81 0 0	
Jullunder Government School ...	2	...	...	...	...	12 0 0	12 0 0	
Muree School ...	2	...	...	...	...	32 0 0	32 0 0	
Mussoori School ...	3	...	...	...	...	118 0 0	118 0 0	
Gujranwala Government School ...	2	...	...	...	...	16 0 0	16 0 0	
Amritsar Government School ...	2	...	...	...	...	33 0 0	33 0 0	
Kamoki Government School ...	1	...	...	...	...	3 0 0	3 0 0	
Gujrat Government School ...	1	...	...	...	...	3 0 0	3 0 0	
Lahore Mission School ...	2	...	...	...	...	9 0 0	9 0 0	
Sialkot Mission School ...	5	...	...	...	...	65 0 0	65 0 0	
Jhelum Government School ...	2	...	...	...	...	48 0 0	48 0 0	
Cawnpore Private School ...	4	...	...	...	...	1,200 0 0	1,200 0 0	
Bombay School ...	1	...	...	...	...	85 0 0	85 0 0	
Lahore High School ...	1	...	...	...	...	5 0 0	5 0 0	Plus 12 for boarding.
INDUS VALLEY AND KANDAHAR STATE RAILWAY.								
Vernacular School, Bombay ...	1	...	...	...	...	1-0 per mensem	...	
High School, Bombay ...	1	...	...	...	...	3-0 per mensem	...	
District School, Rohitak ...	2	...	...	...	...	Free.	...	
Lawrence Memorial Asylum, Murree ...	2	...	...	...	...	13-8 per mensem	...	Includes Boarding and Lodging.
St. Thomas' College, Murree ...	3	...	...	...	...	30-0 per mensem	...	Includes Boarding and Lodging.
Convent, Murree ...	2	...	...	...	...	16-0 per mensem	...	Includes Boarding and Lodging.
Grammar School, Kurrachee ...	3	...	...	...	...	...	...	2 at Rs. 3-4 per mensem. 1 at Rs. 35 per mensem. Includes Boarding and Lodging.
St. Patrick's School, Kurrachee ...	3	...	...	...	...	2-0 per mensem	...	
Mission School, Kurrachee ...	1	...	...	...	...	...	...
Boys' High School, Lahore ...	2	...	...	...	...	17-8 per mensem	...	1 at Rs. 19 } per mensem. 1 at Rs. 16 } Includes Boarding and Lodging.
Government School, Lahore ...	4	...	...	...	...	0-10 per mensem	...	

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employés and their children during 1883.

Name and Location of School.	ATTENDANCE				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School fee.	Total.	
	Number on the Rolls.	Average Daily Attendance.	Number on the Rolls.	Average Daily attendance.				
INDUS VALLEY AND KANDAHAR STATE RAILWAY—concl'd.								
					Rs.	Rs. A. P.	Rs. A. P.	
Government Anglo-Vernacular School, Larkana.	2	...	...	...	...	0-4 per mensem	...	
Vernacular School, Laki	1	...	...	...	...	0-4 per mensem	...	
Government High School, Hyderabad, Sind.	5	...	...	...	...	2-0 per mensem	...	
Mission School, Hyderabad, Sind.	1	...	...	...	...	...	...
Aided School, Hyderabad, Sind	2	...	...	...	...	0-12 per mensem	...	
Anglo-Vernacular School Hyderabad, Sind.	1	...	...	...	...	0-8 per mensem	...	
La Martinere Girls' School, Lucknow	2	...	...	...	...	20-0 per mensem	...	Includes Boarding and Lodging.
Belmont Convent, Mussoori	1	...	...	...	...	30-0 per mensem	...	
Anglo-Vernacular School, Sukkur	9	...	...	...	...	0-5 per mensem	...	Includes Boarding and Lodging.
Mahomedan School, Sukkur	3	...	...	...	...	1-0 per mensem	...	
Government School, Mooltan	6	...	...	...	...	0-6 per mensem	...	
Cantonment School, Mooltan	1	...	...	...	...	0-2 per mensem	...	
Anglo-Vernacular School, Phillour	2	...	...	...	...	0-2 per mensem	...	
Urdu School Bilja, District Jullunder	1	...	...	...	...	0-2 per mensem	...	
Mission School, Jullunder	1	...	...	...	...	1-0 per mensem	...	
Urdu School, Mitrawali, District Sialkot.	2	...	...	...	...	0-1 per mensem	...	
Village School, Bhoma Boga, District Gurdaspur.	1	...	...	...	...	Free.	...	
Mission School, Shujabad	1	...	...	...	...	Free.	...	
District School, Chiniote, District Jhang.	1	...	...	...	...	0-12 per mensem	...	
Government School, Jhelum	1	...	...	...	...	0-8 per mensem	...	
Government Vernacular School, Rohri	3	...	...	...	...	0-3 per mensem	...	
Branch Vernacular School, Rohri	2	...	...	...	...	1 at Rs. 0-3 per mensem, and 1 Free.	...	
Government Vernacular School, Kotri	1	...	...	...	...	2-0 per mensem	...	
Government High School, Shikarpur	1	...	...	...	...	...	...
Government Vernacular School, Shikarpur.	1	...	...	...	...	...	...
Zilla School, Kasur	2	...	...	...	...	0-2 per mensem	...	
Government School, Delhi	1	...	...	...	...	0-8 per mensem	...	
RAJPUTANA-MALWA RAILWAY.								
					Rs. A. P.	Rs. A. P.	Rs. A. P.	
Mount Abu School, Mount Abu	22	20	...	...	3,423 15 0	2,575 8 11	5,999 2 11	This school is attached to the Lawrence School, Mount Abu.
Bengali School, Ajmera	33	24	...	...	25 0 0	316 0 0	341 0 0	The Railway grant Commenced from 1st December 1883, at Rs. 25 per mensem.
Ajmere Diocesan School, Ajmere	24	19	22	16	493 0 0	720 0 0	1,213 0 0	The Railway grant was at the rate of Rs. 2 per child attending the day school. The night class grant was at the rate of Rs. 3 each first ten, and Rs. 1-8-0 each second ten, reckoned on average daily attendance. From the 1st March 1884, this school has been transferred to the Rajputana-Malwa Railway, together with the Government grant of Rs. 100 per mensem.

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employés and their children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.	
	CHILDREN.		APPRENTICE AND WORKMEN.		Railway Grant.	Average School Fees.	Total.		
	Number on the Rolls.	Average Daily Attendance.	Number on the Rolls.	Average Daily Attendance.					
RAJPUTANA-MALWA RAILWAY—concl'd.									
United Presbyterian Church of Scotland Mission School, Bandikui	30	25	Rs. ...	Rs. A. P. 156 0 0	Rs. A. P. 156 0 0	The expenses of the school amount to Rs. 762 for the year, and have so far been borne by Mission. The school is making progress and more efficient assistants are considered necessary. In recognition of the service the Mission has been rendering the school, the Manager has sanctioned chargeable to the Fine Fund a capitation grant of 8 annas per Railway child per mensem.	
WARDHA COAL STATE RAILWAY.									
Zillah School, Hinganghat	1	1	Rs. ...	Rs. A. P. ...	Rs. A. P. ...	None of the Upper Subordinates, Drivers and Guards have children in India, out of the limits of the line who attended Schools during 1883.	
Anglo-Vernacular School, Warora	5	5	...	...	Nil	12 12 0	...
Village School, Nagri	2	2	...	...	...	...	...
Total	8	8	...	...	...	12 12 0	12 12 0
CALCUTTA AND SOUTH-EASTERN AND NALHATI STATE RAILWAYS.									
<i>Calcutta and South-Eastern State Railway—</i>					Rs.	Rs. A. P.	Rs. A. P.		
Presidency College, Calcutta	1	1	...	...	...	144 0 0	144 0 0
Presidency School, Calcutta	2	2	...	...	...	72 0 0	72 0 0
City School, Calcutta	2	2	...	...	...	72 0 0	72 0 0
Bowbazar Government Aided Vernacular School	1	1	...	...	...	12 0 0	12 0 0
Potaidanga Vernacular School	2	2	...	...	...	24 0 0	24 0 0
Krishnagore School	2	2	...	...	...	72 0 0	72 0 0
<i>Nalhati State Railway.</i>								Free School.	
Loretto Convent, Intally Chhissstour, Calcutta	2	2	...	...	...	48 0 0	48 0 0
Roy Dhunput Singh Bahadur's Middle Class School, Azimgunge	3	3	...	...	...	72 0 0	72 0 0
Bood Singh, Bissen Chand Doodarie's General School, Azimgunge	4	4	...	...	...	86 0 0	86 0 0
2	2	...	...	...	...	...	...
NORTHERN BENGAL STATE RAILWAY.									
Boarding School, Kurseong	3 children attended this School.	
Calcutta Schools	...	Can not be filled in for want of sufficient information.					19 children attended Calcutta Schools.
Other District Schools	33 children attended Schools in other Districts.	

APPENDIX H—contd.

Statement showing Local and District Schools attended by Railway Employés and their children during 1883—contd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School Fees.	Total.	
	Number on the Rolls.	Average daily Attendance.	Number on the Rolls.	Average daily Attendance.				
TIRHOOT STATE RAILWAY.								
					Rs.	Rs. A. P.	Rs. A. P.	
Raj School Durbhunga ...	2	...	...	...	...	...	...
Government School, Mozufferpore ...	2	...	...	...	...	...	...
Do. Santipur ...	1	...	...	...	...	...	...
Boys' and Girls' Schools, Calcutta ...	6	...	...	...	...	...	...
Bankipore Convent ...	1	...	...	...	...	...	...
Government Aided School, Dinapore ...	1	...	...	...	...	...	...
Normal School, Hooghly ...	1	...	...	...	...	...	...
Agra College ...	2	...	...	...	...	...	...
Zillah School, Bhagalpore ...	1	...	...	...	...	...	...
Government Aided School, Jamgram ...	2	...	...	...	...	...	...
Do. Chandernagore ...	1	...	...	...	...	...	...
Local School, Bettiah ...	3	...	...	...	...	...	...
Do. Madhoobun ...	1	...	...	...	...	...	...
CAWNPORE-ACHNERA STATE RAILWAY.								
Government School, Cawnpore ...	3	3	...	...	...	...	...
Mission School, ditto ...	6	6	...	...	...	...	...
Memorial School, ditto ...	1	1	...	...	...	...	...
Cantonment Hindi School ditto ...	1	1	...	...	...	...	...
Tahsil School, ditto ...	1	1	...	...	...	...	...
Diocesan Boys' School, Naini Tal ...	4	4	...	...	...	...	...
Agra School ...	2	2	...	...	...	...	...
Muttra School ...	6	6	...	...	...	...	...
Do. Local School ...	3	3	...	...	...	...	...
Jait Government School ...	10	9	...	...	...	...	...
Lobhan Local School ...	4	3	...	...	...	...	...
Farakhabad Vernacular School ...	1	1	...	...	...	...	...
Lucknow School ...	4	4	...	...	...	...	...
Fatehgarh School ...	4	4	...	...	...	...	...
NAGPUR AND CHHATTISGARH STATE RAILWAY.								
					Rs.	Rs. A. P.	Rs. A. P.	
Grant-in-aid School, Seetabuldee ...	4	4	...	...	...	13 8 0	...	
Free Church Institution, Nagpur ...	4	4	...	...	...	24 12 0	...	
Bishop School, Nagpur ...	1	1	...	...	...	12 0 0	...	
Local Mahratti Girl School, Nagpur ...	3	3	...	...	...	9 0 0	...	
Private School near Jooma Darwaja, Nagpur ...	1	1	...	...	...	Free.	...	General Department.
Urdu Private School, Seetabuldee ...	1	1	...	...	...	1 8 0	...	
Roman Catholic School, Seetabuldee ...	1	1	...	...	...	6 0 0	...	
Urdu Private School, Sadar Bazar ...	2	2	...	...	...	6 0 0	...	
Free Church Mission School, Seetabuldee ...	1	1	...	...	...	6 12 0	...	
St. Francis de Sales School, Nagpur ...	2	2	...	...	...	12 0 0	...	
Mission School, Seetabuldee ...	1	1	...	...	...	3 0 0	...	
Zilla School Kamptee ...	2	2	...	...	...	6 12 0	...	Engineering Department.
At School in Boubay ...	4	4	...	...	...	240 0 0	...	
Jaggernath School, Dacca, Bengal ...	1	1	...	...	...	24 0 0	...	
Normal School, Hyderabad ...	1	1	...	...	...	6 0 0	...	
Free Church Institution, Nagpur ...	1	1	...	...	...	6 0 0	...	
St. Francis de Sales School, Nagpur ...	11	11	...	...	...	12 0 0	...	
St. Joseph's Convent, Nagpur ...	2	2	...	...	...	12 0 0	...	
Grant-in-aid School, Seetabuldee ...	2	2	...	...	...	3 0 0	...	
Temple Bazar School, do. ...	1	1	...	...	...	3 0 0	...	
Andhra Sabha School, do. ...	1	1	...	...	...	3 0 0	...	
Hansapoori School, Nagpur ...	9	9	...	...	...	4 0 0	...	
Jooma Darwaja School, Nagpur ...	1	1	...	...	...	2 0 0	...	
Sadar Bazar School do. ...	1	1	...	...	...	1 8 0	...	
Guddee Gudam School, Seetabuldee ...	1	1	...	...	...	1 8 0	...	
Budhwari School, Nagpur ...	1	1	...	...	...	3 0 0	...	
Private School near Empress Mills ...	1	1	...	...	...	3 0 0	...	
Roman Catholic School, Kamptee ...	1	1	...	...	...	Not known	...	Four of these are Europeans, 2 Eurasians and 5 Natives. Locomotive, carriage and Wagon Departments.

APPENDIX H—concl'd.

Statement showing Local and District Schools attended by Railway Employés and their children during 1883—concl'd.

Name and Location of School.	ATTENDANCE.				ANNUAL CONTRIBUTIONS.			Remarks.
	CHILDREN.		APPRENTICES AND WORKMEN.		Railway Grant.	Average School fees.		
	Number on the Rolls.	Average daily Attendance.	Number on the Rolls.	Average daily Attendance.		Total.		
NAGPUR AND CHHATTISGARH STATE RAILWAY—concl'd.								
						Rs. A. P.	Rs. A. P.	
Private School, Kamptee ...	1	1	...	...	...	Not known.	...	
Zillah School, do. ...	1	1	...	...	...	3 0 0	...	
Roman Catholic School, Bombay ...	1	1	...	...	...	Not known.	...	
Private School, Bombay ...	2	2	...	...	...	Do.	...	
Anglo-Jewish School in Kludak, Bombay.	1	1	...	...	...	12 0 0	...	
Varli School, Bombay ...	1	1	...	...	...	6 0 0	...	
Mission School, Mhow ...	1	1	...	...	...	Free.	...	
Art School in Calcutta ...	1	1	...	...	...	100 0 0	...	
Government School, Rai Bareilly ...	1	1	...	...	...	Not known.	...	
Private School, Ahmadnagar ...	3	3	...	...	...	Do.	...	
Zillah School Bhandara ...	1	1	...	...	...	Do.	...	
Lawrence Military Asylum School, Kasauli.	2	2	...	...	...	Do.	...	
Roman Catholic School, Kamptee ...	4	4	...	...	...	384 0 0	...	(a) Includes boarding expenses.
Bishop School, Nagpur ...	1	1	...	...	...	12 0 0	...	
Nun's School, Nagpur ...	2	2	...	...	...	6 9 0	...	
Roman Catholic School, Nagpur ...	1	1	...	...	...	12 0 0	...	Traffic Department.
Do. do. do. ...	2	2	...	...	...	36 0 0	...	
Zillah School, Kamptee ...	1	1	...	...	...	3 12 0	...	
Private School do. ...	3	3	...	...	...	17 0 0	...	
Anglo-Vernacular School, Bhosawal ...	1	1	...	...	...	3 0 0	...	
Total ...	93	93	...	...	...	1,014 0 0	1,014 0 0	
BURMA STATE RAILWAY.								
					Rs.	Rs. A. P.	Rs. A. P.	
Diocesan School, Rangoon ...	7	7	...	...	...	3 1 0 0	17 0 0	Day Scholars.
Methodist School, Rangoon ...	4	4	...	...	...	3 0 0 0	46 0 0	2 Day Scholars and 2 Boarders.
St. Paul's Brothers' School, Rangoon ...	6	6	...	...	...	20 0 0 0	30 0 0 0	5 Day Scholars and 1 Boarder.
Convent School, Rangoon ...	6	6	...	...	...	2 0 0 0	34 0 0 0	4 Day Scholars and 2 Boarders.
Government High School, Rangoon ...	3	3	...	...	...	3 0 0 0	9 0 0 0	Day Scholars.
St. John's College, Rangoon ...	1	1	...	...	...	15 0 0 0	15 0 0 0	Boarder.
Municipal School, Rangoon ...	4	4	...	...	...	0 8 0 0	2 0 0 0	Day Scholars.
Lutherian Mission School, Rangoon ...	2	2	...	...	...	1 0 0 0	2 0 0 0	Ditto.
Infants' School, Insein ...	4	4	...	...	...	4 0 0 0	16 0 0 0	Ditto.
HIS HIGHNESS THE NIZAM'S STATE RAILWAY.								
					Rs.	Rs. A. P.	Rs. A. P.	
Brigade School and Orphanage, Secunderabad.	8	...	...	...	Nil.	...	...
Pata Sala, Secunderabad ...	43	39	...	...	As. 4 per child per month.	...	...

N.B.—In addition to the above two children of Mr. Doran, Permanent-way Inspector, are boarders at the La. Martenare, Calcutta, paying per mensem Rs. 31-8 to the Boy's and Rs. 18 to the Girl's School.

The amounts shown in the column "Average School fees" represent monthly fees.

APPENDIX J.

Terms for working and maintaining the State Branch Lines by the East Indian Railway Company.

THIS INDENTURE made the 24th day of April 1884 **BETWEEN THE SECRETARY OF STATE IN COUNCIL OF INDIA** (hereinafter called "The Secretary of State") of the one part and the **EAST INDIAN RAILWAY COMPANY** (hereinafter called "The Company") incorporated by an Act passed in the 13th year of Her present Majesty intituled "An Act for incorporating the East Indian Railway Company and for other purposes connected therewith" of the other part.

WHEREAS by the East Indian Railway Company Purchase Act 1879 hereinafter called the Act of 1879 the parties hereto were authorised and empowered to enter into and to carry into effect Contracts for the following (amongst other) purposes: the maintenance management use and working of the East Indian Railway as therein defined the use by the Company of running powers and other facilities and accommodation of whatever description that any other Railway Company or the Secretary of State might at any time have power to grant to the Company the maintenance and management of Railways in connection with but not forming part of the said East Indian Railway and the use and working of such Railways and the conveyance of traffic thereon.

AND WHEREAS by an Indenture dated the 22nd day of December 1879 and made between the Secretary of State of the one part and the Company of the other part (which Indenture is hereinafter called the Principal Contract) being a Contract for the maintenance management use and working by the Company of the said East Indian Railway the expression "the Undertaking" was defined to mean the said East Indian Railway or so much thereof as should on the 1st day of January 1880 be handed over to the Company for the purposes of the now reciting Indenture together with any improvements alterations and additions of whatever description that might from time to time be made therein or thereto by or with the sanction of the Secretary of State (which meaning is intended by the use of the same expression in this Contract) and it was (amongst other things) agreed that the Secretary of State might require the Company to work any auxiliary or branch railways of the same gauge in connection with any Railway forming part of the Undertaking whether constructed by the Company or not either as Agents of the Secretary of State or as part of the Undertaking as the Secretary of State might determine upon such terms and conditions as might in each case be agreed upon.

AND WHEREAS the Secretary of State has constructed at the cost of the revenues of India certain Railways in connection with and of the same gauge as the Undertaking which said Railways are two of the Railways specified in the schedule hereunto annexed and are therein numbered respectively 1 and 3.

AND WHEREAS the Sindia State Railway (the other of the Railways specified in the said Schedule) takes its departure from the Cantonment Station of the Rajputana State Railway at Agra which last mentioned Railway joins the Agra Branch of the Undertaking at its terminus on the left bank of the River Jumna opposite to Agra.

AND WHEREAS a communication between the said Sindia State Railway at the said Cantonment Station and the Undertaking has been furnished by a Railway of the same gauge as the Undertaking laid down over the said Rajputana State Railway from the said Cantonment Station to the said terminus on the said Agra Branch of the Undertaking. And in order to make effectual the said communication between the said Sindia State Railway and the Undertaking the Secretary of State has agreed to give and secure to the Company running powers or such other facilities as may be agreed upon over the said portion of the said Rajputana State Railway in manner hereinafter provided.

AND WHEREAS the Secretary of State has under the power in that behalf reserved to him by the Principal Contract required the Company to work the said Sindia State Railway and the said other Railways in the said Schedule mentioned (which said Sindia State Railway and other Railways with the buildings and fixed machinery thereto belonging are hereinafter referred to as the State Lines) and the Company have agreed so to do upon the terms and conditions hereinafter appearing.

AND WHEREAS the Secretary of State has agreed to pay over as required to the Company to be expended by them on the State Lines such sums of money as may be necessary in order to place the State Lines respectively in such good and sufficient working order and condition as the Secretary of State and the Company may agree to be expedient having regard to the traffic to be expected thereon and has agreed to pay such sums to the Company when required as hereinafter provided.

AND WHEREAS the State Lines are already in the hands of the Company and are now worked by them.

NOW this Indenture witnesseth and it is hereby agreed and declared as follows:—

1. So far as possible the provisions of this Contract shall be deemed to have come into operation in and to have taken effect as from the 1st day of January 1883.

APPENDIX J—*contd.*

2. The Secretary of State will pay to the Company at such times and in such amount, as may be agreed upon such sum or sums as may be necessary in order to place the State Lines in such good and sufficient working order and condition as the Secretary of State and the Company may agree to be expedient having regard to the traffic to be expected thereon the amount so to be provided and paid by the Secretary of State to be settled and agreed upon between the Secretary of State and the Company before the 30th day of June 1884. The works necessary for the above mentioned purpose to be proceeded with and continued with reasonable expedition until the same are complete. No moneys provided by the Secretary of State under this article shall be deemed to be moneys provided in respect of the Undertaking nor shall they be entered in any of the accounts of the Undertaking nor shall the Secretary of State receive interest thereon out of the receipts of the Undertaking and the Company will expend and apply all moneys received by them under this article in or towards placing the State Lines in such good and sufficient working order as aforesaid to the satisfaction of the Secretary of State so far as such moneys shall suffice.

3. If and whenever after the State Lines shall have been placed in such good and sufficient working order and condition as aforesaid any moneys shall be required by the Company for any purpose properly chargeable to capital account in connection with any of the State Lines and sanctioned or required by the Secretary of State the Secretary of State will provide such moneys for the Company. The Secretary of State will also provide for the Company any land that may at any time be required for any of the State Lines upon the like terms and conditions as are by the Principal Contract prescribed in respect of land to be provided by the Secretary of State for the Undertaking.

4. All moneys which shall be provided for the Company by the Secretary of State under the last preceding article and the value of all land that shall be provided by the Secretary of State under the last preceding article shall for all purposes be deemed to be moneys advanced for the Undertaking and shall respectively be entered in the accounts of the Undertaking accordingly.

5. The Secretary of State shall during the continuance of this Contract and unless and until he shall hand-over and give possession to the Company of so much of the said Rajputana State Railway as is situate between the said cantonment station at Agra and the said terminus of the Company on the said Agra Branch of the Undertaking on the left bank of the river Jumna reserve and secure to the Company such running powers over the same and all such facilities as may be necessary or convenient for establishing and at all times keeping open and available a direct and sufficient communication for the passage of the Company's trains between the said Cantonment Station and the said terminus of the Company upon such terms and conditions as may from time to time be agreed on between the Secretary of State and the Company.

6. During the continuance of this Contract the Company shall maintain the State Lines and keep the same supplied with rolling stock plant and machinery as if they were part of the Undertaking and shall manage use and work the State Lines and shall convey traffic thereon upon under and subject to (save as is by this Contract otherwise expressly provided) the like terms conditions and restrictions as are by the Principal Contract prescribed in respect of the management use and working of the Undertaking by the Company and the conveyance of traffic thereon by them and in respect of the supervision and control of the Company by the Secretary of State and in all respects not otherwise provided for by this Contract the Secretary of State and the Company respectively shall and may with reference to the respective matters aforesaid have execute enjoy put in force and be subject to the like rights powers authorities privileges provisions regulations duties and obligations as are by the Principal Contract in respect of such matters respectively given or reserved to or imposed upon the Secretary of State and the Company respectively Provided always that nothing in this Contract contained shall operate so that the said State Lines shall form part of the Undertaking.

7. The conditions with respect to the provision of a police force and the provision and use of telegraphs and telegraphic appliances shall be the same as are by the Principal Contract prescribed with reference to the same matters respectively in respect of the Undertaking.

8. The Company shall keep a distinct and separate account of the gross receipts of each of the State Lines to be called "The State Railway Working Account." Such accounts shall be made up half-yearly to the 30th day of June and the 31st day of December in each year or to such other day as the Secretary of State may at any time under the provision in that behalf in the Principal Contract contained prescribe for making up the Revenue Account of the Undertaking.

9. All questions as to the incidence of expenditure between capital and revenue shall be settled upon the same principles and in case of difference in the same manner as by the Principal Contract prescribed with respect to the Undertaking. Provided nevertheless that any items of expenditure properly chargeable to capital in accordance with such principles may at the discretion of the Secretary of State be charged to revenue but so that the aggregate expenditure charged to revenue on account of such items shall not exceed in any half-year a sum of rupees equal in amount to the number of miles of each State Line separately which during such half-year shall be worked by the Company multiplied by 15.

APPENDIX J—*concl'd.*

10. All costs charges and expenses incurred by the Company in connection with the maintenance management use any working of the State Lines and the conveyance of traffic thereon properly chargeable to Revenue Account shall be paid out of the gross receipts of the Undertaking and so far as possible out of the gross receipts of the half-year to which they are properly attributable and in each half-year there shall be deducted from the gross receipts of each State Line such sum as shall bear the same rate per cent. to the gross receipts of such State Line as the aggregate working expenses of the Undertaking together with the said costs charges and expenses incurred in connection with the State Lines of the same half-year shall bear to the aggregate gross receipts of the Undertaking during such half-year and the amount so deducted shall be credited to the respective departmental working accounts of the Undertaking and the balance of such receipts after making the said deduction shall in the accounts of the Undertaking be brought to the credit of net revenue.

11. The Secretary of State or the Company may determine this Contract at the end of five years from the 1st day of January 1883 on giving one clear year's notice in writing to the other party hereto of his or their intention so to do and at any time after the expiration of the said five years on giving a like notice and upon any such notice as aforesaid being given on the 31st day of December on which such notice shall expire the Company shall give the Secretary of State possession of the State Lines and all plans books surveys sections printings writings and documents whatsoever in anywise connected therewith and thereupon this Contract shall determine without prejudice to the rights of either party against the other in respect of any covenants herein contained which may have been previously broken.

12. Unless this Contract shall be determined under the last preceding Article it shall run concurrently with the Principal Contract and shall determine on the determination of the Principal Contract without prejudice nevertheless to the rights of either party against the other in respect of any covenant herein contained which may have been previously broken.

13. If this Contract shall be determined by the Secretary of State or the Company under the provisions of Article 11 any moneys which may have been entered in any accounts of the Undertaking under Article 4 whether moneys advanced under Article 3 or the value of land provided under that article shall be forthwith written off the account of the Undertaking on which they may appear at the date of such determination and after such determination the Secretary of State shall not receive any interest on any such moneys out of the receipts of the Undertaking.

14. All questions that may at any time be in issue between the Secretary of State and the Company shall be referred for decision and decided according to the nature of the question in issue in the same manner and with like incidents in all respects as provided by the Principal Contract in respect of questions of the like nature in connection with the Undertaking.

IN WITNESS whereof SIR FREDERICK JAMES HALLIDAY, K.C.B., and the HON'BLE EDMUND DRUMMOND, being two Members of the Council of India have hereunto set their hands and seals and the EAST INDIAN RAILWAY COMPANY have hereunto caused their common seal to be affixed the day and year first above written.

THE SCHEDULE.

- 1.—DILDARNAGAR BRANCH RAILWAY.
- 2.—SINDIA RAILWAY.
- 3.—PATNA-GYA RAILWAY.

APPENDIX K.

Contract between the Secretary of State and the Bengal and North-Western Railway Company.

AN AGREEMENT made this 20th day of October 1882 between the Secretary of State in Council of India (hereinafter called "the Secretary of State") of the one part and Craven Hildesley Dickens, of Lexham Gardens in the County of Middlesex, a Lieutenant-General in Her Majesty's Army and Companion of the Most Exalted Order of the Star of India of the other part.

Whereas the said Craven Hildesley Dickens and divers other persons contemplate the immediate formation and establishment of a Joint Stock Company with an English domicil a nominal capital of not less than the sum of two millions two hundred thousand pounds and powers sufficient to enable it to undertake carry out and fulfil all the works duties and liabilities which under the Indenture set out in the schedule hereto (hereinafter called "the Scheduled Contract") would have to be executed carried out and performed by the Company party thereto and have requested the Secretary of State to enter into such undertaking as on his part hereinafter contained which he has consented to do.

Now these presents witness that the Secretary of State doth hereby undertake with the said Craven Hildesley Dickens that if prior to the 12th day of December 1882 a Joint Stock Company shall be incorporated by special Act of the Parliament of the United Kingdom, or duly registered under the provisions of the Companies Acts 1862 to 1880 in either case with an English domicil a nominal capital of not less than the sum of two millions two hundred thousand pounds and powers sufficient to enable it to undertake carry out and fulfil all the works duties and liabilities which under the Scheduled Contract would have to be executed carried out and performed by the Company party thereto and if the Company to be so incorporated or registered shall prior to the first day of February 1883 duly and formally execute in duplicate an Indenture identically in the words and figures of the Scheduled Contract with the addition thereto only of the date of the Indenture and shall on or prior to the said first day of February 1883 deliver to the Secretary of State the said Indenture in duplicate duly and formally executed by the Company the Secretary of State (will at any time afterwards at the request of the said Craven Hildesley Dickens to be testified by some writing under his hand execute and deliver the same Indenture which shall thereupon become binding upon the parties thereto. In witness whereof Colonel Henry Yule, C. B., and Sir Frederick James Halliday, K. C. B., being two members of the Council of India and Craven Hildesley Dickens have hereunto set their hands the day and year first above written.

THE SCHEDULE ABOVE REFERRED TO:

THIS INDENTURE made the _____ day of _____ 1882 between the Secretary of State in Council of India of the one part and the Bengal and North-Western Railway Company limited of the other part.

WITNESSETH and it is hereby agreed and declared as follows :—

INTERPRETATION OF TERMS.

1. In this contract the expression "the Secretary of State" means the Secretary of State in Council of India. The expression "the Company" means the Company party to these presents. The expression "the earnings of the Company" means the gross earnings and moneys to be derived by any means by or on behalf of the Company from or in respect of its general undertaking contemplated by this Contract so far as existing from time to time (except share and borrowed capital and so much of the said gross earnings and moneys derived as aforesaid as ought to be attributed to capital account) and includes the gross earnings and moneys to be derived from the working by the Company of any telegraphs, or telegraphic appliances of which the Secretary of State shall for the time being allow the Company the use and from the charges by the Company of tolls under the 36th section of this Contract and from the working by the Company of any ferries and also all payments to be made by the Secretary of State to the Company for services which shall be performed by the Company for him but shall not include moneys derived from the investment or other employment by the Company of the earnings of the Company not receivable by the Secretary of State under section 39 of this Contract and not distributed by way of dividend among the Shareholders.

APPENDIX K—contd.

DURATION OF CONTRACT.

2. This contract shall unless previously determined under provisions for the purpose hereinafter contained terminate on the 31st day of December 1981 by efflux of time.

CONSTRUCTION OF RAILWAY.

3. The Company shall by the 31st day of December 1887 on the Secretary of State at the reasonable request of the Company duly providing the land requisite for the purpose construct and open for public traffic on a route to be selected and determined by the Secretary of State a line of railway from Sonapore near Patna in the province of Bengal to Barnich in Oudh with a branch *via* Gazipur to Benares a branch to Nawabganj and a branch to Byram Ghat (which line of railway and branches are hereinafter collectively called "the said railway") together with all such stations station yards offices warehouses houses for employes machinery conveniences and works as shall be necessary or proper for the purposes of the said railway either as regards the due working of the same or as regards the permanence of the same and the protection of the same from destruction or injury by inundation tempest or otherwise. The railway to be constructed by the Company under this section shall be of the metre gauge and shall in general structural character conform in all respects with the now established standard of railways in India on that gauge.

NOTIFICATION OF ROUTE OF RAILWAY.

4. The Secretary of State shall from time to time notify to the Company the route of the said railway so far as such route shall from time to time have been determined by him.

SITUATION OF STATIONS &C.

5. The Secretary of State shall have power to determine the situation and dimensions of all stations station yards offices warehouses houses for employes conveniences and works to be constructed in connection with or as part of the said railway.

AS TO EXISTING SURVEYS &C.

6. The Secretary of State having caused various surveys and plans to be made and works to be executed with the view of facilitating and expediting the construction of the said railway will allow the Company to have the benefit of the same surveys plans and works but the Company shall discharge all the now existing obligations and liabilities of the Secretary of State under contracts for the execution of works relating to or connected with the construction of the said railway or any part or parts thereof and shall within three calendar months after the Secretary of State shall have signified in writing to the Company the cost to him of the said surveys plans and works refund the amount to the Secretary of State by payment thereof into such Government Treasury in India as the Secretary of State shall appoint for that purpose.

LAND.

7. The Secretary of State shall from time to time at the reasonable request of the Company provide free of cost to the Company the land requisite for the construction of the said railway and for the stations station yards offices warehouses houses for employes conveniences and works necessary or proper for the purposes of the same railway and shall give to the Company possession of the land so provided. The Company shall from time to time upon the requisition of the Secretary of State re-deliver possession to him of any such of the land of which he shall have given possession to the Company under this section as shall not be necessary to be retained permanently or temporarily by the Company for any purposes connected with this Contract.

8. The Company shall be entitled to possession until the 31st day of December 1981 unless this Contract shall be previously determined under the provisions hereinafter contained or if this Contract shall be so previously determined then until the day on which this Contract shall terminate of such of the land of which the Secretary of State shall give to the Company possession under the provisions of this Contract as shall be permanently required for the purposes of the said railway and the Secretary of State will guarantee as against all claimants the possession of the land by the Company but shall not be required to show any title thereto. Provided that nothing in this section contained shall be construed to exonerate the Company from its obligations under the 7th section of this Contract or to deprive the Secretary of State of any power conferred on him by that section.

TELEGRAPHS.

9. The Secretary of State may from time to time construct such electric telegraphs and telegraphic appliances as he shall think fit along or upon the said railway or any part or parts thereof or any land or works belonging thereto and may maintain and work the same electric

APPENDIX K—*contd.*

telegraphs and telegraphic appliances as he shall think fit and may erect maintain make do and execute on the said railway or on any lands or works belonging thereto all such buildings machinery works acts and things as he shall consider necessary or proper in relation to the construction maintenance use and working of the said electric telegraphs and telegraphic appliances. The Secretary of State shall be exclusively entitled to the possession of all buildings machinery works and appliances erected or brought by him under the powers conferred on him by this section on the said railway or on any land or works belonging thereto. The Company shall at all times furnish the Secretary of State with such free passes over the said railway or any part or parts thereof as he shall require for persons employed by him in or about or in connection with the construction maintenance working or inspection of the electric telegraphs and telegraphic appliances mentioned in this section or any buildings or works appertaining thereto.

10. The Secretary of State shall from time to time allow the Company to have the exclusive use of any such electric telegraphs and telegraphic appliances as he shall from time to time consider proper to be used by the Company for the purpose of safely or efficiently working the said railway or any part or parts thereof and shall keep the same electric telegraphs and telegraphic appliances in good repair and in good working order and condition and the Company shall from time to time upon demand pay into such Government Treasury in India as shall from time to time be appointed for the purpose by the Secretary of State the amount which the Secretary of State shall from time to time require the Company to pay in respect of the charges made from time to time by the Government Telegraph Department for rent maintenance and inspection of the electric telegraphs and telegraphic appliances of which the Secretary of State shall from time to time under this section have allowed the Company the exclusive use. All amounts paid by the Company under the stipulation last hereinbefore contained shall be included amongst working expenses.

11. The Company if so directed by the Secretary of State shall in working any electric telegraphs or telegraphic appliances of which it shall for the time being be allowed the exclusive use under the last preceding section observe the rules as to working telegraphs and telegraphic appliances for the time being in force in the case of State railway telegraphs or such rules as the Secretary of State may prescribe for the Company's observance and if so directed by the Secretary of State shall account in such manner as shall be prescribed by the rules for the time being in force in the case of State railway telegraphs or as the Secretary of State shall require for the receipts derived from the working of electric telegraphs and telegraphic appliances.

POLICE.

12. The Secretary of State shall provide and maintain for the purposes of so much of the said railway as shall for the time being have been opened for public traffic such a force of police as the Company with the approval of the Secretary of State shall from time to time require with the qualification that in case of difference between the Secretary of State and the Company as to the force of police required for the preservation of law and order the determination of the question shall rest with the Secretary of State. The cost of providing and maintaining the force of police provided and maintained under this section shall be borne as to three-tenths by the Secretary of State as part of the general expenditure of the Government of India and as to the remaining seven-tenths by the Company and the Company shall from time to time on demand by the Secretary of State pay into such Government Treasury in India as the Secretary of State shall appoint for the purpose the amount which the Secretary of State shall from time to time state to be due to him from the Company in respect of the force of police provided and maintained under this section. All amounts paid by the Company under the stipulation last hereinbefore contained shall be included amongst working expenses.

13. If the Company shall so desire the Secretary of State will provide and maintain at the cost exclusively of the Company such a force of police as with the approval of the Secretary of State the Company shall from time to time require for the protection of so much of the projected railway as shall for the time being be under construction.

EQUIPMENT WITH ROLLING STOCK.

14. The Company shall with reasonable speed equip the said railway when constructed with rolling stock plant and machinery of good quality and adequate in quantity to work the said railway.

OPENING FOR TRAFFIC.

15. The Company may from time to time when and as often as an inspecting officer acting on behalf of the Secretary of State shall have certified that any part of the said railway is fit for the conveyance of passengers and goods and properly equipped with rolling stock plant and machinery open the same part for public traffic and shall open the said railway throughout for public traffic when and so soon as such an inspecting officer as aforesaid shall have certified that the same railway throughout is fit for the conveyance of passengers and goods and properly equipped with rolling stock plant and machinery.

APPENDIX K—*contd.*

MAINTENANCE OF THE RAILWAY AND PROTECTION OF PASSENGERS AND THE PUBLIC.

16. The Company shall keep the said railway or so much thereof as shall for the time being have been opened for public traffic and the stations and other works belonging thereto in good repair in good working condition and sufficiently supplied with rolling stock plant machinery and stores.

17. The Company shall keep the rolling stock and fixed and moveable machinery and plant for the time being belonging to the said railway and to every part thereof which shall for the time being have been opened for public traffic in good repair and in good working condition.

18. The Company shall maintain a sufficient staff for the purposes of so much of the said railway as shall for the time being have been opened for public traffic.

19. The said railway and all the stations and other works rolling stock fixed and moveable machinery and plant from time to time belonging thereto shall at all times be open to inspection by any officer or officers acting on behalf of the Secretary of State and the Company shall afford to every such officer all such facilities as he shall reasonably require to enable him to inspect any of the particulars open to inspection under this section.

20. Whenever any duly authorised inspecting officer acting on behalf of the Secretary of State shall report to the Government of India that in his opinion the use of the said railway or of any particular part or parts thereof will be attended with danger to passengers the said railway or the part thereof referred to in the report as the case may be shall upon the requisition of the Government of India be forthwith closed so far as regards the conveyance of passengers and shall not be re-opened for that purpose unless and until such an inspecting officer as last above mentioned shall have subsequently inspected the said railway or as the case may be the portion thereof for the time being closed and have certified the said railway or as the case may be the portion thereof for the time being closed to be fit and safe for the conveyance of passengers.

21. The Secretary of State may from time to time prohibit the Company from using any engine carriage wagon vehicle machine boat or appliance of any description whatsoever of which the use shall be declared by a duly authorised inspecting officer acting on behalf of the Secretary of State to be attended with danger to passengers or to the public and the Secretary of State may by taking into his custody such engine carriage wagon vehicle machine boat or appliance or by such other means as he shall think fit to employ prevent the Company from using the same.

22. The Secretary of State may from time to time after the said railway shall have been opened throughout for public traffic by notice in writing require the Company to carry out any reasonable alteration improvement or addition which may in his opinion be necessary for the safety of passengers or of the public or for the effectual working of the railway to be made in or to any part of the said railway or any of the stations or works belonging thereto. Such notice shall specify the alteration improvement or addition required and shall also in general terms describe the works to be executed for the purposes of effecting the same. On receiving any such notice the Company shall with all reasonable speed execute the works described therein the Secretary of State providing free of cost to the Company and giving to the Company possession of any land that may be requisite for the purpose of such works the land so soon as in the possession of the Company to be as between the Secretary of State and the Company subject as nearly as may be to the stipulations and provisions to which it would have been subject under this Contract had it been land of which possession was given to the Company by the Secretary of State for the original construction of the said railway or of works necessary or proper for the purposes thereof. If and as often as the Company shall fail to execute or complete to the satisfaction of the Secretary of State and within a reasonable time the works prescribed in any such notice as mentioned in this section the Secretary of State may execute or complete the execution of the works and the works so executed or completed by the Secretary of State shall be taken to by the Company as works belonging to the said railway and the Company and the Secretary of State shall subject to the proviso next hereinafter contained respectively be in the like relative positions in respect to such works as they respectively would have been in had the works been completed by the Company. Provided always and it is hereby declared that the Company shall refund to the Secretary of State all expenditure incurred by him in the exercise of the powers conferred on him by this section and shall from time to time on demand pay into such Government Treasury in India as he shall from time to time appoint for the purpose the amount which the Secretary of State shall from time to time state to be due to him from the Company in respect of such expenditure as last aforesaid.

AS TO WORKING THE RAILWAY AND FARES SPECIAL SERVICES &c.

23. From and after the time when the said railway shall have been opened throughout for public traffic until this Contract shall terminate by efflux of time or otherwise the Company shall keep the same railway so opened and work the same and carry on thereon the business of common carriers of passengers and goods and in particular will unless hindered or prevented from so doing by accident or any other matter not within its own control run daily

APPENDIX K—*contd.*

from each extremity of the said line of railway to be constructed from Sonapore to Baraic and of the said several branches respectively to the other extremity of the same line of railway and the same several branches respectively at least one train carrying passengers. The operation of this section shall from time to time be suspended so far as it shall be impossible for the Company to fulfil the obligations of the same section without breach of the stipulations contained in the 20th section of this Contract.

24. The Secretary of State may from time to time if he shall think any alteration or improvement in the working by the Company of the said railway or any part thereof necessary for the safety of passengers or of the public or for the effectual working of the railway require the Company to effect such alteration or improvement and the same shall thereupon be effected by the Company.

25. The Company shall charge such rates and fares for the carriage of goods and passengers on the said railway or so much thereof as shall for the time being have been opened for public traffic as may from time to time be fixed by the Company subject to the approval of the Secretary of State Provided that the Secretary of State may require the charges for the conveyance of salt and coal and food grains to be reduced to any rate not below one-fifth of a pie per maund per mile for full wagon-loads carried not less than 100 miles and may also require passengers to be conveyed at any rate not below two pies per mile in closed carriages provided with seats.

26. All services which the Secretary of State may require the Company to perform for the Post Office by way of conveyance over the said railway or any portion thereof of mails as defined by the Post Office Act or Acts for the time being in force in India or the conveyance over the said railway or any portion thereof of Post Office servants when on duty shall be performed by the Company free of charge.

27. All services (other than the services mentioned in the last preceding section) which the Secretary of State shall require the Company to perform for the Post Office the Military Department the Police Department or any Department of State not specifically mentioned in this section or for High Government Officials in relation to the said railway or any portion thereof by way of conveyance or transport or incidental thereto shall be performed by the Company on the same general conditions as may for the time being be in force on State Railways of the metre gauge and at such rates of payment as may be approved by the Secretary of State. The services to which the conditions and rates last aforesaid are to apply shall include the conveyance of troops and sailors Military and naval establishments horses and other animals used for military purposes and guns Military stores and equipments the conveyance of police prisoners and paupers the conveyance of telegraph stores instruments officers and workmen and of any public stores whatsoever Provided that nothing in this section contained shall be construed to over-ride the provisions previously in this Contract contained as to the furnishing the Secretary of State with free passes for certain persons employed by him.

28. The Company shall convey over the said railway or so much thereof as shall for the time being have been opened for public traffic gold and silver bullion and coin and copper coin belonging to the Secretary of State and the persons in charge thereof at special rates to be from time to time agreed upon between the Secretary of State and the Company.

29. The Company shall from time to time upon the requisition of the Secretary of State give precedence to his demands whether for freight or passenger accommodation over all other traffic on the said railway or so much thereof as shall for the time being have been opened for public traffic.

30. The Company will not as between members of the general public make or give any undue or unreasonable preference or advantage to or in favor of any particular person or company or any particular description of traffic in any respect whatsoever or subject any particular person or company or any particular description of traffic to any undue or unreasonable prejudice or disadvantage in any respect whatsoever.

RUNNING POWERS FACILITIES AND ACCOMMODATION FOR OTHER RAILWAY COMPANIES AND FOR THE STATE AS TO STATE RAILWAYS.

31. The Secretary of State will so far as he may from time to time consider it desirable for the public convenience endeavour to obtain for the Company on reasonable terms and conditions powers to form such junctions as the Secretary of State may approve with railways belonging to other railway companies or to the State and to run the trains of the Company on such other railways.

32. The Secretary of State may from time to time require the Company to allow the use of the said railway or any part or parts thereof for the passage of engines and trains belonging to other railway companies or to State railways upon the payment of reasonable tolls and under reasonable conditions and restrictions.

33. The Secretary of State may from time to time require the Company to allow the use of any of the stations belonging to the said railway for the accommodation of the traffic of any other railway company or of any State Railway upon the payment of reasonable tolls and under reasonable conditions and restrictions.

APPENDIX K—contd.

34. The Secretary of State may from time to time require the Company to make reasonable arrangements for the interchange of traffic and rolling stock with railways belonging to other companies or to the State and for through booking.

35. The Company shall comply with all regulations from time to time prescribed by the Secretary of State for clearing through traffic with railways belonging to other companies or to the State.

POWER TO LEVY TOLLS ON BRIDGES.

36. If the Company shall with the approval of the Secretary of State provide on any of its bridges roadways for foot passengers cattle or carts the Company shall have the right to charge during the continuance of this Contract tolls on the traffic over such roadways according to tariffs to be arranged between the Secretary of State and the Company.

FERRIES.

37. The Company may with the approval of the Secretary of State from time to time during the continuance of this Contract establish any ferry for the accommodation of the traffic of the said railway. Every such ferry to be equipped with boats and fixed and moveable machinery and plant of good quality and adequate in quantity to work the same ferry. The Secretary of State shall from time to time give to the Company free of cost to the Company possession of such land as shall be requisite for the purposes of any ferry which the Company shall with his approval establish for the accommodation of the traffic of the said railway and the land so soon as in the possession of the Company shall be subject as between the Secretary of State and the Company as nearly as may be *mutatis mutandis* and having regard to the purposes for which possession thereof shall be delivered to the Company to the stipulations and provisions to which it would have been subject under this Contract had it been land of which possession was given to the Company by the Secretary of State for the original construction of the said railway or of works necessary or proper for the purposes thereof. The Company may with the approval of the Secretary of State work for purposes other than the accommodation of the traffic of the said railway any ferry which shall have been established by it.

38. The previous provisions of this Contract relative to the said railway and its adjuncts whether as regards construction maintenance working equipment maintenance of equipment or any other matter (inclusive of the provisions as to rates and fares to be charged by the Company to the Secretary of State and the public and of the provision for the performance by the Company of certain services for the Secretary of State free of charge and for the precedence of the Secretary of State in respect to his demands whether for freight or passenger accommodation) shall apply *mutatis mutandis* and as far as circumstances will admit in respect of every ferry which shall be established under the last preceding section.

PARTICIPATION OF SECRETARY OF STATE IN PROFITS.

39. The earnings of the Company attributable to the period of 12 calendar months ending the 31st day of December 1838 and to every subsequent period of 12 calendar months ending on the 31st day of December shall be applied as follows (that is to say)—

- (1.) In the first place in payment of working expenses attributable to the period to which the earnings relate.
- (2.) In the next place in payment of any undischarged working expenses attributable to any previous period or periods.
- (3.) In the next place in or towards payment of the interest on the Borrowed Capital (if any) of the Company including any arrears of such interest.
- (4.) In the next place in or towards payment to the Company of a sum equal to the sum to which interest would amount at the rate of 6 per cent. per annum on the aggregate amount which for the time being shall have been *bond fide* paid up on such of the Share Capital of the Company as shall for the time being have been issued computed for the period of 12 calendar months as regards such parts of the last-mentioned aggregate amount as shall have been paid up prior to the commencement of the period of 12 calendar months to which the earnings for the time being dealt with relate and computed on all other parts of the same aggregate amount from the respective times at which the parts shall respectively have been paid up down to the end of the period of 12 calendar months to which the earnings for the time being dealt with relate.
- (5.) The surplus (if any) shall belong as to one-half to the Secretary of State and as to the other half to the Company and the Company shall pay to the Secretary of State either in England or India as the Company may elect the amount to which the Secretary of State shall for the time being have become entitled under this section within 30 days after the ascertainment of the amount. If for the purposes of this sub-section it should be requisite to convert sterling money into Indian currency or Indian currency into sterling money the conversion shall be effected at the market rate of the day for bills drawn on India payable on demand.

APPENDIX K—*contd.*

RESTRICTIONS ON CAPITAL AND ON BORROWING POWERS.

40. The Company shall not during the continuance of this Contract without the sanction in writing of the Secretary of State first obtained at any time increase its Share or Stock Capital.

41. The total indebtedness of the Company in respect of Borrowed Capital shall not at any time exceed the sum of £800,000 except during any period in regard to which the Secretary of State may sanction the indebtedness of the Company in respect of Borrowed Capital being of any larger specified amount in which case the specified amount shall not be exceeded during the period. The restrictions imposed by the preceding portion of this section shall not preclude the Company from borrowing money for the *bond fide* purpose of paying off previously existing indebtedness of the Company in respect of Borrowed Capital to an amount equal to the extent of the money so borrowed provided the money borrowed be *bond fide* applied to the purpose last aforesaid as to which however no person lending or advancing money to the Company shall be concerned to see. No money shall without the previous sanction of the Secretary of State be borrowed by the Company at a discount or at a premium or on terms of the Company paying to the lender a larger capital sum than that actually borrowed from him by the Company. The Company shall not without the sanction of the Secretary of State pay interest at a rate higher than 5 per cent. per annum on any moneys borrowed by or owing from it but this stipulation shall not necessitate the sanction of the Secretary of State to the payment of interest by the Company at any reasonable rate on any sums which the Company may borrow for *bond fide* temporary purposes.

ACCOUNTS STATISTICS AND AUDIT.

42. The Company shall keep a Capital Account and a Revenue Account and shall also keep all such accounts and all such details and statistics of its traffic as are required by the Secretary of State to be kept by the Indian Railway Companies working railways under the supervision of the Secretary of State and in the forms in which the Secretary of State requires the accounts statistics and details of traffic last aforesaid respectively to be kept and the Company shall at its own cost render the Capital Account and Revenue Account and all accounts statistics and details of traffic kept by it under the section to the Secretary of State at such times as he shall from time to time require.

43. In the Capital Account shall be entered all such of the expenditure and receipts by or on behalf of the Company in respect to its general undertaking contemplated by this Contract as are properly attributable to Capital provided that the Company may during the original construction of the railway and works specified in the 3rd section of this Contract but for no period subsequent to the 31st December 1887 if authorized so to do by its constitution pay out of Capital any sums by way of interest on the amounts from time to time *bond fide* paid up on the issued Share Capital of the Company not amounting with the net interim earnings of the Company to more than 4 per cent. per annum on the sums in respect of which the interest is paid and may in like manner also pay out of Capital any sums by way of interest on the Capital for the time being borrowed by the Company under the provisions of section 41 of this Contract. The moneys paid out of Capital under this section may be charged to Capital Account as part of the original cost of construction.

44. In the Revenue Account shall be entered all such of the expenditure and receipts by or on behalf of the Company in respect to its general undertaking contemplated by this Contract as are properly attributable to revenue except so much of the expenditure last aforesaid as may under the section last hereinbefore contained be attributable to Capital.

45. In any case where any question may or might arise as to whether any expenditure is to be treated in the whole or in part as a charge on Capital or how the same is to be dealt with the question shall be determined on the general principle that capital besides bearing the cost of the original construction and completion of the said railway and the stations station yards offices warehouses houses for employes fixed machinery conveniences and works belonging thereto and of the original equipment of the said railway and its appurtenances with rolling stock plant and moveable machinery and the cost of establishing any ferries which shall with the approval of the Secretary of State be established by the Company during the continuance of this contract for the accommodation of the traffic of the said railway and of the original equipment of every such ferry with boats and fixed and moveable machinery and plant and of the provision of every such roadway mentioned in the 36th Section of this contract as shall be so provided with the approval of the Secretary of State is to bear the cost of new works of additional rolling stock plant boats and fixed and moveable machinery and of substantial improvements of and additions to old works rolling stock plants and boats and fixed and moveable machinery and that the cost of repairs restorations renewals and replacements is to be charged to Revenue Account. No portion of the salary or allowances of any member of the permanent supervising or other administrative staff of the Company accrued subsequently to the time when the said railway shall have been opened throughout for public traffic shall be charged to Capital although such member may have been employed partly or wholly in directing or superintending work which is so chargeable and no expenses incurred

APPENDIX K—contd.

by the Company subsequently to the time when the said railway shall have been opened throughout for public traffic in connection with the engagement from England or the passage from or to England of any person in the Company's service shall be chargeable to capital unless such person shall have been specially engaged to carry out work chargeable to capital and have been actually employed upon such work. All the expenses of the Company properly incurred up to the time when the said railway shall have been opened throughout for public traffic exclusive of working expenses attributable to such part of the said railway as shall for the time being have been opened for public traffic but inclusive of all costs of and incidental to the formation and registration of the Company shall be chargeable to capital.

46. The accounts of the Company in relation to its expenditure and receipts in India England and elsewhere shall from time to time be audited on behalf of the Secretary of State as well as on behalf of the Company and the Company shall produce to the Auditors or Auditor all vouchers books accounts papers and documents of the Company necessary for the purpose of audit and afford to them or him all facilities requisite for the performance of their or his duties. Amongst the functions of the Auditors or Auditor shall be included the duty of seeing that the revenue of the Company is properly applied from time to time in discharging working expenses and keeping down the interest on the Capital debt of the Company. Any correction made in the accounts by any person or persons who shall be acting as joint Auditors or joint Auditor on behalf both of the Company and of the Secretary of State shall be conclusive. If consequent on the audit of any Auditor acting exclusively on behalf of the Secretary of State the Secretary of State shall require alterations to be made in the accounts and the Company shall object to the alterations the matter in difference shall be referred for final decision to two persons one to be named by the Secretary of State and the other to be named by the Company and in case such two persons shall be unable to agree then to a referee to be named by them the same two persons. The necessary costs of the audit shall be defrayed by the Company and included in working expenses.

WORKING EXPENSES.

47. Working expenses shall include all costs and expenses incurred by the Company in or about or in connection with the maintenance management and working of so much of the said railway as shall for the time being have been opened for public traffic and the maintenance management and working of any ferries for the time being open for public traffic which shall with the approval of the Secretary of State have been established by the Company during the continuance of this Contract for the accommodation of the traffic of the said railway and the maintenance and management of any roadways on the traffic of which the Company shall pursuant to this Contract be for the time being entitled to charge tolls also all costs and expenses in any portion of this Contract stipulated to be included amongst working expenses and in general all reasonable expenses proper to be allowed out of revenue in connection with the maintenance management and carrying on of the undertaking contemplated by this Contract to be established and carried on by the Company. Neither any payment made by the Company to any reserve fund established for any purpose nor the cost of any force of police provided by the Secretary of State for the protection of any part of the said railway in course of construction or of any ferry which shall not have been opened for public traffic shall be included amongst working expenses but the cost of such police shall be charged to Capital as part of the cost of construction.

MISCELLANEOUS PROVISIONS.

48. The Company shall not during the continuance of this Contract without the sanction in writing of the Secretary of State first obtained engage in or carry on or apply capital to any business other than the business provided by this Contract to be carried on by the Company and business incidental or subsidiary thereto or participate or co-operate with any person company or corporation in carrying on any business other than as aforesaid.

49. The Company shall not within the period of 12 calendar months immediately preceding the 31st day of December 1931 or if notice shall be given by the Secretary of State to the Company conformably with the provisions hereinafter contained by or under which this Contract will terminate on the 31st day of December 1932 or the 31st day of December 1933 within the period of 12 calendar months immediately preceding either one of the two days last aforesaid on which this Contract will terminate sell or otherwise alienate any rolling stock rails fixed or moveable machinery fixtures boats plant articles or other property belonging or appropriated to or to the working of the said railway or any part thereof or to or to the working of any road-ferry which shall have been established by the Company or to or to the working of any roadways on the traffic using which the Company shall be entitled under this Contract to charge tolls. If any property shall be sold or alienated by the Company in contravention of this section the Company shall forthwith pay to the Secretary of State the value of the property so sold or alienated.

50. The Secretary of State shall promote the passing by the Legislature in India of any Act or Acts which may be required to enable the Company to carry into effect this Contract.

APPENDIX K—*contd.*

51. No claim shall be made upon the Secretary of State by the Company for compensation in respect of the prejudicial effect upon the said railway or any ferry or roadway to be established under this Contract or the profits of the said railway or of any such ferry or roadway as last aforesaid of any Act of the Indian Legislature of general applicability for the time being in force and the Company and its undertaking shall be subject to the provisions of every such Act as last aforesaid.

52. Any notice determination decision direction requirement requisition demand appointment certificate expression of opinion approval or sanction to be given or signified on the part of the Secretary of State for any of the purposes of or in relation to this Contract or any of the powers or provisions herein contained shall be sufficient and binding if in writing signed by the Secretary of State or one of his Under Secretaries or by a Secretary of the Government of India or by any other officer or servant authorized to act on behalf of the Secretary of State in respect of the matters to which the same shall relate and the Secretary of State shall not in any case be bound in respect of any of the matters aforesaid unless by some writing signed in the manner before mentioned in this section.

53. The registered office of the Company shall at all times during the continuance of this Contract be situate in London or Westminster.

54. The Company shall at all times during the continuance of this Contract keep an office established at some place in India to be determined from time to time by the Secretary of State and shall keep at the said office in India an authorized Agent or Committee of Agency with whom the Secretary of State and the Government of India or other officer or officers deputed in that behalf may communicate on affairs concerning this Contract and the duties and liabilities of the parties hereto under this Contract and to whom the Secretary of State and the Government of India and such officer or officers as last aforesaid may pay moneys for the use or on behalf of the Company and all drafts drawn and receipts given by the said Agent or Committee of Agency or under his or their authority on behalf of the Company in relation to this Contract or to any payment made or matter arising under or out of or by virtue of this Contract shall be binding on the Company and every notice to be given to the Company save the several notices mentioned in the next succeeding section shall be sufficiently given if left at the said office in India or personally served on the said Agent or any member of the said Committee of Agency.

AS TO TERMINATION OF THE CONTRACT AND MATTERS CONSEQUENT THEREON.

55. The Secretary of State may by giving to the Company in England not less than 12 calendar months' previous notice in writing of such determination (which notice is hereinafter referred to as "Notice of purchase") determine this Contract either on the 31st day of December 1912 or on the 31st day of December 1932. Also if the said railway shall not have been opened throughout for public traffic by the 31st day of December 1887 or if there shall be any breach on the part of the Company (whether by act omission or default) of any of the stipulations or provisions of this Contract on the part of the Company to be performed or observed and the Company shall fail to effectually remedy any such default or any such breach of any of the stipulations or provisions of this Contract as previously in this section mentioned within six calendar months after notice in writing to remedy the same shall have been given to the Company in England by the Secretary of State he may on the expiration of the six calendar months last aforesaid determine this Contract by giving to the Company notice in writing of such determination hereinafter referred to as "Notice of Determination." And it is hereby declared that at the time at which this Contract shall terminate by efflux of time or by or under notice of purchase or notice of determination, the Company shall without acquiring the right to any compensation or payment from the Secretary of State in respect thereof except as hereinafter specially provided deliver to the Secretary of State possession of all land of which he shall have given to the Company possession under or for any purposes of this Contract (so far as not then already restored to the Secretary of State) together with the stations station yards offices warehouses houses for employes machinery conveniences works bridges (inclusive of roadways referred to in the 36th Section of this Contract) rails fixtures and plant then erected or being on the land to be delivered up under this section or in anywise belonging to the said railway or any part thereof or to any ferry or ferries then established or in course of establishment under this Contract and also deliver to the Secretary of State all rolling-stock moveable machinery boats plant and articles belonging or appropriated either as regards purposes of construction or maintenance or establishment or working or otherwise to the said railway or any part thereof or any of the works or adjuncts thereof inclusive of any such roadways as previously mentioned in this section or to any ferry or ferries then established or in course of establishment under this Contract and the then existing stock of stores appropriated whether for purposes of construction maintenance establishment working or otherwise to the said railway or to any of the adjuncts thereof inclusive as last aforesaid or to any part of the equipment thereof or to any ferry or ferries then established or in course of establishment under this Contract or to any part of the equipment thereof and all plans books surveys sections printings writings and documents whatsoever in anywise connected with or with the construction or maintenance of the said railway or any part thereof or any of the works or adjuncts thereof inclusive as last aforesaid or with or with the

APPENDIX K—*contd.*

establishment or maintenance of any such ferry as last aforesaid. And also deliver to the Secretary of State any telegraphs telegraphic appliances or other chattels belonging to the Secretary of State and then in possession of the Company in relation to this Contract. All the particulars mentioned in this section shall at the time when the Secretary of State shall under this section become entitled to the delivery thereof so far as not then already belonging to him become his absolute property free both as between the Secretary of State and the Company and the Secretary of State and the incumbrancers from all incumbrances whatsoever created by the Company it being the intention of the parties hereto that the Secretary of State shall not be affected by any charge or incumbrance of any kind created by the Company on any real or personal property which during the continuance of this contract shall be in the possession of the Company whether belonging to the Secretary of State or to the Company. The rights of either party to this Contract as against the other party hereto in respect of the previous breach of any covenant herein contained shall continue to subsist notwithstanding the termination of this Contract either by efflux of time or notice of purchase or notice of determination and such termination shall not affect the right of either party hereto to require the payment of any unpaid money which under the provisions of this Contract shall have become actually payable to or on behalf of him or it by the other party hereto.

56. In case this Contract shall terminate by efflux of time the Secretary of State shall within four calendar months from the time at which this Contract shall so terminate pay to the Company in London out of the revenues of India such a sum of money as shall be the fair value of such rolling stock moveable machinery and plant boats and stores belonging to the Company as shall pursuant to the section last hereinbefore contained be delivered by the Company to the Secretary of State (the said fair value to be determined by arbitration in case of dispute).

57. In case this Contract shall terminate by notice of purchase the Secretary of State shall within four calendar months from the time at which this Contract shall terminate pay to the Company in London out of the revenues of India a sum of money equal to twenty-five times the excess of the average yearly amount of the earnings of the Company during the five years immediately preceding the time at which this Contract shall terminate over the average aggregate sum to which the working expenses of the Company and share of surplus (if any) belonging to the Secretary of State under the 5th sub-section of the 39th section of this Contract amount yearly during the same five years.

58. If this Contract shall terminate either by notice of purchase or by efflux of time the Secretary of State shall deduct from the moneys which would but for this proviso become payable to the Company under either of the last two preceding sections any amount owing to him by the Company at the time of the termination of this Contract. Also in case at the time when this Contract shall terminate by notice of purchase the said railway or any ferry or ferries which shall have been established under this Contract together with the equipment of rolling stock boats fixed and moveable machinery plant and stores delivered to the Secretary of State by the Company shall not be in all respects in good working condition and either in respect to quality or quantity commensurate with the expenditure of capital by the Company in respect to the same premises or in case at this time when this Contract shall terminate by efflux of time the said railway or any such ferry or ferries as before mentioned in this section together with the equipment of fixed machinery and plant delivered to the Secretary of State by the Company shall not be in all respects in good working condition and either in respect to quality or quantity commensurate with the expenditure of capital by the Company in respect to the same premises the Secretary of State may deduct from the amount to become payable by him to the Company under either such of the last two preceding sections as may ultimately come into operation the expenditure (to be ascertained by arbitration in case of difference) necessary to remedy the defects of condition and equipment or such of them as may exist.

59. In case the Secretary of State shall determine this Contract by notice of determination he shall within four calendar months from the time when this Contract shall terminate pay to the Company in London out of the revenues of India the fair value of all such rolling stock moveable machinery and plant boats and stores belonging to the Company as shall pursuant to the previous provisions of this Contract be delivered by the Company to the Secretary of State on the termination of this Contract and also the sum which shall at the time of the termination of this Contract be the fair value of the said railway so far as constructed and of the fixed machinery and plant belonging thereto or to any ferries or ferry established or then in course of establishment by the Company under this Contract (exclusive however of all telegraphs and telegraphic machinery and plant) less the value at the same time of the sum last hereinbefore mentioned treated as a reversionary sum absolutely payable on the 31st day of December 1881 the rate of interest employed in calculating the reversionary value to be 3½ per cent. per annum. The fair value of property for purposes of this section shall in case of difference between the Secretary of State and the Company be ascertained by arbitration and shall be calculated on the basis of the original cost thereof and without reference to the profits earned by the undertaking of the Company whilst worked by it or to expectations of future profits to be derived by working the said railway or any ferry. Provided that the Secretary of State shall be

APPENDIX K—concl'd.

at liberty to deduct any amount that may be owing by the Company to him at the time of the termination of this Contract from any moneys that may under the previous provisions of this section become payable by him to the Company.

60. Any such clear balance of money as shall under the conjoint operation of the 56th and 58th sections of this Contract or of the 57th and 58th sections of this Contract or under the 59th section of this Contract become payable by the Secretary of State to the Company shall carry interest in favour of the Company at the rate of 4 per cent. per annum to be computed from the time when this Contract shall terminate down to the time of payment of tender of the clear balance by or on behalf of the Secretary of State to the Company and the Secretary of State shall pay to the Company in London out of the revenues of India any interest accrued under this section in favour of the Company with the capital money in respect of which the interest shall have become payable.

CHANGE OF CURRENCY.

61. If in any case not herein otherwise or specially provided for it shall be requisite to convert into Indian currency sterling money or into sterling money Indian currency the conversion shall be made at the average rate of exchange obtained by the Secretary of State for bills payable on demand drawn by him on India during the half-year ending either the 30th day of June or 31st day of December immediately preceding the half-year ending the 31st day of December or 30th day of June in which the conversion requires to be effected or if the Secretary of State shall not have drawn bills on India for so much as three months out of the half-year by reference to the rates of exchange obtained during which the rate of conversion ought to be regulated then at the average rate obtained during that half-year for the best commercial bills payable on demand drawn in London on India such average rate to be decided by the Comptroller-General at Calcutta.

ARBITRATION.

62. If any dispute question or controversy shall at any time arise between the Secretary of State and the Company touching this Contract or any clause or thing herein contained or the construction hereof or any matter connected with this Contract or the operation of the same or the rights duties or liabilities of either party in relation to the premises then and in every such case the matter in difference shall unless special provision shall have been made in this Contract for the settlement of the matter so in difference be referred to two arbitrators or their umpire pursuant to and so as with regard to the mode and consequences of the reference and in all other respects to conform to the provisions in that behalf contained in the Common Law Procedure Act 1854 or any subsisting statutory modification thereof and upon every such reference the arbitrators and umpire shall respectively have power to examine witnesses upon oath or affirmation and either to fix settle and determine the amount of costs of the reference and award respectively or incidental thereto to be paid by both parties or by either party or to direct the same to be taxed either as between solicitor and client or otherwise and to direct and award where and by and to whom such costs shall be paid and every or any such reference may be made a rule of Her Majesty's High Court of Justice or of the High Court of Judicature at Fort William in Bengal on the application of the Secretary of State or of the Company and either the Secretary of State or the Company may instruct counsel to consent thereto for the other party.

APPENDIX L.

Working Agreement between the Madras Railway and the Southern Mahratta Railway.

1. This Agreement shall be considered as having effect from the 1st January 1884, and shall be subject to revision from time to time, but shall remain in force until the expiration of not less than six months' notice from either Railway to cancel it, such notice to expire only on the 30th June or 31st December in any year.

Commencement and expiration of agreement.
2. All descriptions of traffic are to be booked through between such stations of the two Railways as may from time to time be arranged between the Traffic Managers.

Through booking on both Railways.
3. The interchange of traffic in accordance with this Agreement will include traffic to or from other Railways with which either contracting Railway has established, or may hereafter establish, through booking.

Interchange of traffic.
4. The Agent and Manager of the Madras Railway Company shall appoint a joint staff to deal with all the through and local traffic, coaching, and merchandise of the two lines at Bellary Junction Station, with the signalling and marshalling of trains, and with all other service necessary for the joint working of the station.

Madras Railway appoint staff.
5. No permanent increase shall be made to the numbers or salaries of the joint staff without the concurrence of the Agent of the Southern Mahratta Railway, but in the event of stress of traffic necessitating immediate increase to this staff, the Agent of the Madras Railway Company shall make temporary arrangements, subject to the subsequent approval of the Agent of the Southern Mahratta Railway.

Increase to joint station staff.
6. The servants of both Railways, when engaged within station limits, shall be under the orders of the joint station staff.

Servants to obey joint staff.
7. Each Railway to have equal rights in respect of the use of the joint staff and of such portion of the station premises as may, in the opinion of the Chief Engineers of the two Railways, be necessary for the use of the joint staff. The staff at Bellary Junction must carry out the instructions of the properly authorized officers of each Railway with reference to traffic for the respective lines.

Equal rights.
8. The cost of the erection of, and all other expenditure upon, capital account, for the parts of the joint station at Bellary Junction which are used in common by both Railways, having been fixed by Agreement, the capital cost of all future alterations and additions to such parts of the joint station as are used in common by both Railways, is to be ascertained and agreed upon, from time to time, by the Chief Engineers of the two Railways, and sanctioned by the Agents before the money is spent, and the capital thus required and agreed upon is to be paid by the Madras Railway who shall receive from the joint station expenses account an annual rent of seven and a half per cent. to cover interest and maintenance.

Joint station capital charges.
9. Each Railway will supply at its own cost all materials for its own gauge, required for construction and maintenance of the line at the junction station; but the charge for labor on maintenance shall be fixed on a mileage charge to be settled by the Chief Engineers of the two Railways.

Maintenance.
10. Each Railway to provide at its own cost all stores, stationery, and accommodation which may be required for its own exclusive use, and will make its own arrangements for cleaning and greasing its own vehicles at the junction station.

Special accommodation and greasing of vehicles.
11. The rent, the cost of the joint station working, including stores, staff, and all expenses which, in accordance with this Agreement, are to be charged against the joint station expenses, shall be paid by the two Railways in proportion to the amount of traffic, local and through, of each Railway using the station, is to be ascertained by taking the total of each Railway's local traffic of all sorts, whether paid or to pay, and the proportion due to each Railway respectively on all through traffic. All sums realized by the sale of lost property, unclaimed goods, licenses, &c., collected at Bellary Junction are to be credited to the joint station expense account.

Rent of joint station.
12. As soon as the Southern Mahratta Railway trains pass within the distant signal at the west end of the Bellary Junction Station, they are to be under the direction of the joint station staff, and for the purposes of this Agreement the liabilities of the Madras Railway Company shall commence at that point.

Trains when under direction of Madras Railway.

APPENDIX L—*contd.*

13. Any breach of rules and regulations by servants of the Southern Mahratta Railway, within the Bellary Junction Station, will be dealt with by the Traffic Managers of the two Railways, and in case of dispute as to the interpretation of the rules and regulations of the Madras Railway, the matter shall be referred to the Agent of the Madras Railway, whose decision shall be final.
Dispute about rules how to be decided.
14. The Madras Railway shall be solely responsible for accidents or injury to rolling stock or traffic, within the Bellary Junction Station limits arising from any default of the joint station, and for any loss arising from undue delay or obstructions to traffic caused by any acts, whether of commission or omission, of the joint station staff.
Accidents and injury at joint station.
15. Unless the account of the cost of the repairs of damaged stock be sent to the Railway responsible for the amount within three months of the time after the damage occurred, the claim is forfeited.
Account of repairs to be furnished within three months.
16. Letters upon the joint business of the two Railways between the Station Masters or Officers of both Railways will pass free by the trains of both Railways.
Letters on joint business.
17. Through invoices will be sent by passenger train under cover addressed to the "Station Master" at Bellary Junction from both Railways.
Through invoices how sent.
18. The Joint Station Master will be responsible for having the Invoices copied at Bellary Junction Station, and the originals forwarded to their destination by the first opportunity.
Invoices, record and disposal of.
19. Invoices of either of the Railways are to be accepted at the joint station as correctly representing the weight and quantities of the goods, unless the loads have been interfered with; and in such cases the actual contents and their condition must be ascertained and recorded by the Joint Station Master; failing this, the forwarding Railway's Invoice is to be accepted.
Invoices how and when to be accepted.
20. The minimum weight to be despatched by goods train (except parts of a consignment exceeding that weight) is 14 seers, which will be charged as 20 seers. Packages weighing less than 14 seers will be booked and charged as parcels.
Minimum weights by goods train.
21. Traffic booked or invoiced by either of the two Railways to or from Bellary Junction is to be considered as local traffic.
Bellary Local Traffic.
22. The Bellary Junction Station books shall be kept by the joint staff, but all such books, and all through goods shall be at all times open to inspection by any authorized officer of either Railway.
Joint Staff to keep all books.
23. The instructions of each Railway as to the charges on traffic for their respective lines will be furnished to the joint station staff and must be acted upon with reference to each of the Railways respectively.
Joint Staff to act upon instructions from each Railway.
24. The through rates and fares shall be the sum of the rates and fares of each Railway respectively between Bellary Junction and the stations concerned. No terminal shall be charged upon through traffic by either Company. The rates and fares shall be supplied by each Railway to the other from time to time.
Through rates and fares.
25. In the case of minimum charges on goods, the lines interested in the traffic shall be treated as one, and the amount actually paid shall be divided by mileage.
Division of minimum charges.
26. Advice of all changes shall be sent on or before the 20th of each month, and of alterations consequent thereon by the receiving Railway not later than the end of the month. Advices so sent become operative one month after the 1st of the month following the date of advice. Printed advices (12 copies or such other number as may be agreed on) shall be sent only once a month to all Railways with which there is through booking, a "Nil" form being sent when no alteration is proposed.
Advice of change, when to be made.
27. Each Railway shall be responsible for collecting all charges due to the other on all received traffic, with the exceptions noted below, for which the forwarding Railway shall be responsible, namely:—
Receiving Railway responsible for all charges.
Exceptions to above.
- (a) Charges on live stock of every description.
- (b) Charges on all perishable articles booked either as goods or parcels.

APPENDIX L—contd.

- (c) Charges on Commissariat, Ordnance, and Government medical stores booked on Credit Note or prepaid.
- (d) Passenger fares, freight on passengers' luggage, carriages, &c., and charges for insurance.
- (e) Charges on all articles booked and carried with owner.
28. The receiving Railway shall not reduce below the charge mentioned in the Invoice or through way bill without consent of the forwarding Railway, except in case of overcharges, the evident result of errors in classification or computation of freight.
- Altering Invoices at destination.
29. In the case of parcels, if an undercharge is detected by the receiving Railway, the amount of the undercharge should be entered in the "To Pay" column. If an undercharge or overcharge is detected in a goods invoice, it should be noted in the Undercharge or Overcharge columns; but in no case should the "Paid" or "To Pay" entries be altered.
- Undercharge on parcels and goods.
30. The distances between Bellary Junction and the stations of each Railway respectively shall be supplied by each Railway to the other, but the actual amounts to be charged by each Railway upon through traffic shall be furnished by the other Railway in the form of station to station rates, in order to avoid any calculation of charges according to distance by stations.
- Station to station rates.
31. All Railway service telegrams shall invariably be paid for with the exception of those connected with the traffic business.
- Railway telegrams.
32. When the 30th June and 31st December do not fall on a Saturday, two returns shall be rendered, one for the period commencing from the first day of the last week to the end of the month, and another from the first day of the next month up to and including the second Saturday of that month. All items not accounted for during the half-year should be adjusted in supplementary statements.
- Termination of half-years.
33. Goods claims shall be borne by the Railway in whose custody the loss or damage occurred, and when this cannot be ascertained with certainty, the claim shall be paid in mileage proportion.
- Adjustment of claims.
- (a) In every case of loss or damage of goods, which has not been reported by the receiving Railway within 24 hours after it has been ascertained, the liability rests exclusively with the Railway failing to report.
- (b) In the division of sums paid in compensation for loss or damage, when the amount paid is divided within limits less than those between which the goods were invoiced, the mileage charges received for the distance over which the lost goods could not have been conveyed, are to be deducted from the amount of the claim.
- (c) In the case of transhipped goods, the compensation for loss or damage is borne by the Railway whose line intervenes between the point at which the goods were last seen uninjured in the wagons and the point at which the loss or damage happened, or was first discovered and reported.
- (d) In cases of loss or damage to goods it is the duty of the receiving Station Master, where the loss or damage is discovered, to advise the station at which such goods were invoiced as well as the station of transhipment, if any.
- (e) In cases of goods being missing, it is the duty of the original forwarding station to issue circulars to all stations up to the point at which the loss was discovered.
34. The transhipment of all goods interchanged between the Railways at Bellary Junction shall be performed by the Madras Railway Company either by a Contractor or by day labour, and the cost of the same shall be divided equally between the two Railways. Either Railway shall be allowed 24 hours for transhipment, and if wagons are not released within that time, the usual demurrage penalty will be enforced.
- Transhipment at Bellary Junction.
35. If, at any time, either Railway shall find itself unable from any cause to receive and forward all the traffic tendered or likely to be tendered by the other Railway, it shall be competent for the receiving Railway to give notice of not less than 7 days to the said other Railway, of the maximum quantity it will be prepared to receive and forward, and of the period during which the restriction will be necessary, and during such period the said Railway shall not be bound to receive more than the quantity so specified.
- Notice when traffic exceeds power of despatch.
36. Weights.—2 lbs. is equivalent to 1 seer.
 82.29 " " to 1 maund.
 27.22 maunds " " 1 ton.
- Definition of weights.

APPENDIX L—*contd.*

37. Fractions of a maund on luggage and baggage are to be charged as follows,
viz. :—
 Fractions or parts of a maund on luggage.

From 1 to 5 seers will be charged as 5 seers.			
6,	10	10	10
11	15	15	15
16	20	20	20
21	25	25	25
26	30	30	30
31	35	35	35
36	seers	1	maund.

38. In calculating charges, fractions of an anna above 5 pies are charged as one anna, and this rule applies not only to the gross charge made to the public, but also to each Railway's proportion, as well as to Government and private baggage booked on a Warrant.
 Fractions of an anna.

39. If men apply for appointments in any department of either Railway, who have been in the service of the other line, they shall not be taken on without communication with the head of the department with which they were connected or such other line, so that he may have an opportunity of stating whether there is any reason why they should not be allowed to join another Railway.
 Servants of one Railway not to be entertained by the other Railway without consent.

40. The Audit Offices of the two Railways shall exchange weekly division sheets, each Railway to have in division its own rates and fares as quoted for through traffic in accordance with paragraph 24 (except in the case of insurance and traffic divisible by mileage between the Railways concerned), and shall account for all inwards through traffic within six weeks from the date the invoices pass Bellary Junction. A monthly settlement of accounts, based on division sheets, bills, and statements as rendered and declared, shall be made by transfer adjustment, on the understanding that all errors which may be in them will be adjusted without delay in subsequent accounts by the responsible Railway.
 Settlement of accounts.

41. Parcels are charged over both Railways on the through mileage, unless otherwise arranged, and all receipts from parcels are divided by mileage; where fractions of one anna occur, the larger fraction shall absorb the smaller and be charged as one anna; when the fraction is even, the forwarding Railway shall become entitled to the benefit of the anna, but actual mileage proportion is to be credited when any Company gets less than one anna.
 Division of charges on parcels.

42. The exact weight of goods shall always be given in the invoices.
 Weight of goods.

43. The method of charging for fractions of a maund when consignments are despatched by goods train, will be as follows, *viz.* :—
 Fractions of a maund on goods traffic.

14 seers will be charged as 20 seers.			
21	30	30	30
31	1	1	maund.
41	10	10	seers.
51	1	1	20

44. The receiving station shall be debited with the amount actually invoiced "to pay," and the overcharge shall be recoverable only through the Traffic Manager, after communication between the two Railways.
 Overcharges.

45. Undercharges shall be shown in the Undercharge column, or at foot, in the weekly Abstracts, as well as in the Invoices.
 Undercharges.

46. Undercharges on consignments whether "paid" or "to pay" unless booked under credit note will be debited to the receiving station with the exception of items included in para. 27.

47. The weekly traffic statements shall contain divisions of receipts realized in the respective periods only, all adjustments of incorrect divisions or charges and of refunds being made through weekly error statements; such error statements to be accepted by the two Railways before being incorporated into the accounts current.
 Weekly traffic statements.

48. Horse traffic if booked on H. C. D. ticket and charged at coaching tariff rate, shall be considered as coaching traffic, but if booked on a Goods Invoice as goods traffic, and all live stock traffic shall be shown on separate abstracts. The charges on parcels, horses, carriages, dogs, and live stock to be prepaid.
 Horse traffic.

49. In all refunds the proportion to be borne by each Railway shall be noted by the Traffic Department.
 Refunds.

APPENDIX L—*concl.*

50. All errors of calculation made by forwarding stations in booking luggage, parcels, horses, carriages, and dogs, as well as goods, when such errors do not exceed annas two, pies five, shall not be subject to adjustment. This rule should apply to errors made in apportioning the mileage charges due to each Railway.
51. All overcharges arising, in coaching and goods, from apparent error in classification or computation of freight, shall be credited to the Railway which collects the freight.
- Overcharges.
52. Each forwarding Railway to render to the other weekly returns showing the other Railway's proportion of its passenger, troops, luggage, horses, carriages, and dogs, special train, extra troop train, and live stock receipts.
- Weekly statements.
53. Goods and parcels traffic shall also be divided weekly, each Railway taking its proportion.
- Goods and parcels.
54. Each Railway as soon as it is in possession of the Invoices will divide all the received traffic, parcels and goods in order to save time; the Invoices will then be sent to the forwarding Railway, by whom the accounts will be examined, after which the Invoices will be returned.
- Invoices.
55. In case of any difference of opinion between the two Railways as to the construction of any part of this Agreement, or as to its application to any particular case, it shall be open to either Railway to call for arbitration, to be conducted in the ordinary way.
- Arbitration on disagreement.

APPENDIX M.

Working Agreement between the Bengal and North-Western and the Oudh and Rohilkhand Railway Companies.

CLAUSE 1.

Memorandum of Agreement dated 20th March 1884, made between the Oudh and Rohilkhand Railway Company (hereafter called the Oudh and Rohilkhand Railway) and the Bengal and North-Western Railway Company (hereafter called the Bengal and North-Western Railway) for interchange of goods and parcel traffic.

CLAUSE 2.

This Agreement will come into force on the 2nd April 1884 (and continue till the 5th June 1884).*

CLAUSE 3.

Goods and parcels traffic of every kind shall be freely interchanged between the two Railways with such special restrictions as may be, from time to time, agreed to by the Traffic Managers of the two railways and subject to the conditions laid down below:—

- (a) All packages of less than 14 seers in weight are to be booked through as parcels.
- (b) The minimum charge upon goods traffic booked through is to be as for 20 seers and no less charge is to be made than 8 annas.
- (c) No less charge than 3 annas is to be made upon parcels traffic booked through.
- (d) The minimum charge for goods and parcels is to be divided in mileage proportion.

CLAUSE 4.

Passengers, Live Stock, and Carriages shall not be booked through.

CLAUSE 5.

Packages weighing more than 2 tons or exceeding 12 feet in length by 5 feet 6 inches in breadth by 6 feet high outside measurements shall not be booked through, except by special arrangement.

CLAUSE 6.

If at any time either line should find itself unable to receive and forward all the traffic tendered or likely to be tendered to it by the other line, it shall be competent for the receiving line to give notice of not less than 14 days to the said other line of the maximum quantity it will be prepared to receive and forward, and of the period during which the restriction will be necessary, and during such period the said Railway shall not be bound to receive more than the quantity so specified.

But with reference to through traffic for the East Indian and connected Railways, the notice to be given by the Oudh and Rohilkhand Railway to the Bengal and North-Western Railway shall, as regards the period of such notice and the amount of traffic which the Oudh and Rohilkhand Railway may agree to receive, be regulated by the notice which the former line may receive from the East Indian Railway and by any limitation on the amount of traffic which the East Indian Railway will take over at its several junctions with the Oudh and Rohilkhand Railway.

CLAUSE 7.

Each Railway is to supply the other from time to time with the rates and fares between Fyzabad and their respective stations. The through rates and fares are to be in all cases the sum of the rates and fares of each Railway to Fyzabad, plus cartage charges between the two lines.

CLAUSE 8.

Each Railway shall be responsible for collecting all charges due to the other on all received traffic, with the exceptions noted, for which the forwarding Railway shall be responsible.

- 1st.—Charges on all perishable articles booked as either goods or parcels.
- 2nd.—Charges on Commissariat and Ordnance stores booked as prepaid.
- 3rd.—Charges for insurance.

* The words within brackets have been altered as follows "and continue until further notice."

APPENDIX M—contd.

CLAUSE 9.

The receiving Railway shall not reduce the stated weight or alter the description of articles or the charges below what is mentioned in through Way Bill without the consent of the forwarding Railway, but cases of error in rate or calculation may be corrected.

CLAUSE 10.

Before any alteration of rate or fare or classification affecting through traffic can be made by either Railway, advice of the proposed change shall be sent to the other Railway on or before the 20th of any month, and of alterations consequent thereon by the receiving Railway not later than the end of that month. Advices so sent to operate one month after the 1st of the month following the date of advice.

CLAUSE 11.

Claims for compensation are to be settled and paid by the Railway, in whose custody the loss or damage occurred.

CLAUSE 12.

When the responsibility for loss or damage to goods or parcels cannot be satisfactorily determined, the claim to be paid by both Railways by mutual consent of the Traffic Managers, in proportion to the length the goods or parcels may have been carried by each Railway.

CLAUSE 13.

To afford the earliest opportunity of check, all damages or deficiencies must be at once brought to the notice of the officials of the two Railways in such manner as may be agreed upon by the Traffic Managers.

CLAUSE 14.

An official of the Bengal and North-Western Railway will be stationed at Fyzabad to receive and hand over goods and their invoices to the Oudh and Rohilkhand Railway. This official will be communicated with, in cases coming under the operations of clauses 12 and 13.

CLAUSE 15.

Telegrams relating to joint business may be interchanged free between the two Railways.

CLAUSE 16.

The division of the receipts on through traffic is to be carried out weekly by the Audit Offices of the two Railways without reference to the end of a month.

CLAUSE 17.

The weekly Accounts are to be made up to Saturdays inclusive and settlements are to be made monthly in accounts which are to be closed on the last Saturday of each month, and each Railway is to have in such division its own rates and fares, except in the case of minimum charges, which are to be divided as provided in paragraph (d), clause 3, on the understanding that all accounts be accepted as rendered and errors brought to notice adjusted in subsequent accounts.

CLAUSE 18.

Each Railway shall maintain transshipment books at Fyzabad, showing all goods and parcels booked through and these books shall be open to the inspection of the officials of either Railway.

CLAUSE 19.

The principles of this Agreement may be extended by each Railway to any other Railway which may be from time to time working in connection with it, the two Railway parties to this Agreement being responsible to each other for all through traffic so forwarded, as if it were traffic from their own lines respectively.

APPENDIX M—*concl'd.*

CLAUSE 20.

All questions which may arise in carrying out these arrangements, upon which the Traffic Managers of the two Railways cannot agree shall be referred to the Agent, Oudh and Rohilkhand Railway, and the Agent, Bengal and North-Western Railway, and in case of any difference of opinion between the two Railways as to the construction of any part of this Agreement, or as to its application to any particular case, it shall be open to either Railway, to call for an arbitration to be conducted in the usual way.

CLAUSE 21.

This Agreement to be subject to the sanction of Government and the Board of Directors of both Railway Companies.

APPENDIX N.

AGREEMENT between the East Indian and the Rajputana-Malwa Railways for interchange of Coaching and Goods Traffic *via* Agra and *via* Delhi, and for the joint working of the Coaching Traffic at Delhi Station and of the Coaching Traffic on the Rajputana-Malwa Railway broad gauge line from Agra East Bank to Agra Fort, including Agra Fort Station.

CLAUSE I.

(a)—This Agreement shall come into force on and from the Duration of Agreement. except when otherwise stated, in supersession of previous Working Agreements, and shall be subject to revision from time to time, but shall remain in force until the expiration of six months' notice from either Railway desiring to revise or cancel it, except as regards any clauses in respect of which a shorter term of notice is specially fixed.

(b)—In this Agreement, the broad gauge line from Agra East Bank to Agra Fort shall be considered as worked in respect of coaching traffic for the East Indian Railway, and for all other traffic from Agra East Bank to Agra Cantonment as worked for the Sindia State Railway.

CLAUSE II.

(a)—Traffic of all kinds with the exceptions indicated in clause III shall be booked between any station on the East Indian Railway and branches and any station on the Rajputana-Malwa Railway *via* Agra and *via* Delhi, except such small stations as may be excluded by the Traffic Managers of the two lines, and excepting also Calcutta, the booking to which station shall be in accordance with the arrangements to be notified from time to time by the East Indian Railway.

(b)—At Agra, the junction for coaching traffic shall be Agra Fort, and for through goods traffic the East Indian Railway station on the East Bank of the Jumna.

CLAUSE III.

(a)—Packages weighing more than 8 tons, or exceeding 24 feet long by 7 feet 4 inches broad by 6 feet 11 inches high outside measurement, shall not be booked through, except by special arrangement.

(b)—But the restriction as to length shall not include girders, long timber, &c., which can be carried on bolster trucks.

(c)—Live stock shall not be booked through except by special agreement.

CLAUSE IV.

The distances between the junction stations and the other stations on the two Railways, for computing charges shall be those given in the published tariffs of the respective Railways; and the rates and fares to be charged by either Railway shall be furnished in lump sums in the form of station to station rates, and not at mileage rates, for subsequent computation by stations.

CLAUSE V.

The through rates, fares, and charges shall be the sum of the local rates, fares and charges of the two Railways to the junction stations—or the rates and fares applicable to through booking, where such rates and fares are specially provided—as published in the printed tariff of each Railway; and shall in the case of goods include terminal and cartage charges if any.

CLAUSE VI.

No alteration of rate, classification, rules or conditions applying to through traffic shall be made by either Railway without the notice required by Minute 74 of the Proceedings of the Conference of 1882.

CLAUSE VII.

(a)—The minimum weight of goods for charge shall be half a maund.

(b)—The minimum charge for goods shall be eight annas in through booking divisible in mileage proportion.

APPENDIX N—contd.

CLAUSE VIII.

(a)—The Rajputana-Malwa Railway shall provide and be responsible for the labor and appliances necessary for transhipment of through goods at all junctions. The cost of this work shall be equally divided between the East Indian and Rajputana-Malwa Railways, subject to agreement as to rates, and provided that no charge shall be made to the public except by previous agreement.

(b)—No East Indian Railway wagon, or wagons belonging to any Railway working in connection with the East Indian Railway shall be detained under load beyond 24 hours after arrival at the transhipment platform; and should any wagon be so detained, it shall be subject to a charge for demurrage at the rate of one anna per ton of carrying capacity per hour. The calculation of penalty charges to commence from the first complete hour after expiry of this period, fractions of hours being disregarded.

CLAUSE IX.

To protect the Rajputana-Malwa Railway from risk or loss arising from undue delay on the part of the East Indian Railway in providing wagons for loading, the East Indian Railway shall be liable to a penalty of one anna per hour per ton of such goods booked through to stations of the East Indian Railway or connected Railways, as the East Indian Railway may fail to provide wagons for after 24 hours' notice, such penalty to be leviable up to the time the East Indian Railway wagons become available for loading at the transfer platform.

The calculation of penalty charges to be made as in the case of clause IX.

CLAUSE X.

After forty-eight hours all through consignments in the transhipment sheds shall be at the risk of the Railway on to which they are booked through, unless wagons shall have been provided.

CLAUSE XI.

As far as Agra East Bank and Delhi are concerned, rent at the rate of 7½ per cent. per annum on half the capital cost, to include maintenance and renewals, shall be paid to the owning Railway by the other for all platforms, sidings, buildings, &c., and including the value of all furniture, equipment, appliances, &c., in the tranship yards.

CLAUSE XII.

(a)—Each Railway shall be responsible for collecting all charges due to the other on all received traffic, with the exceptions noted below, for which the forwarding Railway shall be responsible:—

1st.—Charges on live stock of every description.

2nd.—Ditto on all articles printed in italics in the East Indian Railway goods tariff, booked either as goods or parcels.

3rd.—Ditto on Commissariat or Ordnance Stores, booked as prepaid.

4th.—All errors under Re. 1 either way, in freight paid by credit note and all undercharges in freight paid by ledger account.

5th.—Undercharges in fares of passenger tickets, freight on passenger luggage, and in charges for insurance.

6th.—Charges on all articles booked and carried with owner.

7th.—Undercharges on Specie, Palanquins and Carriages booked by passenger train.

(b)—The Receiving Railway shall not reduce below the charge mentioned in the invoice or through way bill without the consent of the forwarding Railway, except in the case of over charges, the evident result of errors in classification or computation of freight.

CLAUSE XIII.

Telegrams.

Telegrams on the joint business of the two Railways shall be interchanged free.

APPENDIX N—*contd.*

CLAUSE XIV:

The Audit Offices of the two Railways shall exchange weekly division sheets; each Railway to have in division its own rates and charges as quoted for through traffic in accordance with clause VI except in the case of minimum and other charges common to both lines which shall be divided by mileage. All inwards through traffic shall be accounted for within six weeks from the date the invoices pass Delhi or Agra junctions. A monthly settlement of accounts based on division sheets, bills, and statements are rendered shall be made by transfer certificate, on the understanding that all errors brought to notice will be adjusted without delay in subsequent accounts by the responsible Railway.

Division of receipts.

CLAUSE XV.

All claims in connection with through traffic shall be settled by the Railway in whose custody the loss or damage occurred, and when this cannot be ascertained with certainty, the claim shall be paid in-mileage proportion, but in such cases the consent of both Railways shall be obtained before settlement is made.

Settlement of claims.

CLAUSE XVI.

If at any time either line should find itself unable either from want of vehicle stock or engine power or from any other cause to receive, and forward all the traffic tendered or likely to be tendered by the other line, it shall be competent for the receiving line to give notice [of not less than 14 days] to the said other line of the maximum quantity, it will be prepared to receive and forward and of the period during which the restriction will be necessary, and during such period the said Railway shall not be bound to receive more than the quantity so specified.

Notice of restriction of traffic.

CLAUSE XVII.

Through traffic to or from either Railway shall have no preference in any respect over traffic tendered for despatch locally at Agra or Delhi.

No preference for through traffic.

CLAUSE XVIII.

The week shall in all cases end at 12 o'clock on Saturday night. When the 30th June and 31st December do not fall on a Saturday, two returns shall be rendered, one for the period commencing from the first day of the last week to the end of the month, and another from the first day of the next month up to and including the second Saturday of that month.

Definition of "week" and half-year.

CLAUSE XIX.

The day shall in all cases be reckoned as 24 hours, commencing at 12 o'clock at night. Part of a day to be reckoned as a day. Madras time shall be adopted in all cases. Sundays, Christmas day, and Good Friday shall be treated as ordinary working-days.

Definition of day and Railway time.

CLAUSE XX.

(a)—Through traffic shall be understood in all cases to mean coaching and merchandise traffic which may be booked or invoiced in accordance with the terms of this Agreement, through from any station on one of the two contracting lines or any line beyond, to any station on the other or any line beyond.

(b)—Traffic booked or invoiced by either of the two Railways to or from Delhi, or to and from the junctions mentioned in the 2nd (b) paragraph of clause III is not to be considered as through traffic.

Definition of through traffic.

CLAUSE XXI.

The principle of this Agreement shall be extended by each Railway to any other Railway working in connection with it, the two Railways, parties to the Agreement, being responsible to each other for all through traffic so forwarded.

Extension to other Railways.

APPENDIX N—*contd.*

CLAUSE XXII.

(a)—The East Indian Railway shall undertake free of charge all Coaching work now performed for the Rajputana-Malwa Railway by the joint staff at Delhi passenger station and the Rajputana-Malwa Railway shall similarly perform free of charge all Coaching work for the East Indian Railway at Agra Fort.

(b)—A nominal rent of Re. 1 per annum shall be paid by the Rajputana-Malwa Railway to the East Indian Railway in respect of the accommodation for Coaching traffic at Delhi station, and the same rent shall be paid by the East Indian Railway to the Rajputana-Malwa Railway in respect of the accommodation for Coaching traffic at Agra Fort Station.

(c)—The East Indian Railway shall pay to the Rajputana-Malwa Railway, the equivalent of one mile's charge on all Coaching traffic other than parcels and dogs booked to and from Agra Fort Station, in consideration of the use by the former Railway of the length of broad gauge line between Agra, East Bank and Agra Fort.

CLAUSE XXIII.

The Rajputana-Malwa Railway shall appoint the joint staff to deal with the through and local Passenger and other Coaching traffic at Agra Fort. The cost of such establishment shall be borne by the Rajputana-Malwa Railway.

CLAUSE XXIV.

The East Indian Railway Company shall haul broad gauge Coaching vehicles for all its traffic over the State Railway broad gauge lines and bridge between Agra East Bank and Agra Cantonment Station, and shall provide free of charge such shunting power as may be necessary for the movement of broad gauge vehicles.

CLAUSE XXV.

The East Indian Railway shall appoint the joint staff, to deal with the through and local Passenger and other Coaching traffic of the two lines at Delhi, the cost of such establishment shall be borne by the East Indian Railway.

CLAUSE XXVI.

The responsibility for faults of omission or commission by the staff at joint stations shall be accepted by the Railway appointing the staff.

CLAUSE XXVII.

The necessary arrangement for the examining, cleaning, and greasing of vehicles of all descriptions shall be made and agreed to between the Carriage Departments of the respective lines.

CLAUSE XXVIII.

Each line shall supply at all junction stations passenger and other tickets for booking to its own stations, as well as printed forms, and shall lamp its own trains.

CLAUSE XXIX.

The expense of maintenance and renewal of station premises, sidings, &c., shall be borne by the line to which they belong.

CLAUSE XXX.

The half-yearly authorizations of establishment for the transshipment platforms shall be approved by both Railways. In case, however, of unforeseen pressure of traffic, the Traffic Managers of the two Railways may agree to a temporary increase of establishment.

CLAUSE XXXI.

(a)—The joint Station Master shall be equally subject to the orders of the Traffic Managers of the two Railways for the special work of each line as affecting the joint station: he shall perform such duties as are demanded of Station Masters on each Railway, and shall render all working and Audit Returns which are required.

APPENDIX N—*concl'd.*

(b)—The station premises, working and books shall be open to inspection by the officers of either Railway.

CLAUSE XXXII.

In the event of any arrangement being made by the Secretary of State for India, affecting the present system of working the broad gauge Coaching traffic to and from Agra Fort, the arrangement regarding such working as come to in the present agreement, shall be subject to modification on one month's notice.

CLAUSE XXXIII.

All questions which may arise in carrying out these arrangements, upon which the Traffic Managers of the two Railways cannot agree, shall be referred to the Agent of the East Indian Railway, and the Manager of the Rajputana-Malwa Railway, and in case of any difference of opinion between the two Railways as to construction of any part of this Agreement, or as to its application to any particular case, it shall be open to either Railway to call for an Arbitration to be conducted in the ordinary way.

APPENDIX O.

Agreement between the Cawnpore-Achnera State and the Rajputana-Malwa Railways for interchange of Coaching and Goods Traffic, and interchange of Rolling stock *via* Achnera, and for the Joint Working at Achnera station.

CLAUSE I.

This Agreement shall come into force on and from the 1st July 1884, except where otherwise stated, and shall be subject to revision from time to time, but shall remain in force until the expiration of six months' notice from either Railway desiring to revise or cancel it, except as regards any clauses in respect of which a shorter term of notice is specially fixed.

Duration of Agreement.

CLAUSE II.

Traffic of all kinds with the exceptions indicated in clause III shall be booked *via* Achnera, between any station on the Cawnpore-Achnera State Railway and any station on the Rajputana-Malwa Railway, except such small stations as may be excluded by the Traffic Superintendents of the two lines.

Extent of through booking.

CLAUSE III.

Packages weighing more than 8 tons, or exceeding 24 feet long by 7 feet 4 inches broad, by 6 feet 11 inches high, outside measurement, shall not be booked through except by special arrangement.

Excepted articles.

(a)—But the restriction as to length shall not include girders, long timber, &c., which can be carried on bolster trucks.

CLAUSE IV.

The distances between the junction stations and the other stations on the two Railways for computing charges shall be those given in the published tariffs of the two Railways, and the rates and fares to be charged by either Railway shall be furnished in lump sums in the form of station to station rates, and not at mileage rates for subsequent computation by stations, except in those cases in which an equal mileage charge on through distance is specially agreed to.

Distances and rates.

CLAUSE V.

The through rates, fares, and charges shall be the sum of the local rates, fares, and charges of the two Railways to the junction stations (or the rates and fares applicable to through-booking, where such rates and fares are specially provided), as published in the printed tariff of each Railway, and shall in the case of goods include terminal and cartage charges if any.

Through rates.

CLAUSE VI.

No alteration of rate, classification rules, or conditions applying to through traffic shall be made by either Railway, without the notice required by Minute 74 of the Proceedings of the Conference of 1882.

Notice of alteration of rates, &c.

CLAUSE VII.

The minimum weight of goods for charge shall be half a maund.

Minimum weight and charge.

(a)—The minimum charge for goods shall be eight annas in through-booking divisible in mileage proportion.

CLAUSE VIII.

Each Railway shall be responsible for collecting all charges due to the other, on all received traffic with the exceptions noted below for which the forwarding Railway shall be responsible:—

Responsibility for charges.

1st.—Charges on live stock of every description.

2nd.—Charges on all articles printed in italics in the Rajputana-Malwa Railway goods tariff booked either as goods or parcels.

APPENDIX O—contd.

3rd.—Charges on Commissariat or Ordnance Stores booked as prepaid.

4th.—All errors under Re. 1 either way in freight paid by credit note and all undercharges in freight paid by ledger account.

5th.—Undercharges in fares of passenger tickets, freight on passengers' luggage, and in charges for insurance.

6th.—Charges on all articles booked and carried with owner.

7th.—Undercharges on Specie, Palanquins, and Carriages booked by passenger train.

(a)—The Receiving Railway shall not reduce the charge mentioned in the invoice or through way bill without the consent of the Forwarding Railway, except in the case of overcharges, the evident result of errors in classification or computation of freight.

CLAUSE IX.

Telegrams.

Telegrams on the joint business of the two Railways shall be interchanged free.

CLAUSE X.

The Audit Offices of the two Railways shall exchange weekly division sheets; each Railway to have in division its own rates and charges as quoted for through traffic in accordance with clause V, except in the case of minimum or other charges common to both lines, which shall be divided by mileage. All inwards through traffic shall be accounted for within six weeks from the date the invoices pass Achnera junction. A monthly settlement of accounts based on division sheets, bills, and statements as rendered shall be made by transfer certificate, on the understanding that all errors brought to notice will be adjusted without delay in subsequent accounts by the responsible Railway.

CLAUSE XI.

All claims in connection with through traffic shall be settled by the Railway in whose custody the loss or damage occurs, and when this cannot be ascertained with certainty, the claim shall be paid in mileage proportion, but in such cases settlement shall not be made by one Railway without the consent of the other.

CLAUSE XII.

If at any time either line should find itself unable, either from want of vehicle stock or engine power, or from any other cause, to receive and forward all the traffic tendered or likely to be tendered by the other line, it shall be competent for the receiving line, to give notice (of not less than 14 days) to the said other line of the maximum quantity it will be prepared to receive and forward, and of the period during which the restriction will be necessary, and during such period the said Railway shall not be bound to receive more than the quantity so specified. This is not, however, intended to prevent special arrangements being made in case of any accidental interruption rendering the passage of traffic impossible.

CLAUSE XIII.

The week shall in all cases end at 12 o'clock on Saturday night. When the 30th June and 31st December do not fall on a Saturday, two returns shall be rendered: one for the period commencing from the first day of the last week to the end of the month, and another from the first day of the next month up to and including the second Saturday of the month.

CLAUSE XIV.

The day in all cases is to be reckoned as 24 hours commencing at 12 o'clock at night, part of a day to be reckoned as a day. Madras time shall be adopted in all cases. Sundays, Christmas day, and Good Friday shall be treated as ordinary working days.

CLAUSE XV.

Through traffic shall be understood in all cases to mean Coaching and Merchandise traffic which may be booked or invoiced in accordance with the terms of this agreement through from any station on one of the two contracting lines, or any line beyond, to any station on the other or any line beyond.

APPENDIX O—contd.

(a)—Traffic booked or invoiced by either of the two railways to or from Achnera is not to be considered as through traffic.

CLAUSE XVI.

The principle of this agreement shall be extended by each railway to any other railway, working in connection with it; the two railways parties to the agreement, being responsible to each other for all through traffic so forwarded.

Extension to other railways.

CLAUSE XVII.

Rolling stock shall be exchanged in accordance with the rules prescribed for metre-gauge Railways by the Government of India, Public Works Department, Circular No. XXII Railway, of 27th July 1883.

Interchange of rolling stock.

(a)—Only such rolling stock as shall be approved by the authorities of either railway shall be received over at the junction; and it shall be in the power of the authorities of each line to refuse to receive any rolling stock which may, for any reason, be considered unfit to run on the receiving railway.

(b)—The cost of transshipment of goods from the vehicles of one line into vehicles of the other line at the junction, which is rendered necessary by the unsuitability of the rolling stock of either line for exchange, shall be paid by the railway owning the unsuitable stock.

CLAUSE XVIII.

Open trucks containing damageable goods shall not be sent from one railway to the other without such notice as will admit of efficient arrangements being made for sheeting, if necessary.

Open trucks accepted only by special arrangements.

CLAUSE XIX.

Terms for hire of engines and vehicles, and for shunting power on special occasions, shall be settled from time to time by the two managements.

Hire of engines and vehicles.

CLAUSE XX.

Such records of interchange of traffic and stock shall be kept at Achnera Junction Station as may be agreed to by the two Traffic Superintendents.

Records at Junction.

CLAUSE XXI.

The entire Coaching and Goods work of the two Railways at Achnera Junction shall be performed for the two lines by the Rajputana-Malwa Railway on the following terms:—

Achnera Junction.

(a)—The Rajputana-Malwa Railway shall appoint a joint staff to deal with all the through and local traffic, Coaching and Merchandise, of the two lines at Achnera Junction; and the cost of the joint station working, including Staff, Stores, Stationery, Police, &c., shall be apportioned between the two lines as follows:—

(i)—Salaries of Staff and Police, including the transshipment of goods and the labor employed in shunting and marshalling trains as also the cost of Stores, Stationery, &c., for station use, including oil for lighting purposes; and all damages to stock within the Achnera yard:—the Cawnpore-Achnera State Railway to pay half the total cost, the other half being borne by the Rajputana-Malwa Railway.

CLAUSE XXII.

(a)—Each Railway shall supply the lamps and other running Stores necessary for its own trains as well as the tickets, way bills, and other station forms necessary for its own particular purposes as also the menial staff for its own running rooms.

Forms and Stores for trains, &c.

(b)—The Rajputana-Malwa Railway shall provide staff and oil for cleaning, lighting, and lubricating the vehicles attached to all trains, and the staff necessary for the examination of all stock. The Cawnpore-Achnera Railway to pay all such expenses in connection with Coaching trains; the expenses of goods trains to be equally divided.

APPENDIX O—concl'd.

CLAUSE XXIII.

For the shunting and marshalling of its own trains and vehicles in the Achnera yard, each Railway shall provide its own engine power and drivers, subject to the control of the joint staff, unless otherwise arranged.

Engine power for shunting.

CLAUSE XXIV.

The cost of erecting the Achnera station buildings, goods sheds, and all premises and staff quarters which are used for traffic purposes by both Railways, and of such alterations and additions as may be from time to time required to be used in common by both Railways, is to be ascertained and recorded; and the plans and estimates of future alterations and additions are to be agreed upon from time to time between the two Railways before any new work is commenced. The expenditure thus agreed upon and incurred is to be provided by the Rajputana-Malwa Railway, and an annual rental at the rate of $7\frac{1}{2}$ per cent. upon the total amount spent from time to time, less the actual cost of Achnera Station and yard as it stood on the 1st January 1882 is to be charged to Joint Station Expenses' Account payable by both Railways in equal proportion. This charge to include all ordinary maintenance and renewal.

Rent for joint station, &c.

CLAUSE XXV.

The Joint Station Master shall be equally subject to the orders of the Traffic Superintendents of the two Railways for the special work of each line as affecting the Joint Station; he shall perform such duties as are demanded of Station Masters on each Railway, and shall render all Working and Audit Returns which are required.

Joint Station Master equally under orders of two Railways.

CLAUSE XXVI.

The station premises, working, and books shall be open to inspection by the officers of either Railway

Books open for inspection.

CLAUSE XXVII.

The staff of the Cawnpore-Achnera State Railway are, while in the limits of the Achnera Station, to obey and be bound by all the rules and regulations, and also all instructions which may be from time to time in force, and which may be issued by the authorities of the Rajputana-Malwa Railway.

(b)—The Rajputana-Malwa Railway is to have the same control over the staff of the Cawnpore-Achnera State Railway, while within the limits of the Achnera Station, as if they were the staff of the Rajputana-Malwa Railway itself.

CLAUSE XXVIII.

All damages or losses which either of the Railways may sustain, or be put to in consequence of the Joint Station Staff, whether arising from carelessness or otherwise, shall be charged as follows:—

Responsibility for faults or omissions on part of joint staff.

- (i) In through traffic in equal proportions by the two Railways.
- (ii) In local traffic to the Railway whose traffic is concerned.

CLAUSE XXIX.

All questions which may arise in carrying out these arrangements, upon which the Traffic Superintendents of the two Railways cannot agree, shall be referred to the Manager of the Rajputana-Malwa Railway and the Manager of the Cawnpore-Achnera State Railway; and in case of any difference of opinion between the two Railways as to the construction of any part of this Agreement, or as to its application to any particular case, it shall be open to either Railway to call for an arbitration to be conducted in the ordinary way.

Disputed points to be referred to Manager.