

GOVERNMENT OF INDIA  
RAILWAY DEPARTMENT  
(RAILWAY BOARD)

# INDIAN RAILWAYS

## in 1922-23

*Administration Report, Volume I*



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- (2) Classified List and Distribution Return of Officers of all Indian Railways. Published half-yearly. Price Re. 1.
- (3) History of Indian Railways constructed and in progress, corrected up to 31st March 1923. Published quinquennially. Price Rs. 5-12.
- (4) History of Services of the Officers of the Engineer and Superior Revenue Establishment of State Railways. Published yearly. Price Rs. 2-8.

(5) Pocket Edition of the schedule of dimensions to be observed on all 5' 6", 3' 3½" and 2' 6" gauge railways in India.

#### TECHNICAL PAPERS.

(6) Over 200 papers have been published by the Technical Section of the Railway Board's office. The papers comprise—

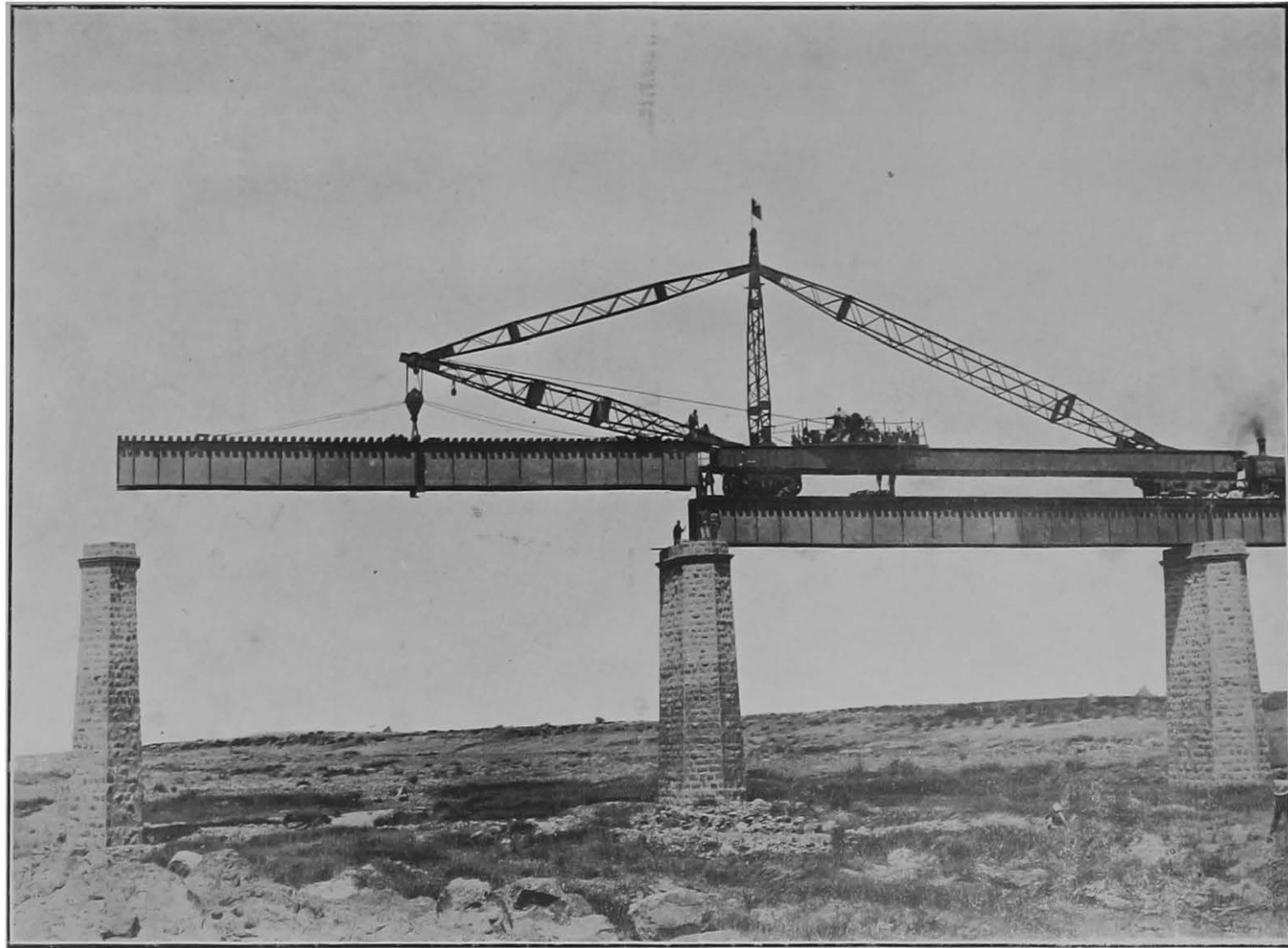
- (a) Original descriptions of Railway Works and studies of railway problems in India and elsewhere.
- (b) Reprints of articles from Foreign Engineering Magazines.
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A complete list of the papers can be obtained *gratis* from the Chief Engineer with the Railway Board. A few of the more important Technical papers are mentioned below :—

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The design of well foundations for bridges ..	(Compiled).
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Drift sand and drift snow .. ..	C. J. COLE.
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Ruling Gradient and the Minor Details of Alignment.	G. RICHARDS.
Note on the manufacture and use of Cement Concrete Blocks for lining large Liquid Fuel Reservoirs on the North Western Railway.	N. PEARCE.
Notes on Locomotive Design in relation to Gradients and Curves.	R. K. BIERNACKI.
Note on Locomotive Design as it affects the Bridge Engineer.	C. W. ANDERSON.
Possibilities of Steam Railway Electrification	
Control of Railway Traffic by Telephone—	
(i) Methods adopted on the Great Indian Peninsula Railway.	V. L. DEAN.
(ii) Methods adopted in England .. ..	Captain W. R. R. MOORE BENNET.
The Hardinge Bridge over the Lower Ganges at Sara with Supplementary Notes on the original Projects.	Sir ROBERT GARLES, F.C.H.M., Inst., C.E.
The Stability of Hill slopes .. ..	C. S. FOX.
Technical Education in Relation to Railways in America.	H. L. COLE.
Indian Standard Locomotives (5' 6" gauge) ..	H. L. COLE.

The prices of the papers vary from Annas Four to Rupees Eight.

The books and papers can be bought from the Superintendent, Government Printing, India, 8, Hastings, Street, Calcutta.



Erection of Girders on the Krishna Bridge, Secunderabad-Gadwal Railway.

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## PREFACE.

In presenting their Administration Report for 1922-23, the Railway Board wish to draw attention to the changes made in the form of the Report.

In accordance with the decision of Government on the recommendations of the committee appointed for the revision of statistics on Indian Railways, the statements in Volume II have been divided under three heads—

Financial,  
Statistical, and  
Appendices,

and in addition to the comparative figures for individual railways, the financial and statistical results have been summarised for India as a whole.

The text of the report in Volume I follows as far as possible the same order as that adopted in Volume II and each chapter corresponds to a statement or a group of statements found in that Volume.

The first chapter summarises the more important events and results of railway working during 1922-23, all of which are dealt with more fully in the chapters which follow.

For statistical purposes the railway administrations have been divided into 3 classes—

Class I consists of railways with gross earnings of Rs. 50 lakhs and over a year,

Class II—railways with gross earnings of less than Rs. 50 lakhs a year but exceeding Rs. 10 lakhs, and

Class III—railways with gross earnings of Rs. 10 lakhs and under a year.

Class I railways now submit their statistical returns in full detail while Class II and Class III railways have to submit them in a condensed form.

*Note on Indian Currency.*—For the information of foreign readers of this report who are unaccustomed to the use of Indian currency and units, it may be mentioned that Rs. 1,00,000 is usually referred to colloquially as “a lakh of rupees.” Similarly 100 lakhs constitute “a crore.”

During the period covered by this report the value of the rupee approximated closely to a rate of exchange of Rs. 15 to the pound sterling the “lakh” being roughly £6,666 and a “crore” £666,666.

An anna is a 16th part of a rupee and a pie the 12th of an anna. An anna is at present approximately equal to one penny.

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- (ii) A map of railway systems in India, Burma and Ceylon, showing each system in a distinctive colour, prepared by Mr. J. H. Trott (included only in copies of the report used for official purposes. It may be obtained by the public, on payment, from Mr. J. H. Trott, Aligarh, United Provinces, who holds the copyright).



# CHAPTER I.

## GENERAL SUMMARY.

The following statement brings out the more important features of the operation of Indian railways during the year 1922-23 together with similar information for the year 1921-22 :—

**General  
position and  
results of  
working.**

<i>Mileage open on the 31st March—</i>	<i>1922-23.</i>	<i>1921-22.</i>
1. Single line . . . . .	34,453·07	31,201·89
2. Double line or more . . . . .	3,161·84	3,063·78
3. Total route mileage . . . . .	37,617·91	37,265·67
4. Total track mileage . . . . .	50,219·74	49,198·73
 <i>Capital and Revenue Earnings and Expenditure—</i>		
5. Total capital outlay including ferries and suspense on open line . . . . . Rs.	6,69,39,19,000	6,47,97,17,000
6. Gross earnings . . . . . Rs.	1,05,65,19,000	92,88,67,000
7. Gross earnings per train mile . . . . . Rs.	6·44	5·85
8. Working expenses . . . . . Rs.	72,99,49,000	70,79,95,000
9. Working expenses per train mile . . . . . Rs.	4·45	4·46
10. Net earnings . . . . . Rs.	32,65,70,000	22,08,72,000
11. Percentage of working expenses to gross earnings . . . . .	69·09	76·22
12. Percentage of net earnings on total capital outlay . . . . .	4·88	3·41
 <i>Equipment—</i>		
13. Locomotives . . . . .	9,710	9,673
14. Passenger carriages . . . . .	*19,663	*18,934
15. Other passenger vehicles . . . . .	*5,032	*5,315
16. Goods stock . . . . .	†209,134	†203,796
 <i>Passenger Traffic—</i>		
17. Number of passengers carried . . . . .	572,695,400	569,681,300
18. Passenger miles . . . . .	18,923,943,000	19,808,613,000
19. Average journey . . . . . Miles	33·04	34·77
20. Earnings from passengers carried . . . . . Rs.	37,59,22,000	34,29,32,000
21. Average rate charged per passenger per mile Pies	3·81	3·32
22. Total coaching earnings . . . . . Rs.	43,82,67,000	40,33,63,000
 <i>Goods Traffic—</i>		
23. Number of tons carried . . . . .	93,701,000	90,142,000
24. Net ton miles . . . . .	18,324,825,000	17,712,901,000
25. Average haul . . . . .	195·56	196·50
26. Earnings from tonnage carried . . . . . Rs.	57,87,55,000	49,05,81,000
27. Average rate charged for carrying a ton of goods one mile . . . . . Pies	6·11	5·37
28. Total goods earnings . . . . .	58,30,04,000	49,52,31,000
<i>Number of employees . . . . .</i>	753,472	759,816

At the close of the year 1922-23 the total capital invested in railways was Rs. 6,69,39,19,000 represented by a property which in terms of route

\*Excluding departmental vehicles.  
†Excluding Railway service wagons.

mileage amounted to 37,618 miles of railway. This property brought in to the owners a return of 4.88 per cent. on the capital outlay. Similar figures for the railways owned by the State are :—

	Rs.
Total capital outlay . . . . .	5,93,53,35,000
Total route mileage . . . . .	27,005
Return on capital outlay . . . . .	4.54

After providing for interest, annuity and other similar charges the working of the State-owned railways resulted in a net gain of Rs. 1,21,99,000 as compared with a net deficit of Rs. 9,27,30,000 in the previous year. This result was largely due to enhancements of rates and fares brought into force during the year, the average rate charged for carrying a passenger one mile having risen from 3.32 pies to 3.81 pies and the average rate for carrying a ton of goods from 5.37 pies to 6.11 pies.

**New construction.**

2. During 1922-23 new lines of an aggregate length of 381.69 miles were opened for traffic, while at the close of the year a total of 862.78 miles were under construction including 86.80 miles of the Sutlej Valley Railway, dismantled during the war and now being replaced. Investigations were also undertaken in respect of a large number of further proposals.

**Rolling-stock.**

3. Considerable progress towards the standardisation of locomotives and rolling-stock is recorded.

**Railway staff.**

4. The number of staff employed on railways showed a slight decrease as compared with 1921-22. During the year Mr. H. L. Cole, completed his investigations and submitted his report on the training of Railway Officers and Subordinates in India.

The year was marked by a complete absence of strikes and other serious unrest with the exception of a strike on the East Indian Railway which started in the previous year and ended in April 1922.

**Accidents.**

5. During the year the number of persons killed as the result of accidents on railways fell by 565 to 2,740 as compared with 1921-22. There was also a decrease of 139 to 3,469 in the number injured. An analysis of these figures and brief accounts of the more important accidents will be found in Chapter XI.

**Railway materials and stores.**

6. The values of materials and stores (other than coal, coke, stone, bricks, lime, ballast, etc.), purchased during the year fell to Rs. 30.86 crores representing a decrease of Rs. 7.75 crores as compared with 1921-22. The continued fall in prices was chiefly responsible for this result. The policy of making the railways to an increasing extent self-supporting as regards their coal supply was proceeded with. During the year railway-owned collieries produced 1,628,034 tons out of a total consumption of 6,186,370 tons.

The question of a reduction in the very large amounts of capital locked up in the shape of stores balances was further investigated.

A Committee of the Legislature was occupied during the year in considering what steps were practicable to encourage the establishment in India of Railway Industries and in revising the Indian stores rules.

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7. The appointment of Mr. C. D. M. Hindley as Chief Commissioner **Headquarters** of Railways in November 1922, marked the inception of the reorganisation **organisation.** of the controlling authority under the Government of India a matter which was the subject of special recommendations by Sir William Acworth's Committee of 1921.

8. The progress made during the year towards evolving a system of **Statistics.** statistics which, while enabling the Railway Board to exercise effective control, will at the same time help to free railway systems from unnecessary interference, is described in Chapter II.

9. The Retrenchment Committee prescribed over by Lord Inchcape **Retrench-** issued their report in March 1923. Railway expenditure is dealt with at **ment.** considerable length in Part II of that report.

10. The central administration of railways continued to receive the **Advisory** assistance of the Central Advisory Council constituted in the preceding **councils and** year, and the formation of Local Committees on the more important **committees.** railways was, at the close of the year, approaching completion in most cases.

11. The recommendations of a Special Committee on the revision of **Compensa-** Railway Risk Note forms were under consideration at the close of the **tion claims** year. **and risk note**  
**forms.**

## CHAPTER II.

## GENERAL ADMINISTRATION.

**The Legisla-  
ture.**

12. During the year 1922-23, two sessions of the Legislature took place in September and January—March, and considerable interest was taken in Railway Administration. This is perhaps best illustrated by the number of railway questions asked. These amounted to 547, during the two sessions and were largely concerned with increased conveniences for 3rd class passengers and Indianisation of the higher ranks of railway service.

It was, however, mainly through the medium of debates on resolutions that the Legislature was able to express its views on the larger questions of Railway Administration. The more important resolutions were those dealing with Railway Finance, the treatment of 3rd class passengers, and State *versus* Company Management and finally the prolonged debates on the Railway Revenue Budget, at the close of the year. The resolutions moved and the speeches delivered during the debate were chiefly directed towards the reduction of expenditure and were based largely on the ideas and recommendations contained in the Retrenchment Committee's Report. The Assembly was animated by a desire to see all reasonable economies effected and although there was a tendency to deal with some portions of the budget in detail, the action of the majority was in the direction of assimilating the grant to the figure recommended by the Committee.

Both Houses have representatives on the Central Advisory Railway Council which assembled five times during the year and considered the following subjects :—

The Constitution of local advisory committees, the results of working of strategic railways, branch line policy, separation of the railway budget, and State *versus* Company management.

**Re-organisa-  
tion of  
Railway  
Board.**

13. The machinery by which the Government of India controls the railways of the country has been frequently under review in the past. The basis of the present system was evolved in 1904 as a result of the investigations of Mr. Robertson and the Railway Board was established in the following year. Some of the difficulties involved in the constitution of a controlling authority for the railways of India may be realised from a study of the "Notes on the Relation of the Government to Railways in India" printed as an appendix to this report. These notes bring out the great diversity of conditions prevailing which involve the Railway Department in the exercise of the functions of—

- (a) the directly controlling authority of the three State-worked systems aggregating 9,028 miles,
- (b) the representative of the predominant owning partner in systems aggregating 22,949 miles,

- (c) the guarantor of many of the smaller companies, and
- (d) the statutory authority over all railways in India.

Moreover in all questions relating to railways or extra municipal tramways in which Provincial Governments are concerned, the Railway Department is called upon to watch the interests of the Central Government and is frequently asked to advise the Local Governments. Its duties do not end there. The future development of railways depends largely on the Government of India and the Railway Department is therefore called upon to plan out schemes of development, to investigate and survey new lines and to arrange for financing their construction. The statement of the varied responsibilities of the Government of India in regard to railways might be extended almost indefinitely. It will perhaps be sufficient to mention only the complications that may and do arise owing to the very considerable railway mileage in Indian States. In the exercise of all these functions the Railway Department is a Department of the Government of India, its policy must be in accord with the policy of the Government as a whole and every decision must be made with that consideration in mind. The evolution of a satisfactory authority for the administration of these varied functions has proved extremely difficult and the question was one of those referred to the Railway Committee (1920-21) presided over by Sir William Acworth who expressed the unanimous opinion that material changes were necessary in the constitution of the Railway Board. Amongst their recommendations they advised the early appointment of a Chief Commissioner of Railways whose first duty should be to prepare a definite scheme for the reorganisation of the Railway Department.

The principal constitutional change involved in this appointment is that the Chief Commissioner who takes the place of the President of the Railway Board is solely responsible—under the Government of India—for arriving at decisions on technical matters and for advising the Government of India on matters of railway policy and is not, as was the President, subject to be out-voted and over-ruled by his colleagues on the Board.

The detailed re-organisation of the Railway Board in accordance with the Chief Commissioner's proposals was under the consideration of Government at the close of the year, but one of the most important of his recommendations namely the appointment of a Financial Commissioner was considered of particular urgency and the Secretary of State's sanction was therefore obtained to the appointment of Mr. G. G. Sim, C.I.E., I.C.S., who joined the Board on April 1st, 1923.

While in the person of the Chief Engineer the Railway Board has always had available the technical advice of a senior Civil Engineer, in Mechanical Engineering questions it has had to depend on outside assistance. The disadvantages of this arrangement have become increasingly evident and it was therefore decided with effect from November 1st, 1922, to create the new appointment of Chief Mechanical Engineer with the Railway Board.

**State versus  
Company  
management.**

14. The relative advantages and disadvantages of State and Company management of the railways owned by Government which comprise the great bulk of the railway mileage in India have been the subject of discussion in official circles and the public press for many years. In India the question is complicated by the fact that the more important companies have not in recent years been the owners of the railways which they manage and the headquarters of their Boards are in London. The subject was one, perhaps the most important, of the terms of reference of the Aeworth Railway Committee. That Committee was, unfortunately unable to make a unanimous recommendation on this point, their members being equally divided in favour of State management and Company management. They were, however, unanimous in recommending that the present system of management by Boards of Directors in London should not be extended beyond the terms of the existing contracts and this recommendation has met with general public acceptance. During the year under review, the question was again referred to certain Local Governments and public bodies and opinions collected and discussed. The approaching termination of the East Indian Railway contract on 31st December 1924 and of that of the Great Indian Peninsula Railway on 30th June 1925 rendered an early decision on this question imperative. When the question was debated in the Legislative Assembly in February 1923, the non-official Indian Members were almost unanimously in favour of State management and indeed were able to carry a resolution recommending the placing of the East Indian Railway and the Great Indian Peninsula Railway under State management at the close of their present contracts. The Government of India, however, expressed themselves as being so convinced by the almost universal failure of this method in other countries that they proposed, while accepting the necessity for taking over the management of the East Indian Railway and the Great Indian Peninsula Railway to continue their efforts to devise a satisfactory form of Company domiciled in India to take these railways over eventually on a basis of real Company management. The position at the close of the year under review was that arrangements had been instituted for bringing both these railways under State management at the termination of their contracts.

**Re-organisa-  
tion  
problems.**

15. The growing complexity of railway administration in India and the evolution of new methods of controlling traffic have given a stimulus to the efforts of various railways to revise their organisations. The general direction in which this re-organisation is being considered is that of consolidation into one department the operating or transportation work of the railway, including the provision of power. The advisability of adopting the divisional system in place of the present rather highly centralised departmental system has also been receiving attention.

On one railway, the Great Indian Peninsula Railway, re-organisation has taken place during the year the details of which are as follows—

- (a) the separation of the commercial and operative duties of the Traffic Department,

- (b) the separation of the mechanical and running duties of the Locomotive Department,
- (c) the fusion of the operative duties of the Traffic Department with the running duties of the Locomotive Department.

Under the new organisation there is now—

- (1) a Chief Transportation Superintendent in charge of all operating functions,
- (2) a Chief Traffic Manager in charge of the commercial side of the railway,
- (3) a Chief Mechanical Engineer in charge of the design and construction of engines and of all repairs and renewals of engines carried out in the central workshops.

This organisation is more or less similar to the divisional organisation found on most American Railways with the exception that the Engineering Department still works on a departmental basis.

16. As foreshadowed in last year's Administration Report, a Committee consisting of one officer from the Traffic Department and one from the Audit Department of the North Western Railway was appointed in October 1922 to suggest alterations in the existing administrative statistics furnished by railways to the Railway Board and to bring them into line with present up to date practice. **Revision of railway statistics.**

Public interest in railway statistics centres mainly in their financial aspect. For many years after the first railways were opened, such statistics as were produced were primarily directed towards showing the return on capital invested, although commodity statistics were also prepared to some extent for trade purposes. It was only when comparisons between different railway systems came to be a matter of interest that statistics of actual working were found to be necessary and even then the tabulation and examination of these figures were directed primarily towards ascertaining the ultimate cost of transportation as a marketable commodity. The introduction of scientific methods of railway working in recent years, however, has shown that properly prepared statistics form a most valuable portion of the machinery whereby the railway management is able to improve efficiency in the details of working and effect economies in working costs.

The existing statistics are based on the report of a Committee which sat in 1880 to revise the form of the statistics. Considerable changes have been introduced since then, and certain individual railway administrations have made considerable progress in the introduction of modern railway statistics, but the Aeworth Committee which sat in 1921 criticised the figures prepared and used for the purposes of the Railway Board as being out of date and not in conformity with present day practice.

The main changes recommended by the Committee of 1922 and accepted by the Railway Board are :—

- (1) The introduction of monthly statistics in addition to the yearly statistics at present furnished to the Railway Board.
- (2) The classification of railways under three classes for statistical purposes.

The former change will ensure the supply of up-to-date information of the working of railways to the Railway Board and will enable railways to compare their own working with that of other railways month by month as is done in England and America.

The second change will relieve the smaller railways of the necessity for compiling the detailed statistics which larger railways have to prepare.

One of the members of the Committee was placed on special duty to supervise the introduction of the revised statistics on all railways. The question of the appointment of a permanent officer in charge of the statistical work on the Railway Board as recommended by the Acworth Committee is being considered in connection with the proposals for the reorganisation of the Railway Board.

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## CHAPTER III.

### CAPITAL EXPENDITURE.

(See Statements I, II and III, Section A and 1 and 2, Section B of Volume II).

17. The total capital expenditure incurred on all railways, including those under construction, in India up to the end of March 1923 amounted to Rs. 680.23 crores, of which Rs. 602.95 crores represented outlay on the State-owned railways inclusive of premia paid in the purchase of Companies' lines, the balance having been provided by Indian States, Companies and District Boards. Total capital expenditure.

The actual liability incurred by Government in regard to State-owned railways may be stated at Rs. 623.49 crores at end of 1922-23 as follows :—

		£
Liability and debt incurred in purchase of railways ..		149,424,826
Liability and debt cancelled by the operation of Annuities and Sinking Funds .. .. .		27,534,028
		121,890,798
		Rs.
Converted at Rs. 15=£1 .. .. .		1,82,83,61,970
Direct expenditure by Government .. .. .		4,40,65,41,004
		6,23,49,02,974

The outlay during the year 1922-23 was Rs. 22.58 crores, of which Rs. 18.86 crores represented expenditure incurred on State-owned lines. The distribution of this sum between open line works and rolling-stock and new lines is shown below as well as figures for the previous 4 years and for 1913-14 for purposes of comparison :—

Year.	OPEN LINES.			New lines.	GRAND TOTAL.
	Works including stores.	Rolling-stock.	TOTAL.		
	Rs. crores.	Rs. crores.	Rs. crores.		
1913-14	9.29	7.31	16.60	1.86	18.46
1918-19	5.02	.71	5.73	.51	6.24
1919-20	8.72	4.56	13.28	.21	13.49
1920-21	12.91	10.15	23.06	1.02	24.08
1921-22	11.28	10.04	21.32	2.11	23.43
1922-23	6.58	9.54	16.12	2.74	18.86

The distribution of the expenditure over open line works, rolling-stock and new construction on the various lines is shown in the summary

below :—

Railway.	OPEN LINES.			New lines.	GRAND TOTAL.
	Works, etc.	Rolling-stock.	Total Open lines.		
	Rs. crores.	Rs. crores.	Rs. crores.		
Bengal-Nagpur . . . . .	1·67	1·42	3·09	·69	3·78
North Western . . . . .	·47	1·12	1·59	·94	2·53
Great Indian Peninsula . . . . .	·07	·84	·91	·40	1·31
East Indian . . . . .	— 47	2·80	2·33	·14	2·47
Bombay, Baroda and Central India . . . . .	2·00	·70	2·70	·10	2·80
South Indian . . . . .	·95	·26	1·21	..	1·21
Eastern Bengal . . . . .	— 08	·71	·63	..	·62
Madras and Southern Mahratta . . . . .	·28	·46	·74	..	·74
Other railways . . . . .	1·69	1·23	2·92	·47	3·39
<b>TOTAL</b>	<b>6·58</b>	<b>9·54</b>	<b>16·12</b>	<b>2·74</b>	<b>18·86</b>

**Capital****Programme.**

18. As was explained in the report for 1921-22, the Government of India with the approval of the Secretary of State had decided definitely to provide the sum of Rs. 150 crores for expenditure on the rehabilitation of railways during the quinquennium commencing with the year now under review. The programme of works on which that sum was based was prepared in 1921 at a time when prices of materials were still high and unstable. Moreover the position of the general Revenues of India rendered impossible the provision of the full amount, chargeable to revenue expenditure, which the capital programme involved. These conditions coupled with the fact that 1922-23 was the first year of the quinquennium and many of the larger works were therefore in the preliminary stages explain why less than 2-3rds of the annual quota of the Rs. 150 crores were actually expended. The original programme provided for a general increase in facilities which had long been recognised as essential if the railways were to render a reasonably efficient service. While many of these works would certainly give an adequate and immediate return, in the case of others it was found difficult without further full examination to justify the proposed expenditure. In March 1923 the report of the Incheape Committee was received. In dealing with the capital programme that Committee recommended that, except in the case of commitments already entered upon, no further capital expenditure should be incurred on certain lines classed by the Committee as unremunerative, until the whole position has been examined by the Financial Adviser and reviewed by Government. And further, that if the full amount of the capital could not be immediately employed on remunerative works on open lines, it would be a matter for consideration whether some portion of it could not with advantage be devoted to the construction of new lines promising an adequate return. In view of these recommendations it was decided that the capital expenditure proposed for 1923-24 must be re-examined and that as regards the years 1924-25 to 1926-27 the whole programme must be recast.

The re-examination is now being actively undertaken and for this reason the programme of future improvements and developments is not dealt with in this report.

## CHAPTER IV.

### EARNINGS.

(See Statements II, III, VII and VIII, Section A and 2, 3, 8 and 9, Section B of Volume II).

19. The earnings of railways are dependent on the general prosperity Trade review. of the country which in the case of India is most easily measured by the agricultural position and the returns of foreign trade. The monsoon of 1922 was stronger than usual in the United Provinces and North East India and approximately normal amounts of rain were received in the central parts of the country and over the greater part of North East India. The rainfall for the year was as a whole fairly well distributed except in Sind and Baluchistan. The total production of rice was nearly the same as in the preceding year. Ground nut and sugar cane yielded 21 and 15 per cent. respectively better than in 1921-22. The outturn of the two important fibre crops, cotton and jute, showed increases of 16 and 4 per cent. respectively. The crops of wheat and winter oil seeds of 1921-22 were much better than in 1920-21. As compared with 1921-22, itself a good year except as regards jute, the agricultural position showed a substantial improvement.

After two years, showing the unusual phenomenon for India of adverse trade balances, in 1922-23 the visible balance of trade, was in favour of India to the extent of Rs. 28 crores. The value of private merchandise imported decreased by 13 per cent. from Rs. 266 crores to Rs. 233 crores while exports, including re-exports, increased by 28 per cent. from Rs. 245 crores to Rs. 314 crores.

Moreover, with the exception of the East Indian Railway strike, which extended into April 1922, there was no serious unrest among railway employees. Judged, then, by the usual criteria, conditions were favourable for an exceptionally good year for the railways.

20. The actual results however fell in some respects short of what Analysis of Railway earnings. might have been expected. The following statement shows in detail by commodities the traffic lifted during the last two years—

Commodity.	1921-22.		1922-23.	
	Tons originating on Home line in Millions.	Rs. in crores.	Tons originating on Home line in Millions.	Rs. in crores.
(1) Coal . . . . .	13.75	7.30	14.97	8.53
(2) Railway stores . . . . .	20.01	2.78	20.60	3.00
(3) Wheat and wheat flour . . . . .	1.53	1.83	1.63	2.37
(4) Rice . . . . .	3.91	3.37	3.95	3.76
(5) Other grains . . . . .	3.36	4.21	2.82	3.75
(6) Stone . . . . .	2.28	0.69	2.19	0.77
(7) Metals . . . . .	2.18	2.10	2.89	3.29
(8) Salt . . . . .	1.39	1.61	1.57	2.10
(9) Wood . . . . .	1.86	1.12	1.82	1.30
(10) Sugar . . . . .	1.42	2.52	1.33	2.45
(11) Oils and oil seeds . . . . .	2.07	3.10	3.12	5.31
(12) Cotton and yarn . . . . .	1.46	4.81	1.60	5.26
(13) Lime, chalk, etc. . . . .	1.12	0.40	1.15	0.48
(14) Jute and gunny bags . . . . .	.96	1.29	.98	1.54
(15) Fodder . . . . .	.98	0.80	.75	0.58
(16) Other Commodities . . . . .	5.25	11.59	8.74	13.41
TOTAL . . . . .	63.53	49.52	70.11	58.39

It will be noticed that of a total increase of 6½ million tons something over half occurred in various minor commodities not separately detailed and of the rest the only important increases occurred in oils and coal.

**Enhancement  
of rates and  
fares.**

21. With a view to obtaining an increase in the general revenues a surcharge was imposed on railway traffic in 1917 and enhanced in 1921. The determination of railway rates and fares is a very intricate business requiring careful consideration of local conditions and of the rates which a particular traffic will bear. The complete readjustment of rates and fares involves, therefore, considerable delay and it was largely for this reason that the surcharge remained in force up to the close of 1921-22 when it was replaced by a general enhancement of rates and fares which were brought into force from different dates on the various railway systems. This enhancement differed materially from the surcharge. The control of the Railway Board over rates and fares consists in the imposition of maxima and minima between which individual administrations are generally speaking at liberty to vary their rates. With effect from 1st April 1922, these maxima were increased in the case of passenger fares by from 25 to 33 per cent. and of goods rates by from 15 to 25 per cent.

These increases did not necessarily mean that all railways raised all or any of their rates and fares by these percentages. It is not yet possible to say to what extent this revision of rates and fares in replacement of the surcharge has affected the volume of traffic. The position is being closely watched by all railway administrations from a business point of view with the object of arriving, as nearly as possible, at such rates and fares as will result in the maximum of net receipts.

**Passenger  
traffic.**

22. Passenger earnings increased by about 9½ per cent. and represented approximately 30 per cent. of the total earnings. The following statement shows how these passenger earnings were divided among the classes :—

Year.	NUMBER OF PASSENGERS CARRIED (IN THOUSANDS)					EARNINGS FROM PASSENGERS (IN THOUSANDS OF RUPEES).				
	1st class.	2nd class.	Inter class.	3rd class.	Season and Vendor's tickets.	1st class.	2nd class.	Inter class.	3rd class.	Season and Vendor's tickets.
1913-14 . . .	812	3,461	12,371	410,960	30,114	Rs. 68,94	Rs. 88,70	Rs. 1,03,48	Rs. 18,37,03	Rs. 10,36
1914-15 . . .	725	3,462	12,618	403,559	30,722	59,78	89,89	1,03,31	17,62,06	19,35
1915-16 . . .	729	3,791	13,648	413,234	32,859	58,76	1,01,41	1,12,82	18,04,85	20,73
1916-17 . . .	823	4,607	14,349	431,456	34,796	72,26	1,30,01	1,22,41	19,61,59	21,02
1917-18 . . .	883	4,216	7,719	381,017	36,434	95,25	1,43,30	1,15,73	21,44,51	24,36
1918-19 . . .	1,048	5,119	8,721	404,368	40,456	1,11,60	1,72,66	1,42,88	24,42,81	27,74
1919-20 . . .	1,108	6,430	10,200	460,306	41,974	1,28,80	2,17,94	1,69,68	27,68,91	30,96
1920-21 . . .	1,148	7,129	11,750	490,280	48,939	1,30,48	2,26,40	1,91,10	28,91,25	37,24
1921-22 . . .	1,125	6,404	9,264	500,515	52,376	1,38,47	2,28,87	1,45,11	28,75,29	41,58
1922-23 . . .	9	5,133	8,129	502,851	55,665	1,39,72	2,11,77	1,38,30	32,20,85	48,58

It will be seen that there was a considerable falling off in numbers in the three upper classes and in the earnings from 2nd and inter. class passengers.

## CHAPTER V.

### WORKING EXPENSES.

(See Statements II and III, Section A and 2 and 4, Section B. of  
Volume II.)

23. The working expenses for all railways rose from Rs. 70.80 crores **General.** in 1921-22 to Rs. 72.99 crores in 1922-23. The summary below shows the distribution of this expenditure between the various departments :—

Department.	Work.	AMOUNT SPENT IN	
		1922-23.	1921-22.
		Rs. in crores.	Rs. in crores.
Engineering . . .	Maintenance of way, works and stations . . .	14.54	14.33
Locomotive . . .	Maintenance and renewing of engines and cost of fuel and running stores and other expenses attached to provision of motive power.	25.47	25.42
Carriage and Wagon . . .	Maintenance and running of carriages and wagons	9.85	9.39
Traffic . . .	Working of trains from a business standpoint, i.e., booking of passengers and goods and arrangements for transport.	11.58	11.24
Agency and others . . .	Agent's office expenses, Audit, Stores, Medical and Police charges, etc.	5.64	5.16
Ferry . . .	Steam boat expenses . . . . .	.35	.34
Miscellaneous . . .	Law charges, compensation, contribution to Provident Fund, etc.	5.56	4.02
	TOTAL . . .	72.99	70.80

The figures under Engineering, Locomotive and Carriage and Wagon comprise not only the ordinary cost of maintenance and working of the line and equipment in these departments but also the proportion of the expenditure on betterments and replacements which is debited to Revenue. During the year under review the ordinary expenditure on the ten principal railways shows decreases of Rs. 48 lakhs under Engineering, Rs. 13 lakhs under Locomotive and Rs. 23 lakhs under Carriage and Wagon coupled with increased Revenue expenditure on betterments and replacements of Rs. 69 lakhs under Engineering and Rs. 64 lakhs under Carriage and Wagon. The figures quoted indicate that so far as these departments are concerned, the cost of the ordinary working was somewhat less than in the previous year and that in the Engineering and Carriage and Wagon Departments some advance was made in replacing worn out and obsolete equipment. In the latter respect, however, as well as in working to their programmes of capital expenditure railway administrations continued

to be hampered by the restrictions of a system under which allotments of Programme Revenue depend, from year to year, on the general financial position. In the report for 1921-22 it was stated that, in pursuance of a recommendation of the Railway Finance Committee, measures had been initiated which, it was hoped, would provide a solution of the difficulty by the provision of a Depreciation Fund. These measures culminated in the appointment of a Committee of three expert Railway officers representing the Accounts and the Civil and the Mechanical Engineering Branches of railway administration. This Committee visited all the principal railways and, in March 1923, submitted a comprehensive report embodying the views of the various railway administrations.

**Traffic department.**

24. In view of the special endeavours of all railways to secure economies in working the increase in expenditure of Rs. 34 lakhs under Traffic is disappointing. The principal increases were nearly Rs. 17 lakhs on the North Western Railway and nearly Rs. 15 lakhs on the East Indian Railway. The Bombay, Baroda and Central India and the Great Indian Peninsula Railways showed savings under this head which in the case of the former amounted to over Rs. 10 lakhs.

**Agency and miscellaneous.**

25. Under the two heads Agency and Miscellaneous are debited charges on account of a large number of miscellaneous items of expenditure. Some of the increase under these heads is due to an alteration in the methods of accounting for Indian charges on imported stores and to increased customs' dues.

After making allowances for the increased expenditure on betterments and replacements and for various adjustments the total expenditure did not materially differ from that of the previous year nor was there any material modification in the amount of work done as an increase of 3.4 per cent. in goods ton miles was offset by a decrease of 4½ per cent. in passenger miles. The decrease from 76.22 to 69.09 of the operating ratio or percentage of working expenses to gross earnings is attributable solely to the increases in rates and fares.

## CHAPTER VI.

### LINES OPEN, UNDER CONSTRUCTION AND PROJECTED.

(See Statement IV, Section A and 5, Section B of Volume II.)

26. In Statement IV of Volume II will be found a summary of the **Open mileage** of railways at the close of 1922-23 and Statement 5 gives this mileage in detail for individual systems. The total route mileage on March 31st, 1923 was 37,617.91 made up of—

5' 6" gauge . . . . .	18,339	30	miles.
Metre gauge . . . . .	15,507	65	„
Narrow gauges . . . . .	3,720	96	„

Under the new re-classification adopted for Statistical purposes, *vide* Chapter II of this Report, this mileage is divided between the three classes of railways as follows :—

Class I . . . . .	34,332	03	miles	=	91½	per cent.
Class II . . . . .	1,710	34	„	=	4½	„
Class III . . . . .	1,575	48	„	=	4¼	„

Class I includes all the 5' 6" gauge mileage, 14,014.35 or about 90 per cent. of the metre gauge and 1,928.44 or 52 per cent. of the narrow gauges.

The State-owned 27,005.27 miles or about 72 per cent. and directly managed 7,678.59 miles or 20 per cent. of the total.

27. During the year under review, 381.69 miles of new lines were opened for public traffic. Of this mileage 192.90 miles belong to Class I, 66.18 miles to Class II and 122.61 miles to Class III railways. **Lines opened during 1922-23.**

The following is the list of the new lines opened during the year :—

Name of line.	Gauge.	Length.	Owner.	Working Agency.	Date of pening.
Onlajori-Badampahar . . . . .	5' 6"	21 08	State . . . . .	Bengal-Nagpur Railway Co.	23-10-22.
Kasta Coal-field . . . . .	5' 6"	17 01	State . . . . .	East Indian Railway Co.	15-5-22.
Nagpur-Katol . . . . .	5' 6"	38 04	State . . . . .	Great Indian Peninsula Railway Co.	15-1-23.
Pa'sana-Sikar . . . . .	3' 3¾"	17 02	Jaipur State . . . . .	Bombay, Baroda and Central India Railway Co.	1-12-22.
Alon-Budalin . . . . .	3' 3¾"	14 00	Burma Government	Burma Railways Co.	1-7-22.
Pyinmana-Lewe . . . . .	3' 3¾"	10 26	Do. . . . .	Do. . . . .	1-8-22.

Name of line.	Gauge.	Length.	Owner.	Working Agency.	Date of opening.
Bikaner-Ko'ayat . . .	3' 3½"	28·57	Bikaner Durbar . .	Jodhpur-Bikaner Railway.	30-10-22
Shriramnagar-Gadwal . .	3' 3½"	7·84	His Exalted Highness the Nizam of Hyderabad.	Nizam's Guaranteed State Railways Co.	1-7-22
Tinnevelly-Tiruchendur . .	3' 3½"	38·18	District Board of Tinnevelly.	South Indian Railway Co.	24-2-23
Total Class I . . .	..	192·90			
Gadhakda-Rajula Road . .	3' 3½"	13·00	Bhavnagar State . .	Bhavnagar State . .	10-6-22
Rajula Road-Mahuva Dock	3' 3½"	23·44	Do. . . . .	Do. . . . .	22-11-22
Tagdi-Dhanduka . . . . .	3' 3½"	5·92	Do. . . . .	Do. . . . .	22-11-22
Motipura-Tankhala . . . . .	2' 6"	23·82	Baroda State . . . . .	Baroda State . . . . .	15-3-23
Total Class II . . . . .	..	66·18			
Jamnagar-Khambalia . . . . .	3' 3½"	33·56	Navanagar Durbar . .	Jamnagar Railway . .	1-4-22
Khambalia-Kuranga . . . . .	3' 3½"	32·36	Do. . . . .	Do. . . . .	28-3-23
Kuranga-Adatra . . . . .	3' 3½"	37·03	Baroda State . . . . .	Baroda State . . . . .	17-6-22
Petlad-Bhadran . . . . .	2' 6"	13·41	Do. . . . .	Do. . . . .	1-6-22
Kulasekharapatnam Sugar Factory-Tiruchendur.	2' 0"	6·25	Messrs. Parry & Co. of Madras.	Messrs. Parry & Co. of Madras.	1-8-22
Total Class III . . . . .	..	122·61			

**Lines under construction during 1922-23.**

28. A total of 862.78 miles of line were under construction at the end of the year. Of this mileage 825.30 miles are being constructed by Class I, 15.14 miles by Class II and 22.34 miles by Class III Railways.

The following table will show the progress reached by each line as well as the names of the Constructing Agencies :—

Name of line.	Gauge.	Length.	Constructing Agency.	Progress of work on 31st March 1923. Proportion completed.
Amda-Jamda . . . . .	5' 6"	65·60	Pengal-Nagpur Railway Co.	·85
Bokharo-Ramgarh (Bermo-Duncya).	5' 6"	18·75		·92 on Bermo-Sawang Section. ·70 on Sewang-Duncya Section.
South Karanpura (Duncya to a point near Damoodar river.)	5' 6"	21·87	East Indian Railway Co.	·15
Talchar Coal-fields . . . . .	5' 6"	61·00		·09
Hesla-Chandil . . . . .	5' 6"	74·00	Great Indian Peninsula Railway Co.	·01
Sakri Ghat . . . . .	5' 6"	1·80		..
Toposi-Baraboni Chord . .	5' 6"	3·70	Great Indian Peninsula Railway Co.	·74
Itarsi-Nagpur (Katol-Amla)	5' 6"	65·70		·91



Name of line.	Gauge.	Length.	Constructing Agency.	Progress of work on 31st March 1923. Proportion completed.
Majri-Rajur . . . . .	5' 6"	13·22	Great Indian Peninsula Railway Co.	·45
Harbour Branch Extension (overhead connection).	5' 6"	2·12		·51
Balharshah-Warangal (Kazipet-Ramgundam).	5' 6"	58·75	Nizam's Guaranteed State Railways Co.	·80 on Kazipet Goliara Section.
Khyber (Jamrud to Landikhana).	5' 6"	26·13	State . . . . .	·31
Kasur-Pakpattan . . . . .	5' 6"	86·80	North Western Railway	·86
Katakhal-Lalabazar . . . . .	3' 3½"	23·49	Assam-Bengal Railway Co.	·56
Dholka-Dhanduka . . . . .	3' 3½"	31·27	Bombay, Baroda and Central India Railway Co.	·68
Sikar-Jhunjun . . . . .	3' 3½"	39·85	Jaipur State . . . . .	·40
Budalin-Saingbyin . . . . .	3' 3½"	12·51	Burma Railways Co. . . . .	·99
Segyi-Ye-U . . . . .	3' 3½"	23·54		·08
Moulmein-Ye . . . . .	3' 3½"	88·71		·45
Lewe-Taungdwingyi . . . . .	3' 3½"	56·99		·55
Marwar-Jujajwar . . . . .	3' 3½"	21·50	Jodhpur-Bikaner Railway.	·46
Gadwal-Kurnool . . . . .	3' 3½"	28·00	Nizam's Guaranteed State Railways Co.	·75
Total Class I . . . . .	..	825·30		
Jambur-Prachi Road . . . . .	3' 3½"	15·14	Junagad Railway . . . . .	·97
Total Class II . . . . .	..	15·14		
Dholpur-Rajakhera . . . . .	2' 6"	22·34	Dholpur-Bari Railway . . . . .	·16
Total Class III . . . . .	..	22·34		

Two projects of general interest were sanctioned for construction during the year. Their importance lies in the fact that they will open up new coalfields and relieve, to some extent, the congestion on the older coal lines. They are :—

*The Hesla-Chandil.*—With the opening up of the Bokharo-Ramgarh Coal-fields, it became necessary to construct a railway westward through Bermo to Duncya and subsequently the extension of this line southward to Hesla was approved as being the readiest means of serving the South Karanpura fields. It was, however, recognised that this line could economically deal only with the South Karanpura traffic for the North and East and that an outlet to the South was also essential. With this object, surveys for a line known as the Hesla-Manharpur were carried out. As a result of these surveys it was found that any direct line to the South, having to cross the Ranchi Plateau, would not only be exceedingly expensive, but, involving as it did a large amount of development, would actually give a longer route than the comparatively cheap and easy alignment

following the Subarnarika Valley. This alignment was, therefore, selected and the preliminary work of construction undertaken.

*Talcher Coal-fields Railway.*—The construction of this railway which is 61 miles in length and takes off the East Coast Section of the Bengal-Nagpur Railway between Kapilas Road and Jagatpur stations has been sanctioned with a view to enable the Talcher Coal-field to be opened up. The benefits to be obtained by an alternative and more adjacent coal supply for Southern India hardly need emphasising.

**Programme of future construction.**

29. The continued fall in the prices of railway materials coupled with the insistence by the Railway Board of more adequate financial justification of the proposals of railway administrations have resulted in making it improbable that the whole of the Rs. 150 crores originally provided for rehabilitation could be economically expended on open line works alone within the period originally intended. This in conjunction with the somewhat more favourable terms on which money can now be obtained has led to a careful reconsideration of the position regarding new railway construction. While no final decision was arrived at, steps have been taken to push on with the investigation of the more important projects. The investigations of railway requirements in Southern India were completed and, as a result of these, a Traffic Survey of the important Villupuram-Trichinopoly Chord line was carried out. Good progress was also made with the Central Indian Coal Fields Survey.

**Replacement of lines dismantled during the war.**

30. Of the lines dismantled to provide material required in theatres of war, approximately 262 miles of those which it is proposed to restore remained unreplaced at the close of the financial year.

The 262 miles of track are made up as follows :—

	Miles.
Sutlej Valley Railway .. .. .	230
Bhagalpur Bausi Railway .. .. .	32

The relaying of the Eastern section from Kasur to Pakpattan, 86 miles, of the Sutlej Valley Railway was approaching completion, but as a scheme put forward by the Punjab Government, was under consideration for the diversion of the Western section between Pakpattan and Mailsi to an alignment ten miles north of the old alignment with a view to the development of the Nili Bar colony, relaying was stopped at Pakpattan and recommenced from the Lodhran end.

The relaying of the Bhagalpur-Bausi Railway has been delayed owing to lack of second hand material.

**Increase in mileage during last 50 years.**

31. The statement and graph below show the increase in the mileage of Indian Railways during the last 50 years. The figures are given for the different gauges at intervals of 5 years.

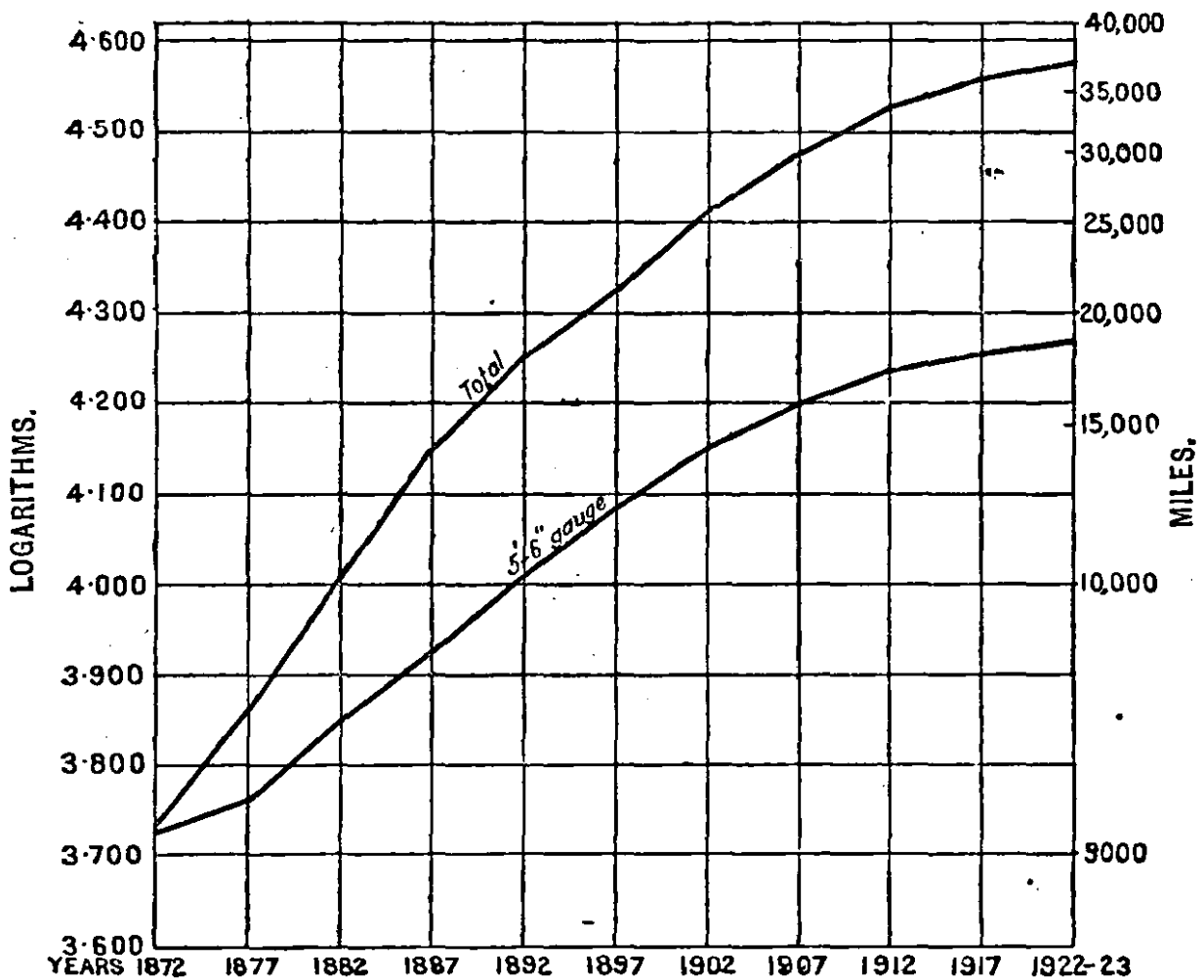
It will be noticed from the statement that in 1872 there were only 17 miles of 3' 3 $\frac{3}{4}$ " gauge railway, but that in the 5 years ending 1877 there was a very great increase and this increase continued at a rapid rate until 1887. After this period the increase in the mileage of the 5' 6" and 3' 3 $\frac{3}{4}$ " gauges has been approximately equal as there was a difference of about 3,000 miles in 1887 and this difference still exists in 1922-23.

The graph shows that the mileage of railways increased at a rapid rate until 1887 and after that there has been a gradual slowing down in the rate of increase although the percentage increase in the total mileage in the 5 years ending 1902 was greater than those of the two preceding 5-year periods.

**INCREASE IN MILEAGE OF INDIAN RAILWAYS.**

(AT INTERVALS OF 5 YEARS.)

LOGARITHMIC SCALE.



*Mileages of Indian Railways by gauges on 31. 12. 1872 and at the end of every subsequent period of 5 years.*

Year.	5' 6" gauge.	3' 3 $\frac{1}{2}$ " gauge.	2' and 2' 6" gauges.	Total.
1872 . . . . .	5,325	17	27	5,369
1877 . . . . .	5,752	1,521	47	7,320
1882 . . . . .	7,052	2,060	137	10,149
1887 . . . . .	8,415	5,409	279	14,103
1892 . . . . .	10,196	7,327	292	17,815
1897 . . . . .	12,162	8,528	425	21,115
1902 . . . . .	14,118	10,981	832	25,931
1907 . . . . .	15,820	12,597	1,540	29,957
1912 . . . . .	17,189	14,165	2,130	33,484
1917 . . . . .	17,876	14,848	3,465	36,189
1922-23 . . . . .	18,389	15,508	3,721	37,618

**Double line mileage.**

32. The only important additions to the double line mileage brought into use during the year were on the Grand Chord of the East Indian Railway. By the opening of several short lengths, aggregating 51 $\frac{1}{2}$  miles in all, the double line has been extended from Sitarampur to Hazaribagh Road and from Samartand to Gurpa. To complete the doubling through to Gya two sections still remain unfinished, *i.e.*, 19 miles between Hazaribagh Road and Samartand, and 27 miles between Gurpa and Gya.

A short section 4.18 miles in length between Mahim and Parel of the Bombay, Baroda and Central India Railway quadrupling was opened in June 1922.

## CHAPTER VII.

### ROLLING STOCK.

(See Statements V and VI, Section A, 6, 7, 18 and 19, Section B and Appendices A and E of Volume II.)

33. Statements No. V—Statement of Equipment—and No. VI—Statement of net additions to Equipment—summarise the equipment and the net additions to equipment during 1922-23 on Indian Railways. Statements Nos. 6 and 18 give this information in more detail for individual lines. **Additions to equipment.**

It will be seen that on Class I railways there were additions of 49 and 11 Broad and Metre gauge Locomotives bringing the respective totals up to 6,396 and 2,650.

In the case of passenger vehicles on Class I railways net additions of 141 to the stock of broad gauge vehicles brought the total up to 9,854 and similar figures for the metre gauge were net additions 271 and total 7,450. The following table shows what these total figures comprise in seating accommodation under the four classes.

Class I Railways.	NUMBER OF SEATS IN PASSENGER CARRIAGES.			
	1st.	2nd.	Inter.	Third.
5' 6" . . . . .	21,278	39,345	45,755	536,959
3' 3½" . . . . .	9,633	12,627	9,656	306,637

The additions to the goods stock of Class I railways were 1,645 covered and 2,440 open Broad Gauge and 1,171 covered and 86 open Metre Gauge wagons.

In 1921-22, the net addition to the stock of Broad Gauge engines was 199 as compared with 49 in 1922-23. The lower figure in the last year is accounted for as follows. In the year 1918-19 it was anticipated that the close of the war would be followed by a great increase in trade activity which, coupled with the arrears into which the supply of engines had of necessity fallen during the war, would result in the need for a very large increase in power. Orders were, therefore, placed for engines to meet this demand but owing to labour troubles in England deliveries were delayed until 1920-21 and 1921-22. In these two years a total of 442 Broad Gauge engines were brought into use. During 1921-22 the position was reviewed with the result that, in view of the failure of traffic to come up to expectations, it was necessary to slow down very considerably the process of increasing the stock of engines. The position when the year under review

opened was that 52 engines were on order but not yet delivered. During April, May and June indents were placed for a further 47 making a total of 99 which might reasonably have been expected to be delivered, but not necessarily erected during the year. Owing, however, to very poor deliveries the actual number received was only 36. At the close of the year 1922-23 the number of engines on order was 125.

Coaching stock, on the other hand, shows a very considerable increase over previous years, the respective additions on Broad Gauge Railways being 64 in 1920-21, 121 in 1921-22 and 199 in 1922-23. At the close of the year the stock on order consisted of 279 bogie and 101 four-wheeled vehicles.

In the case of goods stock the situation was less satisfactory. During the year under review the additions to broad gauge stock were 4,191 as compared with 4,551 in 1920-21 and 4,880 in 1921-22. The falling off in 1922-23 is due almost entirely to poor deliveries. At the end of September 1922, 4,749 four-wheeled and 298 bogie Broad Gauge goods vehicles had been indented for, but the total deliveries during the year only amounted to 3,522 and 153, respectively. It is necessary in considering the figures quoted to remember that those in the statements represent engines and rolling-stock brought into use, while the figures quoted regarding deliveries represent, except in the case of stock purchased in India, material which has still to be erected in the Railway shops.

**Purchase of rolling stock.**

34. The following table shows the value of rolling-stock purchased by Indian Railways in 1922-23.

	VALUE OF IMPORTED MATERIALS.			Value of indigenous materials.	Total purchases 1922-23.	Total purchases 1921-22.
	Purchased direct.	Purchased through Indian firms.	Total imported materials.			
	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.
Locomotive and spare parts . . . . .	3.53	.08	3.61	.06	3.67	6.14
Coaching stock . . . . .	.50	.02	.52	.14	.66	.56
Goods stock . . . . .	1.35	.04	1.39	.21	1.60	3.45
Spare parts coaching and goods stock.	3.89	.46	4.35	.16	4.51	5.00
Motor cars . . . . .	.01	.02	.03	..	.03	.04
<b>Total . . . . .</b>	<b>9.28</b>	<b>.62</b>	<b>9.90</b>	<b>.57</b>	<b>10.47</b>	<b>15.19</b>

Without going into details beyond the scope of this report, it is impossible to connect these figures with the number of locomotives and rolling stock brought into use during the year. The expenditure on locomotives,

etc., besides including the cost of spare parts for repairs represents payments for f.o.b. deliveries at foreign ports of engines which at the close of the year may have been still at sea or under erection in India. In the case of wagon contracts too the position is complicated. It has, for example, been the practice in the case of wagons purchased in India to make advance payments for raw material when received by the contractors.

In regard to Locomotives and Rolling-stock the year under review has been marked by a very considerable further fall in prices. The highest prices since the war were recorded in the middle of 1920. In February 1923 orders were placed for standard 0-6-0 Superheated Engines at £4,041 as compared with £11,000 in 1920 and £3,910 before the War. Standard covered goods wagons were ordered at £250 as against £750 in 1920 and £210 before the War.

35. In 1919, standard designs for the various types of wagons and carriage underframes in common use were prepared by a special committee of the Indian Railway Conference Association. Sample wagons were constructed according to these designs and submitted to the scrutiny of experts in their use, maintenance and construction. A second committee was then appointed to revise the designs in the light of the experience gained and the final standard designs with detailed specifications were issued in September 1922. These are now being introduced on most of the railways in India. **Standardisation of stock.**

The desirability of further progress in the standardisation of goods vehicles and more especially the standardisation of replaceable parts has been accentuated by the difficulties in maintaining wagons in an adequate state of repair under the conditions arising out of the "Common User" "Wagon pool" introduced on all Broad Gauge Railways in 1919. The large number of types and the multiplicity of details render maintenance and repairs a matter of great difficulty in the case of wagons away from their parent line and this has undoubtedly reacted on the general efficiency of the wagon stock. Standardisation is the remedy for this and the aim of the Railway Board in this matter is to couple the adoption of standards with progressive and continuous revision of the standards themselves.

36. The question of the introduction of an automatic centre buffer coupling on the standard gauge has been under consideration for some years and has been referred to in previous reports. During the year an officer was deputed to report on the practice in America and to prepare estimates of the cost of introduction on Indian railways. His report has been received and was under consideration at the close of the year. **Automatic couplings.**

37. In connection with special efforts which had to be made to improve the standard of maintenance of goods vehicles, owing to the deterioration of the War period and the difficulties caused by the wagon pool, special inspections of goods stock by the Government Inspectors were ordered during the last four months of the year. These reports indicate a general improvement in the condition of the stock except in regard to the vacuum **Repairs to stock.**

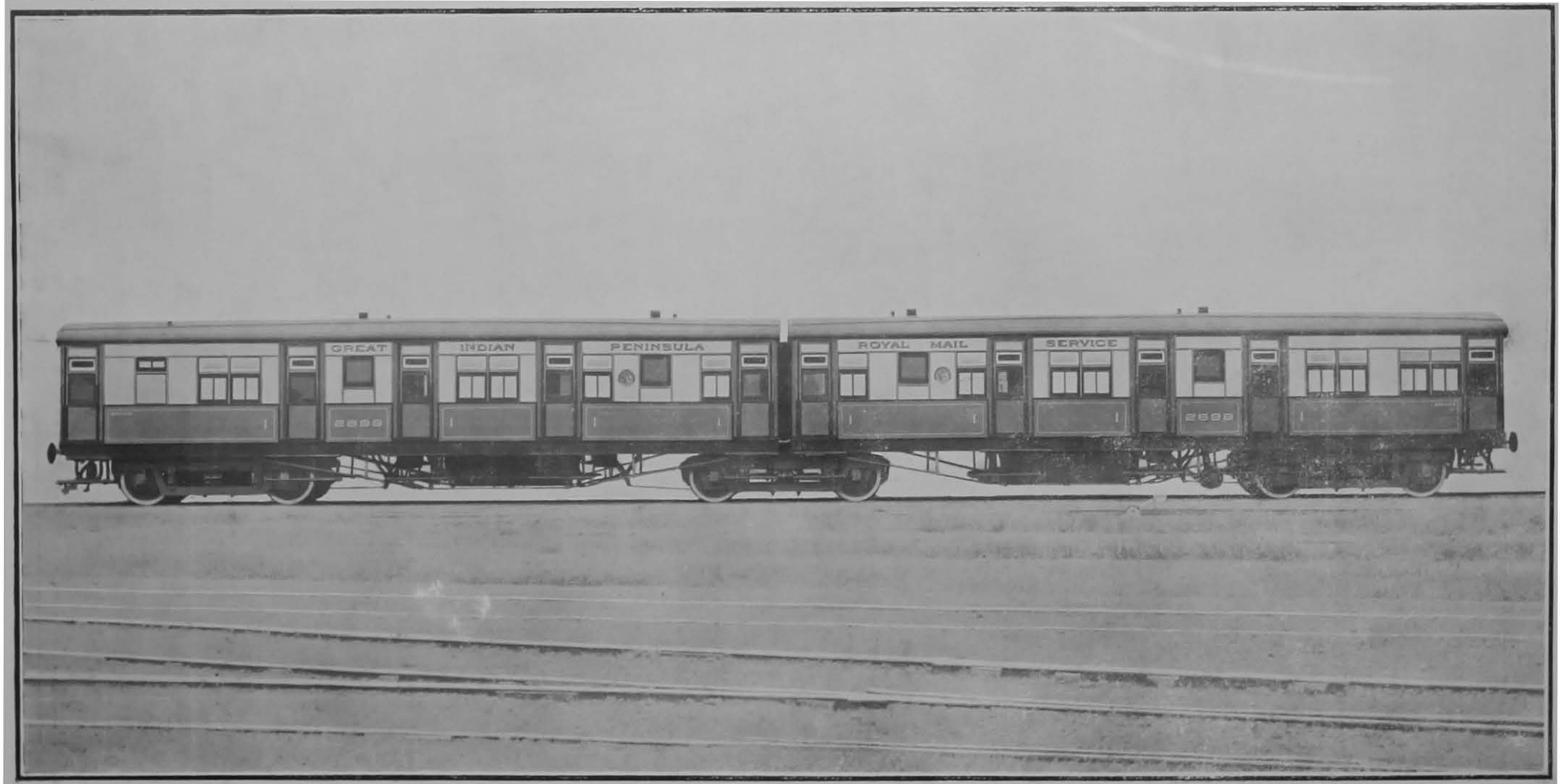
brake gear which is reported to be generally in a condition which the Railway Board do not consider to be satisfactory having regard to the large sum of capital invested in this improvement. Special measures are under consideration to expedite its reconditioning. The general standard of maintenance of rolling-stock improved during the year and the various Railway Administrations were making strenuous efforts to reach an even higher standard.

**Illustrations  
of rolling  
stock.**

38. During 1922, the first articulated carriage built in India was erected at the Matunga shops of the Great Indian Peninsula Railway. As the illustration shows the carriage consists of two separate bodies and underframes each 50' 0" overall and with 1' 1½" between bodies, mounted on 3 Pullman type bogies. Each body consists of 2-4 berth compartments and 2 coupe compartments with lavatories and servants accommodation. The carriage is electrically lighted and equipped for running in parallel block lighted trains.

On the Bombay, Baroda and Central India Railway facilities exist in the metre gauge carriage and wagon shops at Ajmer for the construction of engines and passenger and goods vehicles entirely from raw materials. This is an exception to the general policy adopted on Indian Railways which is to restrict the work of railway shops as far as possible to repair work and in the case of new engines merely to erect those bought from private firms while in the case of passenger and goods vehicles underframes are purchased and only the body work done in the railway workshops. The engines built at Ajmer during 1922-23 were of the 4-6-0 goods type and the special feature was the boiler which is a complete departure from the standard practice in India, being of the wide firebox type with ample grate for burning low grades of country coal economically. The ratio of grate area to cylinder volume is over 45 per cent. greater than the usual metre gauge practice in India.

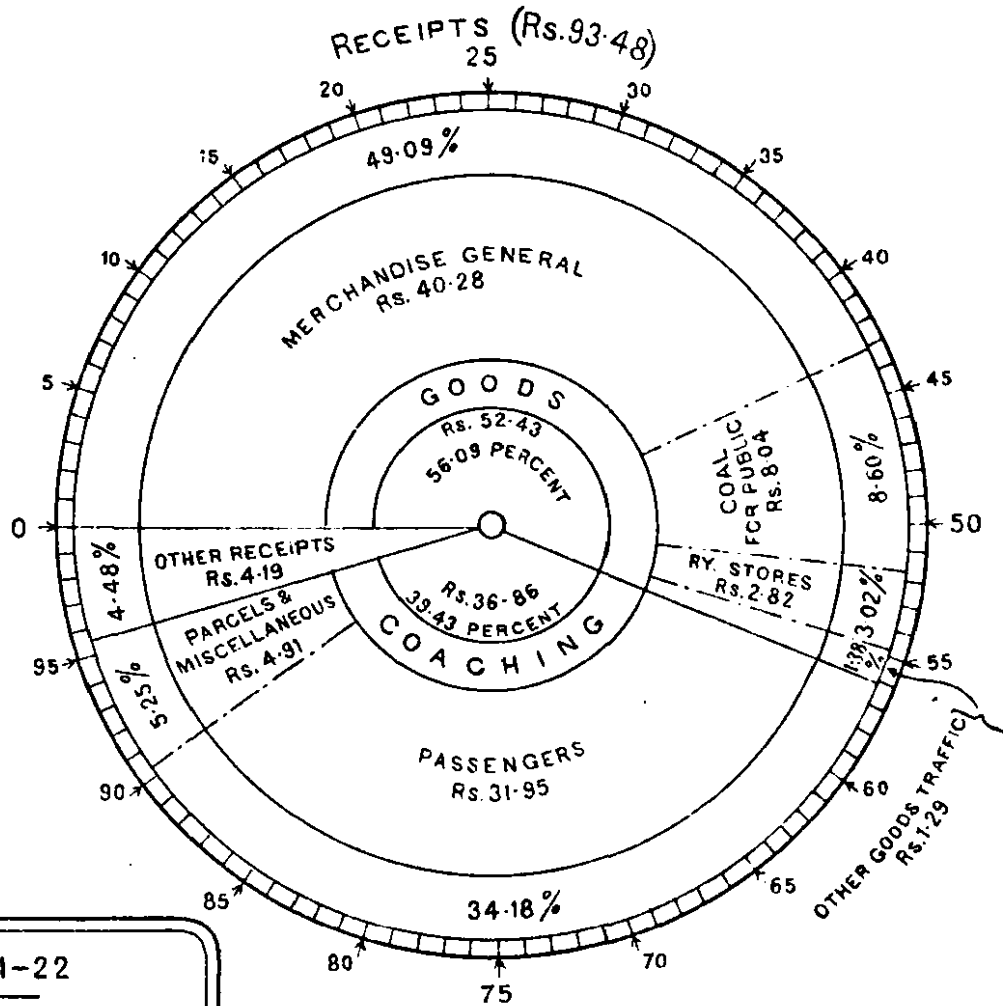




First class Articulated carriage, Great Indian Peninsula Railway.

# RAILWAY RECEIPTS AND EXPENDITURE ON STATE OWNED LINES IN INDIA IN 1922-23.

FIGURES IN CRORES.

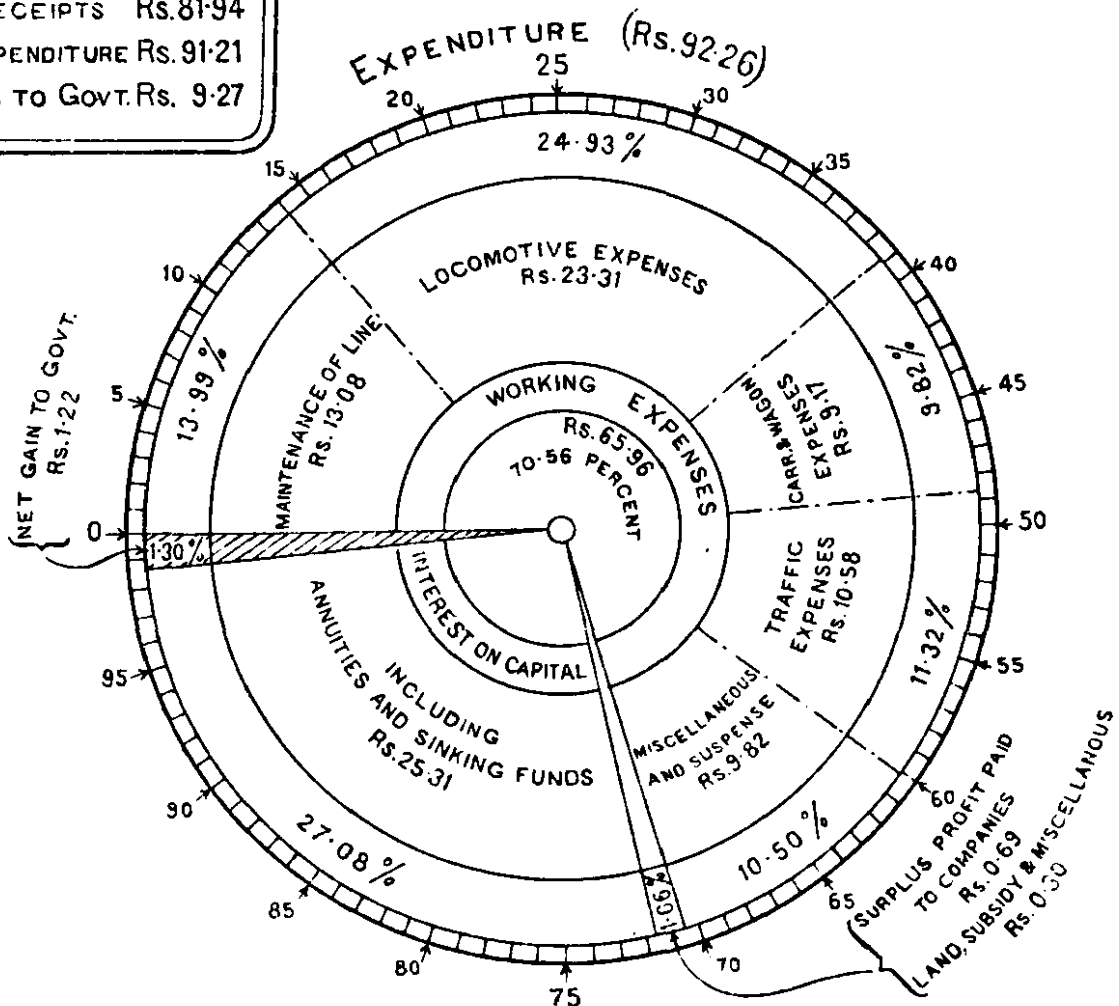


**IN 1921-22**

TOTAL RECEIPTS Rs. 81.94

TOTAL EXPENDITURE Rs. 91.21

NET LOSS TO GOVT. Rs. 9.27



## CHAPTER VIII.

### WORKING OF INDIAN RAILWAYS.

(See Statements XI, XII, XIII, XIV, and XV, Section A and 11, 12, 13, 14, 15 and 21, Section B of Volume II).

39. Revised statistics relating to the working of Indian railways are being introduced from 1st October 1923. These figures will allow of a more accurate comparison being made between individual railways in India and also between Indian railways and railways in foreign countries. **Introduction of revised statistics.**

Statements XI to XV (both inclusive) summarise the results of working of Class I railways by gauges. The results of working of individual Class I railways will be found in Statements 11 to 15 (both inclusive) and of Class II and III railways in Statement 21.

40. The total gross earnings of all railways in India during the year 1922-23 amounted to Rs. 105.65 crores as compared with 92.89 crores in 1921-22. These figures, however, include railways owned by Indian States and companies for which the Government of India has no direct financial responsibility. The figures of receipts and expenditure for railways with which the Government are directly concerned are as follows :— **Financial results of working.**

	Rs.
Traffic receipts from Government Railways .. .. .	93,22,14,218
Government share of surplus profits from subsidised companies' railways.	26,40,884
Total .. .. .	93,48,35,102

	Rs.
Working Expenses .. .. .	65,96,16,125
Surplus Profits paid to Companies .. .. .	69,40,501
Interest on Government debt .. .. .	16,34,47,349
Interest on Capital contributed by companies .. .. .	3,35,55,612
Annuities in purchase of railways .. .. .	5,13,39,387
Sinking Funds .. .. .	47,13,837
Land and subsidy to Companies .. .. .	9,43,460
Miscellaneous .. .. .	20,99,602
Total charges .. .. .	92,26,55,873
Net gain .. .. .	1,21,99,229

After meeting all interest and annuity charges Government therefore received a net profit of 1.22 crores as against a loss of 9.27 crores in 1921-22. The figures in the previous administration reports showing the

percentage of return on capital at charge were worked out on a total capital representing the total capital expenditure *plus* the premia paid to companies ; it did not represent the capital actually raised by the State in order to acquire railways from companies. On the actual capital so raised the net receipts that is the gross receipts *minus* the working expenses have in recent years given the following return.

						Per cent.
1913-14	..	..	..	..	..	5.01
1918-19	..	..	..	..	..	6.77
1919-20	..	..	..	..	..	5.62
1920-21	..	..	..	..	..	4.23
1921-22	..	..	..	..	..	2.47
1922-23	..	..	..	..	..	4.37

**Train and engine mileage.**

41. Turning now to the statistical results of working statement XI gives details of the train and engine mileage run on the various classes of railways as well as for the different gauges. It will be noticed that about 97 per cent. of the total engine miles run during 1922-23 are accounted for by Class I railways and about 90 per cent. of the total by State railways. These percentages are higher than the percentages which the mileages of Class I and State railways bear to the total mileage of Indian Railways, namely, 91½ and 71½ per cent., respectively.

The total mixed train mileage run on Class I railways is considerably less than either the coaching or goods train mileage run, being about 40 per cent. whereas on Class II railways the mixed train mileage is practically the same as the total of the coaching and goods train mileages which on Class III Railways is more than 6 times the total. The majority of the mixed train mileage is run on the 3' 3¾" gauge.

The total engine mileage run during 1922-23 increased by over 5,000,000 miles but nearly the whole of this increase is found under coaching.

**Rolling stock user.**

42. There has been a slight improvement in the average mileage run per engine per diem on the broad and metre gauge railways with a corresponding improvement in the train-mileage obtained per engine per diem, as will be seen from Statement XII.

The average wagon load on the 5' 6" gauge lines has decreased slightly from 13.00 tons to 12.75 tons and on the 3' 3¾" gauge from 6.37 tons to 6.10 tons.

**Loads of trains.**

43. Statement XIII shows the loads of passenger and goods trains under vehicles and tons for class I railways by gauges.

In the case of passenger trains, the number of vehicles and gross tons have decreased slightly on the 5' 6" gauge while they have increased slightly on the 3' 3¾" gauge. On the 2' 6" and 2' 0" gauges the number of vehicles shows a slight increase with a decrease in the gross tonnage.

The average gross load of a goods train on the 5' 6" gauge was 667.55 tons, an increase of 21 tons as compared with 1921-22, of which 10½ tons are due to an increase in the freight carried. The average gross load of a goods train on the 3' 3¾" gauge was 310.01 tons and shows a slight decrease due to less freight carried.

It will be noticed that while the average weight of a passenger train on the 5' 6" gauge is only 50 per cent. more than the average weight of a passenger train on the 3' 3¾" gauge, it is over 110 per cent. more in the case of a goods train.

44. Statement XIV shows the density in passenger miles and net ton miles on class I railways by the different gauges. It will be seen that while there has been an increase in the goods density on the 5' 6" gauge with a decrease in the passenger density, there has been a decrease in both the goods and passenger density on the 3' 3¾" gauge.

45. There has been a small but decided improvement in the quantity of coal consumed on class I railways during 1922-23 as compared with the previous year. This is brought out in Statement XV which compares the coal consumed per train mile, per engine mile and per 1,000 gross ton miles for class I railways by different gauges for 1922-23 with the figures for 1921-22.

There has been a drop of 9 lbs. per 1,000 gross ton miles on the 5' 6" gauge (from 212.39 lbs. to 203.39 lbs.), a drop of 4½ lbs. per 1,000 gross ton miles on the 3' 3¾" gauge (from 226.05 lbs. to 221.78 lbs.) and a drop of about 7¾ lbs. on the 2' 6" and 2' 0" gauges (from 531.47 lbs. to 523.80 lbs.).

46. Up to date figures of the results of working of other countries are not available but the following table compares the latest available figures of average receipts per ton mile of those countries which have published statistics of working later than 1919.

		Receipts per ton mile.	
		Pies.	
United States of America, 1921	.. ..	.. ..	6.7
United Kingdom, 1921	.. ..	.. ..	25.0
Sweden, 1920	.. ..	.. ..	28.0
Norway, 1921	.. ..	.. ..	32.0
Switzerland, 1920	.. ..	.. ..	36.9
New South Wales, 1922	.. ..	.. ..	17.0
South Australia, 1921	.. ..	.. ..	21.7
Japan, 1921	.. ..	.. ..	6.2
Canada, 1921	.. ..	.. ..	7.3
India, 1922-23	.. ..	.. ..	6.1

NOTE.—Certain of the above figures have been taken from Slason Thompson's yearly publication "Railway Statistics of the United States of America for the year ended 1921."

In the case of receipts per passenger mile the figures for United States of America and India are as follows :—

United States of America, 1921	..	..	..	18.7 pies.
India, 1922-23	..	..	..	8.8 "

while in England the present fare charged per mile third class is 18 pies.

From the above it will be seen that railway transportation of freight in India is probably the cheapest in the world and still more so in the case of passenger traffic.

An examination of the latest available figures of operating ratios of foreign countries brings out results not unfavourable to Indian Railways.

	Year.	Operating Ratio.
United States of America	1921	100.47 Per cent.
France—State Lines only	1922	115 " "
All Lines	1922	89 " "
15 English Railways	1922	80.6 " "
Tasmanian Railways	1921-22	91.46 " "
South African Railways	1921-22	82.7 " "
Argentine Railways	1921-22	74.34 to 85.20 " "
India.	{ 1921-22	76.22 " "
	{ 1922-23	69.09 " "

## CHAPTER IX.

### RAILWAY MATERIALS AND STORES.

47. The value of materials purchased by Indian railways in 1922-23 (excluding coal, coke, stone, bricks, lime, ballast, etc.), showed the considerable decrease of Rs. 7.75 crores as compared with the value of materials purchased in 1921-22. **Value of Railway materials purchased.**

	VALUE OF IMPORTED MATERIALS.			Value of indigenous materials.	Total purchases 1922-23.	Total purchases 1921-22.
	Purchased direct.	Purchased through Agents in India.	Total imported materials.			
	Rs. crores.	Rs. crores.	Rs. crores.			
Rolling-stock . . . . .	9.28	.62	9.90	.57	10.47	15.19
Tools and Stores . . . . .	2.65	3.57	6.22	3.91	10.13	13.34
Permanent-way . . . . .	2.77	.25	3.03	4.51	7.54	6.65
Electrical Plant . . . . .	.57	.28	.85	.01	.86	.05
Building and station materials and fencing.	.24	.21	.45	.13	.58	.62
Bridge work . . . . .	.50	.01	.51	.02	.53	.96
Workshop machinery . . . . .	.40	.11	.51	.01	.52	.66
Engineer's Plant . . . . .	.15	.08	.22	.01	.23	.24
Total . . . . .	16.56	5.13	21.69	9.17	30.86	38.61

The expenditure on rolling-stock has already been referred to in Chapter VII.

48. Under Tools and Stores, the considerable reduction in the total expenditure is due almost entirely to the general fall in prices. This reduction is made up of an increase from Rs. 2.11 to Rs. 2.65 crores in direct importations and decreases from Rs. 6.14 to Rs. 3.57 crores in imported materials purchased through Indian firms and from Rs. 5.09 crores to Rs. 3.91 crores in indigenous materials. **Supply of railway tools and stores.**

49. A sum of Rs. 2.67 crores were spent on rails and fastenings during the financial year against Rs. 2.82 crores during 1921-22. Rails and fastenings worth Rs. 1.23 crores were manufactured in the country against Rs. 1.19 crores last year ; while similar figures for materials imported from abroad were Rs. 1.44 crores and Rs. 1.63 crores, respectively. **Rail supply.**

**Sleeper supply.**

50. As regards sleepers, wooden sleepers to the value of Rs. 3.36 crores were bought during 1922-23 against Rs. 2.65 crores in the previous year and metal sleepers to the value of Rs. 1.51 crores against Rs. 1.19 crores.

A limited number of wooden sleepers had to be imported during the year to supplement local resources, but out of the total of Rs. 3.36 crores, Rs. 3.24 crores represent the value of indigenous sleepers.

Metal and ferro-concrete sleepers manufactured in India and imported wooden sleepers can now be obtained at more favourable prices in many parts of India and unless there is a decrease in the relative cost of the Indian wooden sleepers the use of the competing varieties will steadily increase. This fact is borne out by the increase in the value of metal sleepers purchased. Out of the total of Rs. 1.51 crores, Rs. 1.47 crores represent the value of metal sleepers imported.

Greater use was also made of concrete sleepers during the year and further progress in the treating of indigenous soft wood sleepers.

**Railway collieries.**

51. Steps were taken during the year to increase the facilities of existing collieries owned by railways and to enable further properties to be acquired. Estimates have been sanctioned for the electrification of the Kargali Colliery of the Great Indian Peninsula Railway and for the acquisition and equipment of a colliery in the Bokharo-Ramgarh area for the Madras and Southern Mahratta and Bombay, Baroda and Central India Railways. Progress has also been made with the investigation of collieries for several railways in the Karanpura, Bokharo-Ramgarh and Talchir Coalfields.

\* The outturn of the Railway owned collieries during the year was 1,628,034 tons out of a total of 6,186,370 tons consumed on Railways. The cost of raising compares very favourably with the market price and these collieries afford a regular and assured supply independent of market variations which is a great asset to those Railways which draw the supplies from their own collieries. In the interests of cheap transportation, the policy of railway owned collieries has been fully justified.

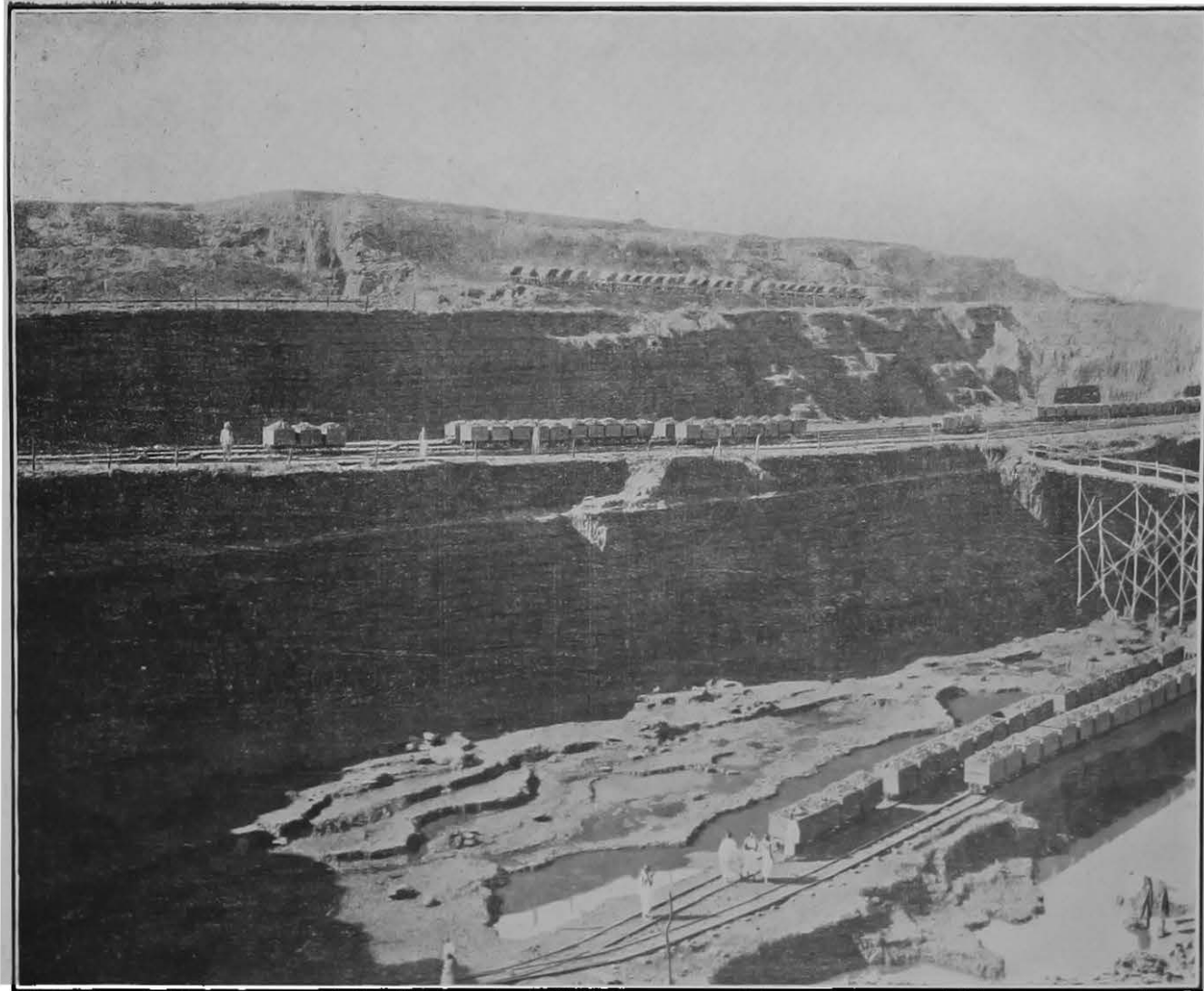
**Kargali colliery.**

52. The illustration shows a portion of the Great Indian Peninsula Railway Kargali Colliery in the Bokharo field and a brief description may be of interest.

The Colliery is situated near Bermo station in the Province of Bihar. The seam is 75 feet thick and is composed of "solid" coal throughout, with the exception of a stone band averaging 15 inches in thickness, which can be seen in the illustration, level with the roadway of the trestle bridge and extending horizontally to the left.

As the picture shows, the work of extracting the coal is carried out in three stages. First the overburden, consisting of earth, sandstone and shales and amounting, in places, to 40 feet in thickness, is removed in the tip tubs and dumped in the area from which the coal has been extracted. Just below these tip tubs appears the upper working face of that part of





Kargali Colliery Quarry, Great Indian Peninsula Railway.

the coal which lies above the stone band. The tubs in which this coal is removed appear near the centre of the picture and just below this again the working face of the seam below the stone band. Practically the whole of the output, which in 1922-23 amounted to 382,037 tons, is taken from this quarry. Two pits 420 feet and 400 feet in depth are now, however, being sunk.

53. The value of stores held by the Railways at the close of the year was over 20 crores of rupees or nearly double the figure for the year 1913-14. The increase is largely due to the rise in prices, but also to certain difficulties connected with the purchase of stores at the close of the war period. During the year under review, the Railway Board took up the question of reducing these balances as far as possible and a close examination was made of their stocks with a view to determine the best means by which reductions could be effected. **Stores balances.**

The large amount of capital locked up in stores was very unfavourably commented on by the Retrenchment Committee and at the present time the whole matter is under examination by the Financial Commissioner.

In connection with the decision of Government to spend the sum of Rs. 150 crores on capital rehabilitation and improvement during the quinquennium 1922-23—1926-27, there has been a widely expressed and natural desire that as much as possible of this sum should be spent in India. As recommended by the Legislative Assembly in a resolution adopted on March 2nd, 1922, a Railway Industries Committee was appointed to advise the Government of India as to the steps to be taken to encourage the establishment of the necessary industries, and further to advise the Government of India in regard to the revision of Indian Stores Rules. Owing to the necessity for co-ordinating their recommendations with the report of the Fiscal Commission, the Railway Industries Committee were unable to issue their report until after the close of the year under review.

## CHAPTER X.

### RAILWAY STAFF.

(See Appendix B of Volume II.)

#### Number of staff.

54. The total number of railway employees at the end of the financial year 1922-23 was 753,472 as compared with 759,846 for the previous year.

This is a decrease of 6,374 in number in spite of an increase in mileage of 352.24 miles during the year.

Of the 753,472 railway employees, 6,880 were Europeans, 12,201 Anglo-Indians and 734,391 Indians. Similar figures for 1913-14 were Europeans 7,986, Anglo-Indians 10,437 and Indians 614,882 which make up a total of 633,305.

#### Cost of staff.

55. The following statement shows the cost of the staff employed on Class I railways during 1921-22 and 1922-23 :—

Railway System.	1921-22.	1922-23.
	Rs.	Rs.
Assam-Bengal . . . . .	45,26,921	47,85,746
Bengal-Nagpur . . . . .	2,31,07,461	2,27,19,559
Jodhpur-Bikaner . . . . .	31,82,555	32,36,768
Bombay, Baroda and Central India . . . . .	3,82,21,926	3,73,19,624
Burma . . . . .	1,04,29,720	1,02,23,345
East Indian . . . . .	3,88,91,105	3,95,77,122
Eastern Bengal . . . . .	1,83,73,337	1,99,29,743
Great Indian Peninsula . . . . .	4,61,55,542	4,37,37,357
Bengal and North-Western . . . . .	62,36,753	62,17,361
Madras and Southern Mahratta . . . . .	1,88,11,356	1,90,70,586
Nizam's Guaranteed State . . . . .	46,33,073	46,07,227
North Western . . . . .	5,17,53,929	5,17,00,106
Oudh and Rohilkhand . . . . .	95,72,871	1,03,59,375
Rohilkund and Kumaon . . . . .	13,58,989	16,71,618
South Indian . . . . .	1,37,64,901	1,43,43,768
Total . . . . .	28,90,20,439	28,94,99,305

The position regarding the more extended employment of Indians in the higher grades of railway service was reviewed in considerable detail in the Report for 1921-22. Throughout the year 1922-23 the public interest

in this question has been maintained, finding voice in the press and by interpellations in the Legislature. The Government of India have throughout maintained the attitude that every reasonable means should be adopted to increase the number of Indians in the higher grades in so far as such increase is consistent with efficiency and economy.

In a resolution adopted in the Legislative Assembly in February last, particular attention was directed to the case of Traffic Inspectors and Railway administrations have been called upon to make special endeavours to recruit and train Indians with a view to their becoming qualified for advancement to these posts. Railway administrations have also been instructed to bear in mind the policy recommended by the Assembly that the claims of all communities and provinces should be considered in recruiting for posts under their control.

On the State-worked railways the figures for the year under review show a considerable advance as regards officers, Indians comprising 24 per cent. of the Engineer (officers), 29 per cent. of the Superior Traffic and 15 per cent. of the Superior Stores Establishments as compared with percentages of 20, 25 and 8 respectively, for 1921-22.

56. A brief reference was made in the Administration Report for 1921-22 to the fact that an officer had, during the year now under review, been placed on special duty to go into the whole question of the training of Indians for both superior and subordinate grades of all departments. Mr. H. L. Cole, the officer referred to, submitted his report in September 1922. The main principle involved in Mr. Cole's proposals is co-operation with existing institutions and he makes detailed recommendations for the selection and training of officers and subordinates of the Traffic and the Civil and the Mechanical Engineering Departments. Mr. Cole also puts forward, as a basis for further examination, tentative suggestions for the recruitment and training of officers of the Stores, Signal and Electrical Engineering Departments. He also makes recommendations regarding the training of candidates, of a higher educational standard than that ruling at present for appointments as firemen and drivers, and for the general adoption of a system of staff training schools to provide "refresher" courses for men already in railway service. At the close of the year, these recommendations were still under consideration by the Railway Board and the Central Advisory Railway Council.

**Training of  
railway  
officers and  
subordinates  
in India.**

57. With the exception of the strike on the East Indian Railway which lasted to the middle of April 1922, there were no strikes of any importance on railways during the year under review.

## CHAPTER XI.

### ACCIDENTS.

(See Appendix C of Volume II.)

#### Fatalities and injuries.

58. During 1922-23, there was a decrease of 565 in the total number of persons killed and 139 in the number injured as compared with the figures for 1921-22. The following table shows the numbers killed and injured separately under passengers, railway servants and others for 1922-23 as compared with 1921-22.

	KILLED.		INJURED.	
	1922-23.	1921-22.	1922-23.	1921-22.
<b>A. Passengers—</b>				
(1) Accidents to trains, rolling-stock, permanent-way, etc.	30	181	154	228
(2) Accidents caused by the movement of vehicles used exclusively on railways.	364	455	1,170	1,299
(3) Accidents on Railway premises not due to Train accidents or to the movement of vehicles.	11	92	44	42
<b>B. Servants—</b>				
(1) Accidents to trains, rolling-stock, permanent way, etc.	30	28	125	134
(2) Accidents caused by the movement of vehicles used exclusively on railways.	345	417	671	739
(3) Accidents on Railway premises not due to Train accidents or to the movement of vehicles.	47	58	554	457
<b>C. Others—</b>				
(1) Accidents to trains, rolling-stock, permanent-way, etc.	17	18	24	32
(2) Accidents caused by the movement of vehicles used exclusively on railways.	1,890	2,040	712	669
(3) Accidents on Railway premises not due to Train accidents or to the movement of vehicles.	6	16	15	8
Total	2,740	3,305	3,469	3,608

In this statement the figures include the number of persons killed and injured by Accidents on Railway premises not due to train accidents or to the movements of vehicles whereas in the figures quoted in last year's report these were excluded. This explains the difference of 184 in the total number of persons shown as killed and of 539 in the total number of persons shown as injured during 1921-22.

Out of the total of 2,740 persons killed, 1,852 or over 67 per cent. were trespassers on railway property. Of the remaining 888 persons killed,

405 were passengers and of these only 30 were killed in accidents to trains, rolling-stock, permanent-way, etc. As approximately 572,000,000 passengers were carried during 1922-23, the chance of any passenger being killed in an accident to a train, rolling-stock or permanent-way is less than 1 in 19 millions and of being injured less than 1 in 3 millions.

59. There was a small decrease of 4 in the number of serious accidents **Serious** which have to be reported to Local Governments under section 83 of the **accidents.** Indian Railways Act No. IX of 1890.

A brief account of the more serious accidents is given below :—

*East Indian Railway.*—On the 4th April 1922, the Punjab Mail, while running between Mooduncatta and Joramow Block Hut stations on the East Indian Railway, was derailed and wrecked at mile 174|15. The engine, tender and six bogie vehicles fell down the bank and capsized. The driver, the two firemen, two passengers and one Railway Mail Service peon were killed. Eight passengers, of whom one died subsequently, and a railway servant were severely injured. Twenty-one passengers also received slight injuries. The permanent-way and rolling-stock were considerably damaged. The accident is considered to have been caused by the malicious removal of a rail from the outer side of the up track by some person or persons unknown.

*Rohilkund and Kumaon Railway.*—On the 26th July 1922 at Gola Gokaran a large number of mela passengers, wishing to board a down train, rushed across the line in front of an up train which was entering the station. Four passengers were killed and seven seriously injured. As a result of the subsequent enquiry it appears that the station staff did their best to prevent the passengers crossing the line while the up train was approaching but were unable to control them.

*Burma Railways.*—On the 31st July 1922, while a down mixed train was proceeding from Naunggala to Naungbo station on the Pegu-Moulmein Branch of the Burma Railways, the last nine vehicles which were mainly bogie passenger stock were blown clear off the track by a tornado and landed either on their sides or with their wheels upwards in the flooded area alongside the embankment. Four passengers were killed and 32 injured.

*Great Indian Peninsula Railway.*—On the 27th August 1922, while the Madras Mail to Bombay was waiting at Masjid station on the suburban section of the Great Indian Peninsula Railway for the signal to be lowered for it to proceed, it was run into by a local passenger train following it on the same line. The accident was attributed to the mistake of a signaller who lowered the signal for the local train to enter the section of line already occupied by the mail train. One of the firemen

of the local train was killed and three others of the train staff were injured.

*Oudh and Rohilkhand Railway.*—On the 14th December 1922, at mile 367.6, between Nagaria Sadat and Milak stations, an up mail train was forced to stop owing to the cow-catcher having worked loose. While this was being put right an up goods train ran into the rear of the mail and the driver and fireman of the latter and a constable were killed and seven passengers were injured of whom two subsequently died in hospital. Considerable damage was done to the permanent-way and rolling-stock. The accident was due to the Assistant Station Master at Milak station having given Nagaria station the "In Report" for the mail and "Line Clear" for the goods train while the former was still occupying the section. He was prosecuted and sentenced to two years' rigorous imprisonment.

*North Western Railway.*—On the 7th January 1923, an up passenger train was received on the main line at Rahwali station, North Western Railway, and collided with the rear of an up ballast train which had not cleared the main line. Four ballast coolies were killed and one injured.

*Burma Railways.*—On the 8th March 1923, an up mixed train while running between Mokpalin and Kyaikkatha stations on the Pegu-Moulmein Branch of the Burma Railways, was derailed and wrecked at mile 82. The derailment resulted in the engine and tender capsizing and nine goods vehicles being piled up and two bogie coaches telescoping. Two passengers were killed and twenty-one injured. The driver of the train was seriously injured and succumbed to his injuries. The accident was caused by the opening up of two or three rail joints and the removal of a thirty foot rail by some person or persons unknown.

**Flood  
damages.**

60. *Eastern Bengal Railway.*—In September 1922 extraordinary floods occurred in Northern Bengal. In addition to the enquiry by the local railway officials the Railway Board, in consideration of the unusual nature of the occurrence, instituted an independent investigation with special reference to the question of whether any of the flooding could reasonably be ascribed to an insufficiency of water-ways in the railway banks. As a result of this investigation orders were issued for the provision of some additional water-ways. Subsequently the Government of Bengal appointed a Committee to enquire into and report generally on the causes of the frequent floods in his Division and to estimate, *inter alia*, whether the path of the flood water was obstructed by railway embankments so as to cause damage. The report of that Committee had not been received at the close of the year.

## CHAPTER XII.

### GENERAL.

61. The Railway Department as the largest spending department of the Central Administration naturally received considerable attention from the Retrenchment Committee presided over by Lord Inchcape. The report of that Committee was not received until March 1923 and it was not therefore possible to consider fully the recommendations it contained before the close of the year. The main recommendation in regard to the reduction of working expenses to a figure which the Retrenchment Committee considered adequate was however adopted in the Budget for the year 1923-24 under the orders of Government and immediate steps were taken by the Railway Board to make this reduction effective. It was found possible to convene a meeting of the Agents of most of the important railways at Delhi on March 19th at which a useful interchange of views and information took place regarding the steps already taken by the various administrations to effect economies and the Chief Commissioner was able to indicate the lines on which further action was particularly necessary.

The other important recommendations regarding future policy are now receiving close attention.

62. The report for 1921-22 explains the considerations leading up to the formation of Local Advisory Committees. During 1922-23 the views of railway administrations were obtained, rules were drafted and were discussed at a meeting of the Central Advisory Council in September, and in October orders were issued to the North Western and Oudh and Rohilkhand Railways to take preliminary steps for the formation of Committees and to the Eastern Bengal Railway for the necessary alterations in the constitution of their existing Committee. Company-worked railways were, at the same time, requested to take similar action. The Oudh and Rohilkhand Railway Committee met for the first time in February and on several other railways the formation of Committees was completed although no meetings actually took place before the 31st March.

The Government of India Memorandum regarding Local Advisory Committees and the subsidiary rules of the Oudh and Rohilkhand Railway are printed as Appendix 2 to Volume I of this report.

63. A brief reference was made in last year's report to measures taken to reduce the payments of compensation for loss and damage to goods in transit on railways. The rise in the amount of these payments has been the subject of most serious consideration by the Railway Board and received the special attention of the Inchcape Committee. Not only do the claims paid in full represent a very large item of working expenses but the claims not presented or which are repudiated must involve considerable loss to the trading community. During the year under review, a considerable advance was made both in the methods of preventing thefts and



in the more expeditious settlement of claims. Noteworthy among the former are the introduction of rivetting or other forms of securing wagon doors and schemes for the reorganisation of watch and ward.

**Revision of forms of risk Notes.**

64. Closely related to the subject of the prevention of thefts of railway consignments is the extent of liability imposed on railway administrations in respect to goods in transit. This liability is governed by Chapter VII of the Indian Railways Act IX of 1890 which, *inter alia*, provides for agreements limiting the responsibility of the administration. In practice such agreements, commonly referred to as risk notes, are executed in consideration of the acceptance by the railways of a rate of freight materially lower than the standard of railway risk rate and in certain other special cases. The degree of immunity afforded to the railways by the existing forms of risk notes is considerable and has been frequently quoted as encouraging carelessness and dishonesty among the railway staff. The commercial community have constantly pressed for a material revision of these forms. The matter was the subject of a debate in the Legislative Assembly in March 1922 and a resolution was adopted as a result of which a Committee was appointed to consider this revision. The recommendations of this Committee, received in September 1922, involved considerable changes in the form of risk notes aiming chiefly at imposing on the railways the onus of proof in cases where losses appeared to be *prima facie* due to misconduct of railway staff. After obtaining the views of Local Governments, Railway Administrations and Chambers of Commerce on these recommendations, the revised forms were referred to the legal advisers of Government and were at the close of the year under review, still under consideration by them.

**Conditions of 3rd Class travel.**

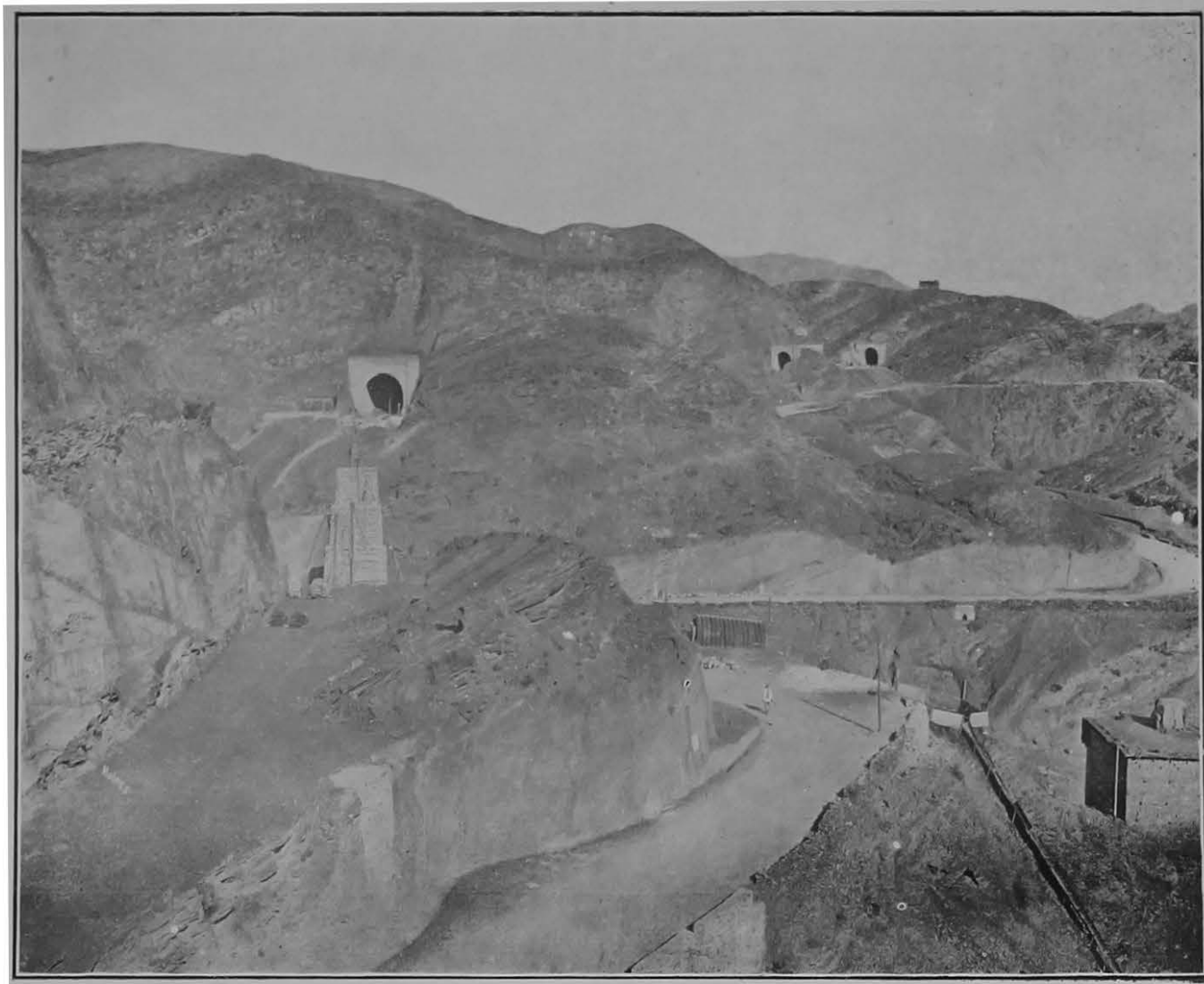
65. The desirability of improving the conditions of travel of third class passengers has been constantly referred to in the press and in the Legislature, and in September 1922, the Legislative Assembly adopted a resolution on the subject. Definite schemes of improvements directed towards the removal of these grievances have been adopted by all railways but these have, in common with all other railway activities, come under review as the result of the Retrenchment Committee's report. It is anticipated that the discussions by Local Advisory Committees will be of special utility in this matter.

**Technical section.**

66. The Technical Section of the Railway Department which was established in 1887 was abolished for reasons of economy on the formation of the Railway Board in 1905. It was again brought into existence in 1917 when the first report of the Indian Railway Bridge Committee was published and has since continued to issue technical papers under the direction of the Chief Engineer with the Railway Board. While it has been recognised that the activities of this section might with great advantage be largely extended, it has not been possible to provide either the staff or money necessary. In connection with the reorganization of the Railway Board, however, the appointment of a special officer for the technical section is contemplated.

During the year under review the following technical papers were published :—

No. 229.—Indian Standard Locomotive (5' 6" gauge).



View of work on the Khyber Railway.

No. 230.—Notes on the creosoting of Railway sleepers and timbers in England.

No. 231.—Antiseptic Treatment of sleepers in India.

No. 232.—Factors in the location and lay-out of locomotive repair shops.

67. In last year's report, a reference was made to the investigations of the Indian Railway Bridge Committee which was dissolved after its fifth meeting in October 1921. One of the recommendations of that Committee was that there should be an annual meeting under the chairmanship of the Chief Engineer with the Railway Board, of bridge engineers and any others interested in bridge-work who may be invited by the chairman to attend the meeting and that the results of investigations should be collated in the Railway Board's office. No meeting was, however, held during the year under review. **Indian railway bridge committee.**

Revised Rules for the Inspection of Railway Bridges were drafted in March 1923 : they will embody the British Standard Specification for Girder Bridges drawn up by a sub-Committee of the B. E. S. Association which was rejoined by Mr. G. Richards, Chief Engineer with the Railway Board, whilst he was on leave in England in 1922-23.

68. It has long been recognised that the present width and height of engines and rolling-stock on the 5' 6" gauge Railways could, with safety and great advantages in working, be considerably increased were it not for the restrictions imposed by existing fixed structures. The removal of these restrictions has been under consideration by the Railway Board for some time. An investigation into the cost of the necessary alterations to bridges, tunnels and other works was undertaken and pending a decision as to the possibility of providing the considerable amount of money required, it was decided that all new works and renewals of existing works should be carried out so as to allow of the eventual introduction of vehicles about 12 feet wide and 15½ feet high. On the Khyber Railway now under construction the new dimensions are being worked to and the illustration shows the very large section of tunnel involved. Passenger coaches 12 feet in width are being built for the new Bombay electrified suburban services. **Use of maximum dimensions on the Khyber Railway.**

## APPENDIX I.

## Notes on the Relation of the Government to Railways in India.

(Reprinted from the Report for 1914-15.)

One of the special features of the Indian Railway system is the diversity of conditions that prevails in the relation of the State to the various lines in respect of ownership and control. Of the important lines situated in British India or in which the Government of India is interested, three (the North-Western, Eastern Bengal and Oudh and Rohilkhand Railways) are owned and worked by the State; eight (the East Indian, Great Indian Peninsula, Bombay, Baroda and Central India, Madras and Southern Mahratta, Assam-Bengal, Bengal-Nagpur, South Indian and Burma) are owned by the State but worked on its behalf by companies enjoying a guarantee of interest from the Government; three important lines (the Bengal and North-Western, Rohilkund and Kumaon and Southern Punjab) and many of less importance are the property of private companies, some being worked by the owning companies and some by the State or by the companies that work State-owned systems; several minor lines are the property of District Boards or enjoy a guarantee of interest granted by such Boards.

The diversity of conditions is in certain respects less important than might at first appear for the following reasons:—

The Government of India exercises under the Indian Railways Act, 1890, in respect of all railways in British India (and also, by virtue of arrangements with Indian States, in respect of the chief railways passing through such States), certain general powers. Thus a railway may not be opened until a Government Inspector has certified that it has been constructed so as to comply with requirements laid down by the Government and can be used for the public carriage of passengers without danger to them. The Government of India can also, in the interest of the safety of passengers, require a railway to be closed, or the use of particular rolling-stock to be discontinued, or may prescribe conditions for the use of the railway or the rolling-stock. They can appoint a Railway Commission to investigate complaints on certain matters such as the withholding of reasonable traffic facilities or the grant of undue preference.

In addition, the Government of India (or in some cases Local Governments) exercise under the provisions of contracts detailed control over the management of all Railways in British India greatly exceeding that which is secured by the Indian Railways Act. They also have a certain financial interest in all companies in British India, and a preponderating interest in most of the railways which are of the first importance.

The main causes which have led to the present diversity of conditions in regard to the agency by which railways are managed, and the relations of the Government with the various classes of companies now in existence, are summarised in the following paragraphs:—

The first proposals for the construction of railways in India were submitted in 1844 to the East India Company in England by Mr. R. M. Stephenson, afterwards Chief

Engineer of the East Indian Railway, and others ; they included the construction of lines by railway companies to be incorporated for the purpose and the guarantee by the East India Company of a specified return. A contract for the construction by the East Indian Railway Company of an experimental line of 100 miles from Calcutta towards Mirzapore or Rajmehal at an estimated cost of 1,000,000*l.* was made in 1849, and a return of 5 per cent. was guaranteed by the East India Company on the Capital ; and a similar contract was made in the same year with the Great Indian Peninsula Railway Company for a line from Bombay to Kalyan at an estimated cost of 500,000*l.* But the policy of entrusting generally the construction of Indian railways to guaranteed companies was not adopted until 1854 on the recommendation of Lord Dalhousie, who, in a minute, dated 20th April 1853, explained his reasons for preferring the agency of companies, under the supervision and control of the Government, to the construction of lines on behalf of the Government by its own officers. He held that the State Engineer officers would make railways as well, and possibly as cheaply, and as expeditiously as companies ; but that the withdrawal from other duties of the large number of officers required would be detrimental to the public interest, that the conduct of commercial undertakings did not fall within the proper functions of any Government and least of all within the functions of the Government of India, since the dependence of the population on the Government was, in India, one of the greatest drawbacks to the advance of the country, and that the country would therefore benefit by the introduction of English energy and English capital for railway purposes, with the possibility that such energy and capital would in due course be encouraged to assist in the development of India in other directions.

The policy supported by Lord Dalhousie was adopted, and between 1854 and 1860 contracts for the construction of Railways in India were made by the East India Company, or (after 1858) by the Secretary of State for India with the East Indian, Great Indian Peninsula, Madras, Bombay, Baroda and Central India, Scinde (afterwards the Scinde, Punjab and Delhi), Eastern Bengal, Great Southern of India (afterwards, when amalgamated with the Carnatic Railway Company—see below—the South Indian) and Calcutta and South-Eastern Railway Companies. Under these contracts the railway companies undertook to construct and manage specified lines, while the East India Company (or the Secretary of State for India) agreed to provide land and guaranteed interest on the capital, the rate fixed being in various cases 5, 4½ and 4¼ per cent. according to the market rates prevailing when the various contracts were made. Half of any surplus profits earned was to be used towards repaying to the Government any sums by which it had been called upon to supplement the net earnings of any previous period in order to make good the guarantee of interest ; and the remainder was to belong to the shareholders. In practically all matters of importance, except the choice of staff, the companies were placed by the contracts under the supervision and control of the Government, which had power to decide on the standard and details of construction ; the rolling-stock to be provided, the number, time and speed of trains ; the rates and fares to be charged ; the expenditure to be incurred ; the standard of maintenance ; and the form of accounts. The railways were to be held by the companies on leases terminating at the end of 99 years, and on such termination the fair value of their rolling-stock, plant and machinery was to be paid to them. But provision was also made to enable the Government to purchase the lines after 25 or 50 years on terms calculated to be the equivalent of the companies' interests therein and also to enable the companies to surrender their lines to the Government and to receive in return their capital at par.

**Early Attempts to Secure Funds for Railway Construction without a Guarantee.**

An attempt to secure the construction of railways in India, on terms more favourable to the Government than those of the contracts with the original guaranteed companies, was first made in 1862, when a subsidy, but not a guarantee, was granted to the Indian Branch Railway Company which proposed to make feeders to the trunk lines in Northern India, and did actually make one such line. Similar assistance was granted later to the Indian Tramway Company, which made a short line in Madras. In 1864, the terms granted to the two companies mentioned were taken as a standard for general adoption with a view to the encouragement of similar companies. The chief provisions were that the Government, besides giving the necessary land free of costs, would grant an annual subsidy for 20 years at a rate not exceeding £100 per mile of line, with an addition in respect of large bridges costing more than £10,000. These terms failed to attract capital, and the two unguaranteed companies which had begun work found themselves after a few years unable to proceed without further assistance from the Government. Consequently, in 1867, a contract was entered into with the Indian Branch Railway Company (which soon after changed its name to the "Oudh and Rohilkhand Railway Company") by which the company was guaranteed interest at 5 per cent. per annum on the cost of certain lines to be carried out by it, on conditions similar to those laid down in the contracts of the period 1854—1860. Similarly, the Indian Tramway Company, after having been given in 1868 a guarantee of 3 per cent. per annum, went into liquidation in 1870, and became absorbed in a new company called the Carnatic Railway Company (afterwards amalgamated with the Great Southern of India Railway Company to form the South Indian Railway Company), with which the Secretary of State entered into a contract guaranteeing interest on its capital at 5 per cent. per annum. In 1869, Sir John Lawrence summed up the result of the experiment of the construction of railways by unguaranteed companies as follows:—"The Government of India has for several years been striving to induce capitalists to undertake the construction of railways in India at their own risk, and on their responsibility with a minimum of Government interference. But the attempt has entirely failed, and it has become obvious that no capital can be obtained for such undertakings otherwise than under a guarantee of interest fully equal to that which the Government would have to pay if it borrowed directly on its own account."

The attempt to encourage unguaranteed companies having thus been unsuccessful, it became necessary to decide whether the old practice of relying on guaranteed companies, of the type that had provided capital for, and had constructed, the first railways in India, should be continued. The Government of India expressed their objections to this course. They doubted whether their power of control over such companies secured the greatest possible economy in construction. They also disliked the arrangements under which they guaranteed the interest on the capital of companies, and thus became responsible for loss on working while having only a comparatively remote prospect of profiting by the result of successful working. Two important changes were consequently made in the practice that had been followed since the beginning of railway construction in India:—

1. Arrangements were made with some of the most important of the guaranteed companies that, in lieu of the provision that half of any surplus profits was to be applied in repayment of sums advanced by the Government under the guarantee of interest, half of the surplus profits for each half-year should be the property of the Government. In consideration of this modification, the Government relinquished, in the case of three companies, the Great Indian Peninsula, the Bombay, Baroda and Central India and the Madras, its right to purchase the lines at the end of the first 25 years from the dates of the respective contracts.

2. It was decided by the Secretary of State that the time had arrived when in both raising and expending such additional capital as might be required for new lines in India, the Government should secure to itself the full benefit of its own credit and of the cheaper methods which it was expected that it would be able to use. Accordingly, for several years after 1869, the chief capital expenditure on railways was chiefly incurred direct by the State and no fresh contracts with guaranteed companies were made except for small extensions. Among the lines constructed or begun by State agency and from State capital between 1869 and 1880 were the Indus Valley, Punjab Northern, Rajputana-Malwa, Northern Bengal, Rangoon and Irrawaddy Valley and Tirhoot.

By the end of 1879, in about 25 years from the introduction of railways in India, 6,128 miles of railway had been constructed by companies which had expended, approximately, £97,872,000 (these figures include the Calcutta and South-Eastern and Nalhati Railways which were constructed by companies but were purchased by the Government in 1868 and 1872, respectively). By the same date 2,175 miles of railway had been constructed by the Government at a cost of £23,695,226.

In 1880, the necessity for great and rapid extension of the railway system was urged by the Famine Commissioners, appointed after the great famine of 1878, who estimated that at least 5,000 miles were still necessary for the protection of the country from famine. It was held by the Government of the time that a limit was necessary on the capital borrowed annually ; and it was clear that the limit fixed was not high enough to allow of such progress in railway construction as was desirable. With reference to this difficulty the Famine Commissioners remarked :  
 " that there would be manifest advantages in giving free scope to the extension of railways by private enterprise if it were possible ; and, though the original form of guarantee has been condemned, it may not be impossible to find some substitute which shall be free from its defects, and may secure the investment of capital in these undertakings without involving the Government in financial or other liabilities of an objectionable nature."

Action of the direction suggested by the Commission was taken by the formation of three companies without a guarantee (the Bengal Central in 1881 and the Bengal and North-Western and Rohilkund and Kumaon in 1882) and three new guaranteed companies (Southern Mahratta in 1882, the Indian Midland in 1885, and the Bengal-Nagpur in 1887). The Bengal and North-Western and the Rohilkund and Kumaon Railway Companies are referred to more fully, in a later paragraph. The Bengal Central Railway Company's operations were not successful at the outset, and a revised contract was entered into with the company, with effect from the 1st July 1885, under which the Secretary of State guaranteed interest at 3½ per cent. on the company's capital, the balance of net earnings remaining after payment of interest on advances by the Secretary of State and debenture capital (but not the share capital) being divided between the Secretary of State and the company in the proportions of three-quarters to the former and one-quarter to the latter. The new contract gave the Secretary of State the right to take possession of the line on the 30th June 1905, or subsequently at intervals of 10 years, on repaying the company's capital at par. The rate of interest guaranteed to the Southern Mahratta Railway Company was also 3½ per cent.; in this case the balance of net earnings remaining after payment of interest on advances by the Secretary of State (but not on share or debenture capital) was divisible in the same way as in the case of the Bengal Central Railway Company. The guarantee to the Indian Midland and Bengal-Nagpur Railway Companies was 4 per cent.; and the Secretary of State was entitled to three-quarters of the surplus profits in excess of all interest charges. The lines constructed by

the three companies last mentioned were declared to be the property of the Secretary of State, who had the right to determine the contracts at the end of approximately 25 years after their respective dates, or at subsequent intervals of 10 years, on repaying at par the capital provided by the companies.

The Assam-Bengal Railway Company was formed on similar lines in 1892, except that any surplus profits were to be divided between the Secretary of State and the company in proportion to the capital provided by each. The rate of guarantee in this case was  $3\frac{1}{2}$  per cent. for the first six years and thereafter 3 per cent. The Burma Railways Company was formed in 1897 to manage and develop the line in that Province that had been constructed by the State. Interest at  $2\frac{1}{2}$  per cent. was guaranteed on the share capital raised by the company, and the surplus profits were originally divisible in the proportion of four-fifths to the Secretary of State and one-fifth to the company, but since 1908 the division has been proportional to the capital invested by each in the undertaking. The contract with the Burma Railways Company is terminable by the Secretary of State in 1928, or on subsequent occasions, on repayment of the company's capital at par.

The terms of guarantee given to the companies formed since 1880 have thus been much more favourable to the Government than in the case of those formed before 1869.

In dealing with the guaranteed companies formed before 1869 and with those formed in 1881 and subsequently, it has been the practice (except in the cases mentioned above, when the purchase of some of the old guaranteed lines was postponed in order to secure to the Government a share in surplus profits) to use in some way or other at the earliest possible date the right reserved by the Government of terminating the contracts of the various companies. The method of making use of this right has differed in different cases. The Eastern Bengal, Oudh and Rohilkhand, and Scinde-Punjab and Delhi lines were purchased and transferred to State management, the last named now forming part of the North-Western Railway. Similarly, the Bengal Central line was purchased and made part of the Eastern Bengal Railway. The Madras and the Indian Midland lines were acquired but left, after acquisition, under the management of companies working other lines with which it was advantageous to amalgamate them. In all other cases (East Indian, South Indian, Great Indian Peninsula, Bombay, Baroda and Central India, Southern Mahratta, and Bengal-Nagpur), the course adopted has been to arrange for the continuance of management by the original company (or by a new company closely related to the old one), but to secure more favourable financial conditions for the State by one or more of the following methods:—reduction of the amount of capital retained by the companies in the undertakings, reduction of the rate of interest guaranteed by the State on such capital, and modification in favour of the Government of the clauses relating to the division of surplus profits.

**Arrangements between the Government and Companies at present.**

The relations between the Government and the guaranteed companies now working railways may be summarised as follows:—

The lines that they work are the property of the State.

The greater part of the capital is the property of the Government, either through having been originally supplied by it or through the acquisition by the Government of the greater part of the companies' interests on the termination of old contracts.

When funds required for further capital expenditure, the Government has the option either of providing them or of calling on the company to provide them. The company receives guaranteed interest at a fixed rate on its



capital ; and similar payments out of the earnings are made to the Government. If, after these have been made, surplus profits remain, they are divided between the Government and the company in the various proportions provided for by the contracts. The company's share is in all cases only a small fraction of the Government's share.

All the contracts, except one, which is for a fixed term of 25 years, are terminable at the option of the Secretary of State, at specified dates ; and on termination the company's capital is repayable at par (except in the case of the East Indian Railway Company, which is for special reasons to receive a terminable annuity instead of a cash payment).

The administrative control exercised by the Government over the companies is as follows :—

The company is bound to keep the line in good repair, in good working condition, and fully supplied with rolling-stock, plant, and machinery ; to keep the rolling-stock in good repair and in good working condition ; and to maintain a sufficient staff for the purposes of the line ;—all to the satisfaction of the Secretary of State.

The Secretary of State may require the company to carry out any alteration or improvement in the line, or in the working that he may think necessary for the safety of the public or for the effectual working of the line.

The Secretary of State may require the company to enter into agreements, on reasonable terms and conditions, with the administrations of adjoining railways for the exercise of running powers, for the supply to one another of surplus rolling-stock, for the interchange of traffic and rolling-stock and the settlement of through rates, and for additions and alterations to, or the redistribution of, existing accommodation in junctions or other stations in view to their convenient mutual use.

The train service is to be such as the Secretary of State may require. In order to secure a general control over the rates quoted by companies, the Secretary of State has retained power to settle the classification of goods and to authorise maximum and minimum rates within which the companies shall be entitled to charge the public for the conveyance of passengers and goods of each class.

The company has to keep such accounts as the Secretary of State may require, and these are subject to audit by the Secretary of State.

In all other matters relating to the line the company is made subject to the supervision and control of the Secretary of State, who may appoint such persons as he may think proper for the purpose of inspecting the line, auditing the accounts, or otherwise exercising the power of supervision and control reserved to him. In particular, the Secretary of State has the right to appoint a Government Director to the Board of the company, with a power of veto on all proceedings of the Board. All the moneys received by the company in respect of the undertaking, whether on capital or revenue account, have to be paid over to the Secretary of State.

All expenditure by the company has to be stated and submitted for the sanction of the Secretary of State.

Thus, the Government has the preponderating financial interest in the lines worked by the two classes of guaranteed companies, those formed before 1869 and retained as working agencies with reduced capital after purchase, and those formed on terms more favourable to the State after 1880 ; it has exceedingly wide control over the methods of working ; and it has the right of taking possession of the lines at specified times on repayment at par of the capital of the companies.

In addition to the lines referred to above, and apart from lines constructed by Branch line companies, District Boards and Indian States, two lines of some importance have

been constructed by companies which receive no direct assistance by the Government, namely, the Bengal and North-Western Railway and the Rohilkund and Kumaon Railway. (The Rohilkund and Kumaon Railway Company was guaranteed interest at 4 per cent. during construction and received for 10 years thereafter a subsidy of Rs. 20,000 per annum. This ceased in 1894.) While, however, these companies have no guarantee or other direct payment from the Government, they derive some advantage (partly through direct participation in profits and partly through reduction of expenses) from the fact that the working of certain State lines has been entrusted to them, the Tirhoot Railway to the former company and the Lucknow-Bareilly Railway to the latter. Their lines can be purchased by the State in 1932 on terms which are different in respect of the different sections of the lines, but are, on the whole, much more favourable to the companies than those provided for in the contracts with the guaranteed companies. Failing purchase in 1932, the lines will become the property of the State in 1981 on terms much less favourable to the companies. The general administrative control exercised by the State over these companies and the control over expenditure are similar to that which is exercised, as explained above, over guaranteed companies.

The greater number of the powers for the detailed control of railways as described

in the foregoing paragraphs are vested in the **Controlling Authority.** Railway Board. At the close of the year

1922-23 the Board consisted of a Chief Commissioner and two Members with a Secretariat establishment.

## APPENDIX 2.

**Memorandum regarding Local Railway Advisory Committee.**

I. *Title*.—The new bodies to be known on each line as “The Railway Advisory Committee.”

II. *Constitution*.—A separate main Committee to be constituted for each administration, the number of members being decided by circumstances subject to a maximum of 12. The Agent to be *ex-officio* Chairman. The remaining members to consist of—

two Local Government members nominated by the Local Government in whose jurisdiction the headquarters of the railway in question is situated ;

three representatives of the Legislative Council of the Government in whose jurisdiction the headquarters of the railway in question is situated. These members should be selected to represent rural interests and the travelling public ;

one member from the local municipality or corporation at the railway headquarters ;

five members representing industries, commerce and trade.

The heads of departments of railways may be called in merely to advise on subjects under discussion which may affect their department and on which their technical expert advice would be useful to the committee.

The method of selection of the non-official members to be left largely to local discretion. The representatives of the Legislative Council need not necessarily be members of the Council. Members of the Central Advisory Council are not debarred from membership of Local Advisory Committees. The five members representing industries, commerce and trade would ordinarily be drawn from important local bodies representing predominant trade interests ; the actual selection of such bodies should be made in consultation with the Local Government, and once the selection is made it should be left to them to nominate or elect their representatives. The tenure of office of the members to be left to the electing or nominating bodies to decide.

Agents will consider whether it is desirable to form separate branch local committees at large centres, and in case of doubt they may consult their main committee in this matter.

III. *Scope of duties*.—The functions of the committee to be purely advisory. The sort of subjects which might suitably be placed before the committees are :—

- (a) alterations in time-tables and passenger services ;
- (b) alterations of rates and fares and changes of goods classifications ;
- (c) proposals in regard to new projects and extensions ;
- (d) proposals in regard to new rolling-stock ;
- (e) any matters affecting the general public interest or convenience.

Questions of personnel, discipline and appointments will not be brought before the committee ; subject to this condition any member may suggest a subject for discussion, but the Agent may rule out any subject for reasons which should be explained at the first meeting after the ruling has been given.

IV. *Remuneration*.—Non-railway members may be paid Rs. 32 for each meeting attended.

V. *Proceedings*.—The committee to meet once a month if there are matters to be discussed. A copy of the minutes of meetings to be furnished to each member and to the Railway Board. If in any case the Agent decides that he is unable to follow the advice given by the majority of the committee, he must bring the matter to the notice of the Railway Board in forwarding the minutes of the meeting for their perusal.

## ANNEXURE A. OF APPENDIX 2.

### Oudh and Rohilkhand Railway Advisory Committee.

#### Subsidiary Rules.

The rules for the conduct of business shall be as laid down in the Government Memorandum regarding Local Railway Advisory Committees, supplemented by the following subsidiary rules :—

1. *Constitution.*—The Committee will be constituted as follows :—

*Chairman.*—Agent of the Oudh and Rohilkhand Railway.

<i>Members.</i> —	The Commissioner of Lucknow.
	The President of the Board of Communications, United Provinces.
	Three representatives of the Legislative Council.
	A representative of the Lucknow Municipality.
	A representative of the Upper India Chamber of Commerce.
	A representative of the United Provinces Chamber of Commerce.
	A representative of the United Provinces Trades Association.
	A representative of the Board of Agriculture.
	A representative of the United Provinces Board of Industries.

2. The Deputy Agent of the Oudh and Rohilkhand Railway will be the Secretary.
3. Provided there are subjects for discussion, meetings will be held on the second Saturday of every month at 12 noon unless for special reasons the Chairman fixes another day in that month.
4. The Secretary will give ten days' notice of the meeting to each member.
5. Subjects for discussion which must be in accordance with paragraph III of the Government Memorandum "Scope of Duties" must reach the Secretary at least 14 days before the day of the next meeting otherwise the subject will be postponed to the following meeting but urgent matters may by permission of the Chairman be admitted to immediate discussion.
6. Subjects if passed by the Chairman will be issued by the Secretary in the form of an Agenda for the next meeting to each member of the committee at least a week before the meeting.
7. The minutes of each meeting when ready will be printed and a copy sent to each member and to the Railway Board and their confirmation will be the first subject on the Agenda of the next meeting.
8. It is not necessary that suggestions should be put in the form of a resolution.
9. Five members will form a quorum.