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Order No. R. Stat. $\frac{29-1}{61}$, dated the
3rd July 1906.

INDIAN RAILWAYS.

**ABSTRACT RETURNS OF ACCIDENTS DURING THE TWELVE
MONTHS ENDED THE 31ST DECEMBER 1905. - 1902**

ABSTRACT No. 1.

GENERAL TOTAL.

NUMBER of PERSONS reported, during the TWELVE MONTHS ended the 31st December 1905, as KILLED or INJURED ON ALL RAILWAYS open for TRAFFIC in INDIA, distinguishing between PASSENGERS, RAILWAY SERVANTS and OTHER PERSONS; and distinguishing also, in the case of the two former classes, between ACCIDENTS caused by ACCIDENTS TO TRAINS, ROLLING-STOCK, PERMANENT-WAY, etc., and ACCIDENTS happening otherwise.

	STANDARD GAUGE LINES.		METRE GAUGE LINES.		SPECIAL GAUGE LINES.		TOTAL ALL GAUGES.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
PASSENGERS:—								
From accidents to trains, rolling-stock, permanent-way, etc.	8	117	...	7	...	16	8	140
By accidents from other causes, including accidents from their own want of caution or misconduct	89	256	26	96	...	4	115	358
SERVANTS:—								
From accidents to trains, rolling-stock, permanent-way, etc.	10	90	2	21	3	4	15	115
By accidents from other causes, including accidents from their own want of caution or misconduct	240	351	58	110	1	1	308	462
OTHER PERSONS:—								
Whilst passing over railways at level-crossings	25	10	5	9	...	...	30	19
Trespassers	461	93	198	69	2	11	661	173
Suicides	113	5	21	...	...	...	134	5
Miscellaneous, not included in either of the above	18	13	26	10	...	...	39	23
Total	963	935	336	322	6	36	1,305	1,293

ABSTRACT

NUMBER of PERSONS reported, during the TWELVE MONTHS ended the 31st December 1905, as KILLED OR INJURED in PASSENGERS, RAILWAY SERVANTS AND OTHER PERSONS, and classifying, as far as

Serial Number.	RAILWAY.	PASSENGERS.																SERVANTS AND OTHER PERSONS.														
		FROM CAUSES OTHER THAN ACCIDENTS TO TRAINS, ETC.—See Abstracts Nos. 3 and 4.																FROM CAUSES OTHER THAN ACCIDENTS TO TRAINS, ETC.—See Abstracts Nos. 3 and 4.														
		FROM CAUSES OTHER THAN ACCIDENTS TO TRAINS, ETC.—See Abstracts Nos. 3 and 4.																FROM CAUSES OTHER THAN ACCIDENTS TO TRAINS, ETC.—See Abstracts Nos. 3 and 4.														
		FROM CAUSES OTHER THAN ACCIDENTS TO TRAINS, ETC.—See Abstracts Nos. 3 and 4.																FROM CAUSES OTHER THAN ACCIDENTS TO TRAINS, ETC.—See Abstracts Nos. 3 and 4.														
		1.—From falling between trains and platforms.		2.—Falling on to the platform, ballast, etc., when getting into or out of trains.		3.—Whilst crossing the line at stations.		4.—By closing of carriage doors.		5.—Falling out of carriages during the travelling of trains.		6.—Other accidents.		TOTAL.		TOTAL PASSENGERS.		1.—Whilst coupling or uncoupling vehicles.		2.—By coming in contact, whilst riding on vehicles during shunting, with other vehicles, etc., standing on adjacent lines.		3.—Whilst passing over or standing upon buffers during shunting.		4.—When getting on or off, or falling out, engines, wagons, etc., during shunting.		5.—Whilst braking, spragging, or checking wheels.		6.—Whilst attending to ground points, marshalling trains, etc.				
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.			
	Brought forward	7	1	5	2	3	2	11	34	20	38	20	45	1	13	5	6	3	1	1	1	1	1	1	1	1	1	1				
	3' 3 1/2" gauge—concd.																															
22	Hyderabad-Godavari Valley																															
23	Jodhpur-Rikaner—(a) Jodhpur section								3	2	5		5	1		1																
	Bikaner "																															
24	Morvi																															
25	Rajputana-Malwa (b)				1				4	25	4	26	4	26	1	2	2	2														
26	Rohilkund and Kumaon Lucknow-Bareilly section, Company's section				1				1	2		1	3	1	3	2																
27	South Indian (c)					1			1	14		1	15	1	15	8																
28	Southern Mahratta (d)				1					8		9		9		1	5															
29	Udaipur-Chitor																															
	TOTAL	7	1	5	5	4	2	11	60	2	26	96	26	103	2	21	8	14	1	4	1	5	2	1	5	2	1	3				
	Previous year	2	19	4	2	4	4	1	2	14	60	1	4	25	71	27	90	7	30	2	12			2	7	2						
	Special gauges.																															
30	Barai Light (2' 6")																															
31	Baraset-Basirhat Light (2' 6")																															
32	Bukhtiarpore—Behar Light (2' 6")																															
33	Cooch Behar (2' 6")																															
34	Gaekwar's Dabhoi (2' 6")																															
35	Kalka-Simla (2' 6")																															
36	Powayan Light (2' 6")																															
37	Rajpipla (2' 6")																															
38	Tarakeshwar-Magra Light (2' 6")																															
39	Tezpur-Balipara Light (2' 6")																															
40	Darjeeling-Himalayan (2' 0")																															
41	Gwallior Light (2' 0")	16																														
42	Howrah-Amta (2' 0")																															
43	Howrah-Sheakhola (2' 0")																															
44	Jorhat (2' 0")																															
	TOTAL	16																														
	Previous year	3	1																													
	GRAND TOTAL	8	140	12	6	8	25	12	4	6	80	239	8	14	115	358	118	496	15	115	20	58	2	4	13	14	4	32	6	1	6	
	Previous year	11	83	17	16	8	17	15	6	4	58	267	7	11	105	321	116	404	23	103	14	37	1	3	1	4	6	27	4	11	2	8

(a) Including the Jodhpur-Hyderabad railway (British section).
 (b) Ahmedabad-Dholka, Ahmedabad-Parantij, Gaekwar's Mehsana, Jaipur State, Palanpur-Deesa, and Vijapur-Kalol-Kadi railways.
 (c) Tanjore District Board and Tinnavelly-Quilon (Travancore) railways.
 (d) Bellary-Rayadrug, Birar-Shimoga-Gautakal-Mysore frontier, Hindupur (Yesvantpur-Mysore frontier), Kolhapur, Mysore-Nanjangal Mysore section (Southern Mahratta) and West of India Portuguese railways.

ABSTRACT No. 3.

ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, etc., reported during the TWELVE MONTHS ended the 31st December 1905, as having occurred on the several RAILWAYS open for TRAFFIC in INDIA, distinguishing the different CLASSES of ACCIDENTS and the number of PASSENGERS and OFFICERS, and of RAILWAY SERVANTS KILLED or INJURED in each class of accident.

STANDARD GAUGE.

	BENGAL CENTRAL. (a)								BENGAL-NAGPUR. (b)								BOMBAY, BARODA AND CENTRAL INDIA. (c)								EASTERN BENGAL STATE. (d)								Number of headings.		
	Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.												
	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.			
1. Collisions between passenger trains or parts of passenger trains	1	
2. Collisions between passenger trains and goods or mineral trains, engines and vehicles standing foul of the line	1	2	3	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	2	
3. Collisions between goods trains or parts of goods trains	3	4	7	...	...	...	16	...	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	
4. Collisions between light engines	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	
5. Passenger trains or parts of passenger trains leaving the rails	3	5	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	
6. Goods trains or parts of goods trains, engines, etc., leaving the rails	2	21	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	
7. Trains or engines travelling in the wrong direction through points	3	23	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	
8. Trains running into stations or sidings at too high a speed.	3	3	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	
9. Trains running over cattle on the line	...	16	16	...	...	...	...	...	...	102	102	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	
10. Ditto over obstructions on the line	...	1	1	...	...	...	...	...	9	12	21	1	...	1	1	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	
11. Trains running through gates at level-crossings	11
12. The bursting of boilers of engines.	12
12(a). Ditto of tubes, etc., of engines	...	2	2	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12(a)
13. The failure of machinery, springs, etc., of engines	...	1	1	...	...	...	...	...	...	6	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
14. The failure of tyres	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14
15. Ditto of wheels	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15
16. Ditto of axles	1	2	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16
17. Ditto of brake apparatus	8	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17
18. Ditto of couplings	71	71	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18
19. Ditto of tunnels, bridges, viaducts, culverts, etc.	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19
20. Broken rails	8	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20
21. The flooding of portions of permanent-way	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21
22. Slips in cuttings or embankments	11	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22
23. Fire in trains	4	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23
24. Fire at stations, or involving injury to bridges or viaducts	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
25. Other accidents	3	25	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25
TOTAL ALL CLASSES	...	20	20	...	...	...	...	...	28	244	272	1	...	1	18	2	18	1	237	238	...	...	...	...	...	...	...	...	...	...	...	...	...	14	

(a) The particulars noted against this railway are only for the first-half, those for the second-half have been included with the broad gauge section of the Eastern Bengal State Railway.

(b) Including the Jubbulpore-Gondia extension, Parlakimedi Light, Raipur-Dhamtari, and Mourbhanj 2' 6" gauge, railways.

(c) Includes particulars for the second-half of the year of the Bengal Central Railway.

(d) Including the Godhra-Banjan Nagda, Nagda-Ujjain and Petlad-Cambay railways.

ABSTRACT No. 3.—ACCIDENTS TO TRAINS, ROLLING-STOCK, PERMANENT-WAY, etc., reported during the TWELVE MONTHS ended the 31st December 1905, as having occurred on the several RAILWAYS open for TRAFFIC in INDIA, distinguishing the different CLASSES of ACCIDENTS and the number of PASSENGERS and OTHERS, and of RAILWAY SERVANTS KILLED or INJURED in each class of accident—*contd.*

STANDARD GAUGE—*conold.*

	NIZAM'S GUARANTEED STATE. (a)								NORTH WESTERN STATE. (b)								ODISH AND BHOILKHAND STATE. (c)								TAPTI VALLEY.								Number of headings.
	Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.										
	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.								
1. Collisions between passenger trains or parts of passenger trains	3	...	3	...	21	...	4	...	25	...	...	...	...	...	...	...	...	1							
2. Collisions between passenger trains and goods or mineral trains, engines and vehicles standing foul of the line	4	6	10	...	29	1	...	1	29	3	3	16	...	13	...	29	...	2							
3. Collisions between goods trains or parts of goods trains	21	21	...	...	...	...	...	...	1	3	4	...	1	...	1	...	3							
4. Collisions between light engines	23	23	...	...	...	...	...	...	1	...	1	...	2	...	2	...	4							
5. Passenger trains or parts of passenger trains leaving the rails	5	6	11	...	...	1	...	1	...	...	3	3	...	...	...	...	...	...	5						
6. Goods trains or parts of goods trains, engines, etc., leaving the rails	2	2	4	...	...	...	...	...	...	129	129	...	...	1	...	1	...	...	1	1	...	...	...	...	...	...	6
7. Trains or engines travelling in the wrong direction through points	3	3	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	7						
8. Trains running into stations or sidings at too high a speed	8						
9. Trains running over cattle on the line	...	24	24	...	...	...	...	...	...	366	366	...	...	...	...	...	...	...	103	103	...	...	...	...	4	4	9
10. Ditto over obstructions on the line	1	12	13	1*	1*	...	...	1	1	2	1	3	2*	...	...	2	...	...	10						
11. Trains running through gates at level-crossings	1	...	1	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
12. The bursting of boilers of engines	62	62	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12						
12(a). Ditto of tubes, etc., of engines	62	62	...	...	...	...	...	...	...	5	5	...	...	...	...	...	...	12(a)						
13. The failure of machinery, springs, etc., of engines	244	244	...	...	...	...	...	...	...	12	12	...	...	...	...	...	...	13						
14. The failure of tyres	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14						
15. Ditto of wheels	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15						
16. Ditto of axles	18	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16						
17. Ditto of brake apparatus	17						
18. Ditto of couplings	8	8	...	...	...	...	...	...	18						
19. Ditto of tunnels, bridges, viaducts, culverts, etc.	19						
20. Broken rails	37	37	...	...	...	...	...	...	...	11	11	...	...	...	...	...	...	20						
21. The flooding of portions of permanent-way	1	...	1	...	...	...	...	...	3	23	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21
22. Slips in cuttings or embankments	1	7	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22						
23. Fire in trains	21	21	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	23						
24. Fire at stations, or involving injury to bridges or viaducts	14	14	...	...	1	1	1	1	...	2	2	...	...	...	...	...	...	24						
25. Other accidents	2	66	68	...	...	...	...	...	...	...	2	2	4	...	...	...	...	...	25						
TOTAL ALL CLASSES	4	26	30	19	1,065	1,084	1*	51†	2	7	3	58	9	152	161	2*	16	...	16	2	32	...	5	5

(a) Including the Buzwada extension railway. Jammu and Kashmir (Native State section), Ludhiana-Dhuri-Jakkhal, Rajpura-Bhatinda and Southern Punjab railways and the Khushalnagar-Kohat-Thal, Nowshera-Durgai and Daudot Light, 2' 6" gauge, railways.

* Not (a) passenger(s). † Of these one was not a passenger.

ABSTRACT NO. 3.—ACCIDENTS TO TRAINS, ROLLING-STOCK, PERMANENT-WAY, etc., reported during the TWELVE MONTHS ended the 31st December 1903, as having occurred on the several RAILWAYS open to r
TRAFFIC in INDIA, distinguishing the different CLASSES of ACCIDENTS and the number of PASSENGERS and OTHERS, and of RAILWAY SERVANTS KILLED OR INJURED in each class of accident—contd.

METRE GAUGE.

	ASSAM-BENGAL. (a)								BENGAL AND NORTH-WESTERN (TIRHOO AND COMPANY'S SECTIONS). (b)								BENGAL DOOARS. (c)								BEAUVANAR-GONDAL-JUNAGAD-PORBANDAR. (d)								Number of headings.
	Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.										
	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.								
1. Collisions between passenger trains or parts of passenger trains	1								
2. Collisions between passenger trains and goods or mineral trains, engines and vehicles standing foul of the line	...	1	1	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2	
3. Collisions between goods trains or parts of goods trains	3								
4. Collisions between light engines	4								
5. Passenger trains or parts of passenger trains leaving the rails	6	3	9	...	3	...	4	...	7	1	1	...	1	...	...	...	...	1	1	...	...	...	...	...	5	
6. Goods trains or parts of goods trains, engines, etc., leaving the rails	...	16	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	
7. Trains or engines travelling in the wrong direction through points	1	7	8	...	2	...	...	...	...	...	...	...	...	...	...	...	7							
8. Trains running into stations or sidings at too high a speed	8							
9. Trains running over cattle on the line	1	69	70	...	...	...	...	...	...	1	162	163	...	1*	...	...	...	...	...	...	...	...	...	...	...	9
10. Ditto over obstructions on the line	...	7	7	...	...	...	...	...	...	...	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	10
11. Trains running through gates at level-crossings	11							
12. The bursting of boilers of engines	12							
12(a). Ditto of tubes, etc., of engines	5	5	...	...	...	...	...	...	...	...	...	...	...	...	...	12(a)							
13. The failure of machinery, springs, etc., of engines	...	16	16	...	...	...	...	...	...	...	9	9	...	...	...	...	...	...	...	...	...	...	...	...	...	13
14. The failure of tyres	14							
15. Ditto of wheels	15							
16. Ditto of axles	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	16							
17. Ditto of brake apparatus	17							
18. Ditto of couplings	...	11	11	...	...	...	...	...	...	...	6	6	...	...	...	...	...	...	...	...	...	...	...	...	...	18
19. Ditto of tunnels, bridges, viaducts, culverts, etc.	19							
20. Broken rails	...	16	16	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	20
21. The flooding of portions of permanent-way	10	10	...	...	...	...	...	...	...	...	...	...	...	...	...	21							
22. Slips in cuttings or embankments	...	4	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22
23. Fire in trains	23							
24. Fire at stations, or involving injury to bridges or viaducts	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	24							
25. Other accidents	2	6	8	...	...	1	...	1	...	...	...	...	...	...	...	...	25							
TOTAL ALL CLASSES	7	143	150	...	3	...	4	...	7	5	213	218	...	4†	...	1	...	5	2	32	34	...	...	...	...	...		

(a) Including the Noakhali (Bengal) railway.
(b) " the Sagauli-Raxaul railway.
(c) " the Bengal Dooars extension.

(d) Including the Dhrangadra, Jamnagar and Jetalsar-Rajkot railways.
* Not (a) passenger(s). * Of these one was not a passenger.

ABSTRACT No. 3.—ACCIDENTS TO TRAINS, ROLLING-STOCK, PERMANENT-WAY, etc., reported during the TWELVE MONTHS ended the 31st December 1905, as having occurred on the several RAILWAYS open for TRAFFIC IN INDIA, distinguishing the different CLASSES of ACCIDENTS and the number of PASSENGERS and OTHERS, and of RAILWAY SERVANTS KILLED OR INJURED in each class of accident—*contd.*

METRE GAUGE—*contd.*

	BURMA.							CAWNPORE-BURHWAL.							DEOGHUR.							DIBRU-SADIYA. (a)							Number of headings.
	Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.						
	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.				
1. Collisions between passenger trains or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
2. Collisions between passenger trains and goods or mineral trains, engines and vehicles standing foul of the line	2	3	5	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
3. Collisions between goods trains or parts of goods trains	2	3	10	...	...	...	3	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
4. Collisions between light engines	...	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
5. Passenger trains or parts of passenger trains leaving the rails	1	12	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
6. Goods trains or parts of goods trains, engines, etc., leaving the rails	1	45	46	...	...	...	3	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
7. Trains or engines travelling in the wrong direction through points	...	10	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
8. Trains running into stations or sidings at too high a speed	...	10	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8
9. Trains running over cattle on the line	1	131	132	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9
10. Ditto over obstructions on the line	...	14	14	...	1*	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10
11. Trains running through gates at level-crossings	...	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
12(a). Ditto of tubes, etc., of engines	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12(a)
13. The failure of machinery, springs, etc., of engines	1	19	20	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
14. The failure of tyres	...	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14
15. Ditto of wheels	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15
16. Ditto of axles	3	12	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16
17. Ditto of brake apparatus	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17
18. Ditto of couplings	...	30	30	...	...	...	...	...	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18
19. Ditto of tunnels, bridges, viaducts, culverts, etc.	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19
20. Broken rails	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20
21. The flooding of portions of permanent-way	27	13	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21
22. Slips in cuttings or embankments	4	2	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22
23. Fire in trains	...	20	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23
24. Fire at stations, or involving injury to bridges or viaducts	1	2	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
25. Other accidents	1	62	63	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25
TOTAL ALL CLASSES	45	408	453	...	1*	1	8	1	9	...	7	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...

(a) Including the Ledo and Tikak Margherita Colliery Branch railway.
* Not (a) passenger(s).

ABSTRACT No. 3.—ACCIDENTS TO TRAINS, ROLLING-STOCK, PERMANENT-WAY, etc., reported during the TWELVE MONTHS ended the 31st December 1905, as having occurred on the several RAILWAYS open for TRAFFIC IN INDIA, distinguishing the different CLASSES of ACCIDENTS and the number of PASSENGERS and OTHERS, and of RAILWAY SERVANTS KILLED OR INJURED in each class of accident—contd.

	METRE GAUGE—contd.																Number of headings.													
	EASTERN BENGAL STATE. (a)						HYDRABAD-GODAVARI VALLEY.						JODHPUR-BIKANER (JODHPUR AND BIKANER SECTIONS). (b)					MORVI.												
	Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.			Number.		Number of passengers and others.		Number of servants.		Total all classes.						
Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1880.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1880.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1880.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1880.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	
1. Collisions between passenger trains or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1
2. Collisions between passenger trains and goods or mineral trains, engines and vehicles standing foul of the line	1	1	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
3. Collisions between goods trains or parts of goods trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
5. Passenger trains or parts of passenger trains leaving the rails	7	...	7	...	...	...	...	...	...	...	...	...	...	...	...	3	4	7	...	...	...	...	...	...	...	...	...	...	...	5
6. Goods trains or parts of goods trains, engines, etc., leaving the rails	...	1	1	...	...	...	...	...	1	3	4	...	...	...	...	...	7	7	...	...	...	...	...	...	...	...	...	...	...	6
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	7
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8
9. Trains running over cattle on the line	...	113	113	...	...	...	...	...	...	22	22	...	...	...	...	...	133	133	...	...	...	...	...	...	...	...	...	...	...	9
10. Ditto over obstructions on the line	1	10	11	...	1*	...	...	...	1	...	1	...	...	...	...	...	7	7	...	...	...	...	...	...	...	...	...	...	...	10
11. Trains running through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
12(a). Ditto of tubes, etc., of engines	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	32	32	...	...	...	...	...	...	...	...	...	...	...	12(a)
13. The failure of machinery, springs, etc., of engines	...	9	9	...	...	...	...	...	...	...	...	...	...	...	...	...	29	29	...	...	...	...	...	...	...	...	...	...	...	13
14. The failure of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15
16. Ditto of axles	1	2	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17
18. Ditto of couplings	...	10	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18
19. Ditto of tunnels, bridges, viaducts, culverts, etc.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19
20. Broken rails	...	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	8	8	...	...	...	...	...	...	...	...	...	...	...	20
21. The flooding of portions of permanent-way	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	3	...	...	...	...	...	...	...	...	...	...	21
22. Slips in cuttings or embankments	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22
23. Fire in trains	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	11	12	...	...	...	...	...	...	...	...	...	...	...	23
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	4	...	...	...	...	...	...	...	...	...	...	...	24
25. Other accidents	1	14	15	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3	...	...	...	...	...	...	...	...	...	...	...	25
TOTAL ALL CLASSES	13	166	178	...	2†	...	...	...	4	27	31	...	...	...	...	6	244	250	...	...	...	1	...	...	...	...	...	...	...	6

(a) Including Mymensingh-Jamalpur-Jagannathganj railway and the Ranaghat-Krishnagar and Teesta-Kurigram branches, also the British Section of the Santrabari extension 2' 6" gauge lines.
 (b) Including the Jodhpur-Hyderabad railway (British section).

* Not (a) passenger(-).
 † Of these one was not a passenger.

TRAFFIC IN INDIA, distinguishing the different CLASSES of ACCIDENTS and the number of PASSENGERS and OTHERS, and of RAILWAY SERVANTS KILLED or INJURED in each class of accident—contd.

	METRE GAUGE—contd.								SPECIAL GAUGES.																Number of headings.		
	UDAIPUR-CITTOOR.				BARS LIGHT (2' 6").				BARASAT-BASINHA LIGHT (2' 6").				BUKHTIARPORE-BHAR LIGHT (2' 6").														
	Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.				
	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Killed.	Injured.	Killed.	Injured.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1890.	Other accidents.	Killed.	Injured.		Killed.	Injured.
1. Collisions between passenger trains or parts of passenger trains	1
2. Collisions between passenger trains and goods or mineral trains, engines and vehicles standing foul of the line	2
3. Collisions between goods trains or parts of goods trains	3
4. Collisions between light engines	4
5. Passenger trains or parts of passenger trains leaving the rails	5
6. Goods trains or parts of goods trains, engines, etc., leaving the rails	6
7. Trains or engines travelling in the wrong direction through points	7
8. Trains running into stations or sidings at too high a speed	8
9. Trains running over cattle on the line	...	12	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9
10. Ditto over obstructions on the line	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10
11. Trains running through gates at level-crossings	11
12. The bursting of boilers of engines.	12
12(a). Ditto of tubes, etc., of engines	12(a)
13. The failure of machinery, springs etc., of engines	13
14. The failure of tyres	14
15. Ditto of wheels	15
16. Ditto of axles	16
17. Ditto of brake apparatus	17
18. Ditto of couplings	18
19. Ditto of tunnels, bridges, viaducts, culverts, etc.	19
20. Broken rails	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20
21. The flooding of portions of permanent-way	21
22. Slips in cuttings or embankments	22
23. Fire in trains	23
24. Fire at stations, or involving injury to bridges or viaducts	24
25. Other accidents	25
TOTAL ALL CLASSES	...	14	14	...	...	...	...	...	...	8	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8

ABSTRACT No. 3.—ACCIDENTS TO TRAINS, ROLLING-STOCK, PERMANENT-WAY, etc., reported during the TWELVE MONTHS ended the 31st December 1905, as having occurred on the several RAILWAYS open for TRAFFIC IN INDIA, distinguishing the different CLASSES of ACCIDENTS and the number of PASSENGERS and OTHERS, and of RAILWAY SERVANTS KILLED or INJURED in each class of accident —*contd.*

	COOCH BEHAR (2' 6").										SPECIAL GAUGES— <i>contd.</i>										Number of headings.						
	Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.		Number of servants.		Total all classes.		Number.		Number of passengers and others.			Number of servants.		Total all classes.			
	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1900.	Other accidents.	Total.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Total.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Total.	Killed.	Injured.	Killed.		Injured.	Killed.	Injured.	Total.	Killed.	Injured.
1. Collisions between passenger trains or parts of passenger trains	1
2. Ditto ditto and goods or mineral trains, engines and vehicles standing foul of the line.	2
3. Collisions between goods trains or parts of goods trains	3
4. Ditto light engines	4
5. Passenger trains or parts of passenger trains leaving the rails	5
6. Goods trains or parts of goods trains, engines, etc., leaving the rails	6
7. Trains or engines travelling in the wrong direction through points	7
8. Trains running into stations or sidings at too high a speed	8
9. Ditto over cattle on the line	..	19	19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
10. Ditto over obstructions on the line	10
11. Ditto through gates at level-crossings	11
12. The bursting of boilers of engines	12
12(a). Ditto of tubes, etc., of engines	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12(a)
13. The failure of machinery, springs, etc., of engines	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13
14. Ditto of tyres	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14
15. Ditto of wheels	15
16. Ditto of axles	16
17. Ditto of brake apparatus	17
18. Ditto of couplings	..	8	8	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	18
19. Ditto of tunnels, bridges, viaducts, culverts, etc.	19
20. Broken rails	20
21. The flooding of portions of permanent-way	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21
22. Slips in cuttings or embankments	22
23. Fire in trains	23
24. Fire at stations, or involving injury to bridges or viaducts	24
25. Other accidents	25
TOTAL ALL CLASSES	..	27	27	..	..	..	..	..	..	7	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
																											26
																											30
																											3
																											4

ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, etc., reported during the TWELVE MONTHS ending 31st DECEMBER 1905, distinguishing the different CLASSES of ACCIDENTS and the number of PASSENGERS AFFECTED.

	STANDARD GAUGE LINES.											METRE GAUGE LINES.							
	Previous year.			TWELVE MONTHS ENDED THE 31st DECEMBER 1905.								Previous year.			TWELVE MONTHS ENDED THE 31st DECEMBER 1905.				
	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1880.	Other accidents.	Total.	Number.			Number of passengers and others.		Number of servants.		Total all classes.	Accidents reported to Local Governments under section 83 of the Indian Railways Act, No. IX of 1880.	Other accidents.	Total.	Number.	Killed.			
							Killed.	Injured.	Killed.	Injured.							Killed.	Injured.	
1. Collisions between passenger trains or parts of passenger trains	2	2	4	3	3	6	...	30	...	4	...	31	2	...	2	2	1	3	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	12	41	53	14	20	34	1	62	1	23	2	65	12	16	28	6	11	17	...
3. Collisions between goods trains or parts of goods trains	6	40	46	9	43	52	1*	4*	1	33	2	37	4	5	9	2	14	16	...
4. Collisions between light engines	1	32	33	2	23	27	...	...	...	4	...	4	3	6	9	...	7	7	...
5. Passenger trains or parts of passenger trains leaving the rails	4	27	31	16	33	49	...	1	...	5	...	6	40	9	49	28	30	58	...
6. Goods trains or parts of goods trains, engines, etc., leaving the rails	1	236	237	5	233	238	...	...	...	2	...	2	2	106	108	2	92	94	...
7. Trains or engines travelling in the wrong direction through points	4	61	65	6	60	66	...	15	...	6	...	21	7	55	62	3	28	31	...
8. Trains running into stations or sidings at too high a speed	4	12	16	5	16	21	...	7	...	3	...	10	...	12	12	...	11	11	...
9. Trains running over cattle on the line	...	1,517	1,517	1	1,501	1,502	...	1	...	...	...	1	17	1,673	1,690	12	1,742	1,754	...
10. Trains running over obstructions on the line	9	71	80	12	77	89	4†	2	1	6	3	8	6	60	66	3	87	90	...
11. Trains running through gates at level-crossings	...	20	20	1	13	14	...	...	...	...	...	...	3	18	21	...	14	14	...
12. The bursting of boilers of engines	...	...	...	...	1	1	...	...	...	...	...	...	...	2	2	...	1	1	...
12(a). The bursting of tubes, etc., of engines	...	215	215	...	194	194	...	...	...	...	...	...	...	84	84	1	103	104	...
13. The failure of machinery, springs, etc., of engines	...	692	692	...	591	591	...	...	1	...	1	...	...	213	213	1	211	212	...
14. The failure of tyres	...	4	4	...	7	7	...	...	...	...	...	...	...	6	6	...	6	6	...
15. Ditto of wheels	...	9	9	...	4	4	...	...	...	...	...	...	...	2	2	...	1	1	...
16. Ditto of axles	...	21	21	...	1	23	29	...	...	...	...	...	...	16	19	35	9	29	38
17. Ditto of brake apparatus	1	6	7	...	1	1	...	...	...	...	...	...	...	1	1	...	3	3	...
18. Ditto of couplings	2	204	206	...	162	163	...	...	...	3	...	3	...	150	153	...	155	156	...
19. Ditto of tunnels, bridges, viaducts, culverts, etc.	...	...	...	...	3	3	...	...	...	...	...	...	2	...	2	...	1	1	...
20. Broken rails	...	79	79	1	83	84	...	...	...	1	...	1	...	45	45	...	74	74	...
21. The flooding of portions of permanent-way	5	81	86	4	47	51	...	...	...	...	...	...	14	29	43	34	58	92	...
22. Slips in cuttings or embankments	3	24	27	1	40	41	...	...	2	1	2	1	18	15	33	6	10	16	...
23. Fire in trains	2	72	74	1	148	149	1	1	...	...	1	1	1	92	93	1	61	62	...
24. Fire at stations, or involving injury to bridges or viaducts	3	37	40	1	37	38	...	...	...	1	...	1	3	11	14	1	18	19	1*
25. Other accidents	13	316	329	10	378	388	...	1	4	2	4	3	17	186	203	5	225	230	...
TOTAL FOR THE TWELVE MONTHS ENDED THE 31st DECEMBER 1905	...	...	...	94	3,778	3,872	...	124	10	90	17	214	...	...	...	117	2,933	3,110	1*
Previous year	...	...	...	72	3,769	3,841	...	15	72	11	54	26	126	...	...	170	2,815	2,985	2*
Mean mileage worked				15,480								11,967							
Number of servants employed				335,064								114,132							
Train-mileage of all descriptions				71,916,000								33,740,000							
Number of passengers carried				158,575,000								86,191,000							
Passenger-mileage				6,514,115,000								3,376,293,000							
Per mean mile open—																			
Train-mileage of all descriptions				4,646								2,819							
Number of passengers carried				10,244								7,202							
Passenger-mileage				420,808								260,462							
Total passengers—																			
Killed per million of passengers				0.019								...							
Injured per million of passengers				0.738								0.081							
Killed per million of passenger-miles				...								...
Injured per million of passenger-miles				0.018								0.002							

* Not (a) passenger(s).
 † Of these, eight were not passengers.
 ‡ Of these, three were not passengers.

§ Of these, four were not passengers.
 ¶ Of these, seven were not passengers.

ABSTRACT No. 5.

PROPORTION of PASSENGERS KILLED and INJURED on the SEVERAL RAILWAYS open for TRAFFIC in INDIA from causes beyond their own control in PASSENGER JOURNEYS for the years 1892 to 1905

YEAR.	NUMBER OF PASSENGERS KILLED AND INJURED FROM CAUSES BEYOND THEIR OWN CONTROL FROM ACCIDENTS TO TRAINS.		Number of passenger journeys (inclusive of journeys by season ticket-holders).	PROPORTION RETURNED AS KILLED AND INJURED (FROM CAUSES BEYOND THEIR OWN CONTROL) TO NUMBER CARRIED.	
	Killed.	Injured.		Killed.	Injured.
1892 . . .	8	42	127,230,914	1 in 15,903,864	1 in 3,029,300
1893 . . .	51	84	135,262,950	1 in 2,652,215	1 in 1,610,260
1894 . . .	1	85	145,462,546	1 in 145,462,546	1 in 1,711,890
1895 . . .	8	87	151,723,981	1 in 18,965,498	1 in 4,100,640
1896 . . .	24	93	159,162,589	1 in 6,631,775	1 in 1,711,420
1897 . . .	22	128	150,618,092	1 in 6,846,277	1 in 1,176,700
1898 . . .	6	66	150,567,899	1 in 25,094,649	1 in 2,281,330
1899 . . .	8	89	169,542,715	1 in 23,220,388	1 in 1,890,030
1900 . . .	14	85	175,667,916	1 in 12,547,707	1 in 2,066,680
1901 . . .	3	47	177,852,204	1 in 59,284,068	1 in 3,784,080
1902 . . .	127	184	189,056,511	1 in 1,488,634	1 in 1,027,480
1903 . . .	50	116	210,231,000	1 in 4,204,620	1 in 1,812,330
1904 . . .	11	83	227,097,000	1 in 20,645,182	1 in 2,736,100
1905 . . .	3	140	248,157,000	1 in 82,719,000	1 in 1,772,550

Appendix I to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Report of the proceedings of a joint enquiry held on the 1st, March 1905, to investigate the circumstances attending the derailment of No. 4 Down mixed train at mile 90-22, between Lalmai and Comilla stations, Section I, Assam-Bengal railway, on the night of the 23rd February 1905.

The committee was composed of the following officers:—

V. WOODS, <i>Acting Agent</i>	<i>President.</i>
W. B. VENTERS, <i>Acting District Engineer</i>	} <i>Members.</i>
A. J. COOPER, <i>District Traffic Superintendent</i>	...	...	...	...
A. JAMES, <i>Assistant Locomotive Superintendent</i>	...	...	...	...
W. CHADWICK, <i>Senior Government Inspector of Railways, Assam</i>	} <i>Present.</i>
H. W. P. SCROOPE, <i>District Magistrate of Comilla</i>	...	...	...	...
E. C. RYLAND, <i>Assistant Inspector General of Police, Sealdah</i>	...	...	...	...

DESCRIPTION.

The engine of No. 4 Down mixed train when passing mile 90/22-23 suddenly left the road on the right hand side and rolled down the bank; eight goods wagons, one gas-holder and two bogie third class carriages being derailed and the two former scattered about the road. The driver of the train (Gore) sustained serious injuries. The fireman (Methuen) was also seriously injured and subsequently died from the effects of his injuries. Fireman Baptiste and the khallasi were also slightly hurt. No passengers complained of being injured. The accident happened at about 22-15 hours.

The rolling stock and permanent-way were seriously damaged.

LOCALITY.

The accident occurred on the level and straight at mile 90/22-23. The height of bank was 8 feet (formation). The line was partially ballasted with brick ballast.

EVIDENCE.

A. W. Baptiste.—I was guard of No. 4 Down mixed train on the 23rd February. I left Comilla at 21-58. My train consisted of 16 coaching and 12 goods vehicles. At mile 90/22-23 I felt a severe jerk and was thrown off my seat. I stood up and felt another jerk. I opened the door of the brake-van and got out; the train had quite stopped. I went towards the engine. Some of the passengers had already got out of the carriages. I met the Commissioner of Chittagong and Mr. Savage, I opened the door and let the passengers out; one third class and postal canted over. I went to the engine and searched for the driver and fireman. I met fireman Baptiste. He told me that driver Gore was lying on the other side. I found driver Gore who told me he was severely hurt and asked me to assist him to a carriage. I took him to the first class carriage occupied by Mr. Savage. I went back to the engine and found fireman Methuen. He was conscious. He told me that he was completely smashed up. The accident happened at 22-15 hours. When I examined the train the engine was lying on its side at the foot of the bank, the goods vehicles were derailed and scattered about and two bogie thirds were derailed. The Commissioner of Chittagong asked me to examine the road. He found a bolt close to the joint.

The rail on the left hand side was opened out and was then put off. The rail on the right hand side had been dragged away altogether. I found nothing else besides the fish bolt. The train was going at about 20 miles an hour. The Commissioner did not give me a fish-plate. I did not see him give a fish-plate to any one. The moon was up, but it was a bit hazy when I left Comilla.

W. B. Venters, officiating district engineer, Chittagong.—I was travelling from Badarpur by No. 12 Down of the 23rd February. At Comilla I learned from the station master that No. 4 Down had been derailed. On approaching the scene of the accident we passed over some fog-signals and saw a brake-van lamp placed on the road. Mr. Lusson and Mr. Savage both came back with me and showed me where the joint had been opened out. There were no fish-plates or fish bolts. Mr. Lusson gave me one fish bolt without nut or washer which he had picked up himself. He also said that he had found a fish-plate which he had given to the guard. The left hand rail looking towards Lalmai was slewed to the left a distance of two feet or so and was pushed forward a foot. Up to the point at which the broken joint began the road was quite good;

beyond, the road was badly torn up. The right hand rail was torn away from the sleepers. There were some sleepers holding on to the left hand rail, but they had been displaced. On the first sleeper beyond the break there were the marks of wheels; these, when the rail was properly fished up again, would be six inches on the right hand side of each rail. The end of one of the displaced rails (the left one) bore no marks, the right hand rail I did not examine. It was below the wreck. After examination of the wreck I returned to Comilla and took No. 12 Down to the scene of the accident for transshipment of passengers with No. 3 Up. I saw no traces of any fish bolts or plates on the 24th, though I searched for them. On the 27th I searched the borrow pits, which contained water. On the east side of the line, about a rail's length from the broken joint towards Comilla, we found seven bolts without nuts or washers in the water. On the west side of the line we found two fish plates in the water. I am certain that the engine was the first vehicle to leave the line. In my opinion the derailment was due to the slewing of the road after removal of the fish bolts and plates.

Recalled.—When I said that there was no mark on the left hand rail I meant to say no new mark or marks that might have been caused by the engine or any wheel striking the joint of the rail.

R. G. Sinclair, Permanent-way Inspector, Laksam.—I got an all concerned telegram from Lalmai reporting the derailment of No. 4 Down mixed of the 23rd February. I found that one joint was open without any fish-plates and the rails had been separated. The left hand rail was 15 inches off and slewed 2 ft. 3 inches to the left and the right hand rail 13 ft. 5 inches ahead. I saw no fish plates or bolts there at the time. Mile 90/22-23 is in gang No. 43 whose length runs from mile 88 to mile 91. Gang 44 works from mile 91 to mile 94. There are seven men including keyman and one mate in each gang. Between miles 88 and 94 there is only one gang hut, which is at Lalmai station. I have no tool boxes; the tools remain with the mate who is responsible for them. In the case of gang No. 43 he lives in the gang hut at Lalmai. No other gangman lives in the hut. Gang No. 44 has

no hut but keep them in the gate lodge at mile 92/17. As far as I can remember I have received no orders about the custody of tools. I submit monthly returns of tools and plant, and in order to arrive at the figures my time-keeper verifies the tools by actual count. The last verification was made in February. Gang No. 43 was working in the 89th mile on the 23rd; gang No. 44 was working in the 92nd mile. The mates and keymen of gangs go over their lengths daily. Gang No. 43 worked at mile 90/22-23 about a month ago, going over their length towards Lalmai. No rail renewals are being made. Keymen have not been opening out fish-plates. It is not necessary to do so to renew sleepers. Keymen are not allowed to remove fish plates except in the presence of myself or a responsible mate. A man working alone could remove four fish-plates and bolts from a joint in about 15 minutes and with a crow-bar could slew the road without difficulty two or three inches at the particular mileage six inches to a foot in short time. I noticed a small mark on the first left hand rail after the break. While working at the diversion on the 24th I found, at about 10 hours, a nut and washer (produced) amongst the ballast. This was before any linking was done, for the linking material was brought from Lalmai and Laksam. I reported this to Mr. Venters on the same day on his return from Laksam. My opinion is that the accident is due to the joints having been opened out and the road slewed. I suspect that it has been done by certain dismissed persons.

Baij Nath, mate of gang No. 43.—I live in the gang hut at Lalmai. Two other gangmen live there. I keep all tools in my charge in the gang hut. On the night of the 23rd February the tools were correct. I checked them myself. The keyman returned from his rounds at about 5 o'clock in the evening and gave in all his tools.

Tamiz Uddin, gate-keeper at mile 92.—My gate lodge is about 2½ miles from the scene of the accident. When gang No. 44 works near my gate the tools are kept with me when they do not keep their tools themselves. On the night of the accident the tools were not with me. I was in the gate lodge on the night of the accident.

FINDING.

We are unanimously of opinion that the accident was due to the removal of the fish-plates and bolts and the slewing of the line, by some person or persons unknown with the intention of wrecking a train. We have given some consideration to the theory that the joints had been opened out by gangmen in the course of their work. Against this we have Mr. Sinclair's evidence that the gang had not worked there for a month. Further, that keymen are under orders not to open fish-plates. In any case they would hardly remove all four fish-plates at a joint at the same time. The fact, moreover, that the fish plates were thrown into the borrow pits finally disposes of this theory.

We have further Mr. Venter's evidence as to the marks on the sleepers, and this convinces us that the slewing of the road was the cause and not the outcome of the derailment. The left hand rail next to the open joint could not have assumed the position in which it was found unless the road had been slewed.

We would also point out that No. 11 Up had less than one hour previously passed safely over the road.

We attach to these papers a statement made by Mr. Luson, the Commissioner of Chittagong. This confirms our conviction that the road was tampered with and shows that the fish plates had been made away with before the accident.

We would also express our opinion that the work was that of some one intimately acquainted with permanent-way and who either is or has at some period been in railway service.

In connection with this case we would recommend that lock-up bins be provided immediately for the custody of gangmen's tools, but we recognize the impossibility of compelling local men employed on the line to live in gang huts as recommended by the Government of India in their letter No. 742-R. T. of the 1st October 1897.

A. J. COOPER,
District Traffic Superintendent.

V. WOODS,
Acting Agent.

W. B. VENTERS,
*Acting District Engineer,
No. 1st Section.*

A. JAMES,
Assistant Locomotive Superintendent.

Remarks by the Senior Government Inspector of Railways.

I inspected the scene of the accident on the afternoon of February 24th, and was present at the general enquiry on March 1st.

When inspected by me the rails had been rejoined, but from the wheel marks on the joint sleeper, and from the statement made by the District Engineer as to the condition of the permanent-way when he arrived on the spot, the cause of the accident was apparent, and the evidence at the enquiry suggested no other possible cause. I therefore agree with the Finding.

A reward of Rs. 1,000 has been offered for any information leading to the conviction of the criminals, and the matter is being rigorously investigated by the Railway and Civil Police in co-operation, and I believe two men have already been arrested on suspicion.

It may be mentioned that an accident due to precisely the same cause occurred near Feni, about 35 miles south of the site of the present one, on November 20th, 1902, and it is possible that there may be some connection between them.

At the Feni enquiry, as in this, it was suggested that the gangmen's tools should be kept at night in lock-up bins. With the gangmen living in various villages it may, however, occasionally occur that to take the tools to the bin at the close of the day's work would necessitate an extra two to three miles walk, and to avoid this gangmen would be likely to take their tools to their houses whatever orders were given.

Possibly the introduction into each gang of a certain number of up-country men who would live in huts near the line, might get over the difficulty.

Documents accompanying.

Annexure No. 1.

W. CHADWICK,
Senior Government Inspector.

Annexure 1 in Appendix I to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Statement of Mr. H. Luson, Offg. Commissioner of the Chittayong Division.

I was travelling in No. 4 Down mixed train on the night of the 23rd instant at the time of the accident, together with Mr. H. Savage, C.S.I., Commissioner of Dacca, on special duty. We joined the train at Akhaura. He occupied one first class compartment of the long bogie composite carriage, and I the other first class compartment of that carriage which was third in order of the passenger coaches. The train arrived at Comilla somewhat before time. It started from Comilla some 10 or 15 minutes after the mail train from Chandpur had come in.

We appeared to be running at the usual pace. When less than $\frac{1}{2}$ an hour after leaving Comilla, I was startled by hearing a loud fizzing in a fixed place ahead down on the right. I thought that it was an explosion of some sort going on below a culvert or bridge and that the train was passing over it. I opened the door on the right immediately and jumped down on to the path alongside whilst the carriage was still moving. Before doing so I had felt the carriage being pulled up violently. On alighting I saw the 8 or 10 goods wagons which were between the engine and the passenger coaches all crumpled up. I was afraid that several of the passenger coaches were going to be smashed up too, but the first one settled down at an angle. The loud fizzing of steam, which I found was from the engine down the bank, continued; and it seemed to me that probably something would explode.

Mr. Savage and I examined the rails and sleepers and bank to see if we could ascertain the cause of the accident. Under the second passenger carriage, the one in front of ours, we found that the line was all right up to the point where the rails ended. Here it seemed to us that the fish-plates and bolts and nuts had been previously removed. We called Baptiste the guard to come and see this. On the left hand side of the line we found lying among the ballast one bolt but no fish-plates or nuts. The bolt I kept and subsequently handed to Mr. Venters. It showed no signs of force, and the nut had evidently very recently been unscrewed from it. At the end there was a slight bright mark as of a hammer used to knock it out. On the right side of the line we found, as on the left, no signs of injury to the ends of the rails but the empty holes for bolts. There was one fish-plate lying on the metalling about 3 or 4 yards ahead of the place where the continuance of the rails had been severed. The right rail had been dragged apparently by the force of the accident some 10 or 12 feet from where the rails ended in good order, whilst the left rail was only moved a foot or so. The fish-plate picked up bore no signs of injury whatever, but had evidently been only recently removed. I gave this fish-plate to Baptiste the guard. Mr. Savage and I examined the whole surroundings as carefully as we could, but it is to be remembered that we did so at night though there was a good moon and the sky was clear. The permanent-way which was ballasted appeared to us to be in good condition. The sleepers all seemed hard and good. We could think of no reason for the accident except the previous removal of the fish-plates on both rails at the same point. It occurred to us that the work had not been done by amateurs, for we saw no evidence of clumsiness about it. It struck us at first that the fish-plates might have been left out by mistake through the negligence of careless workmen, but we gave up that theory as we did not see signs of recent repairing of the line, and another train had about three-quarters of an hour before passed over the spot. The missing bolts, fish-plates and nuts, except those found which might have been dropped by mistake, we thought had possibly here been thrown into the water of the borrow pits below the line. Presently Mr. Venters, District Engineer of the line, who was travelling in No. 12 Down, came from Comilla on getting the news delivered by my chaprasis. Mr. Savage and I informed him of our views about deliberate wrecking.

The place is just such as would be chosen for the purpose of wrecking a train. It is in open country with no villages or houses within easy distance. It is on a fairly high bank with almost continuous water in the large borrow pits on either side.

I have telegraphed to the Assistant Inspector General of Railway Police, Sealdah, to conduct the railway police enquiry personally, and to the District Magistrate of Tippera to co-operate fully in the most searching investigation; and I will see that the police do their utmost. The Agent has already offered a reward of Rs. 1,000 for any outside evidence leading to conviction. I think that the railway authorities should also examine their own staff very carefully in order to ascertain whether it is likely that some dissatisfied employé was the perpetrator.

Appendix II to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Report of the proceedings of a joint enquiry held on the 28th December 1905, to investigate the circumstances of the derailment of No. 4 Down mixed train at mile 144-8, near Mantala station, Assam-Bengal railway, on the 27th December 1905.

The committee was composed of the following officers:—

R. S. HAWKINS, <i>Locomotive and Carriage Superintendent</i>	. . .	President.
W. B. VENTERS, <i>District Engineer</i>	. . .	} Members.
A. J. COOPER, <i>District Traffic Superintendent</i>	. . .	
W. A. COSGRAVE, <i>Sub-Divisional Magistrate of Habiganj</i>	. . .	} Present.
E. E. FRANCIS, <i>Chief Medical Officer, Assam Bengal railway</i>	. . .	
H. R. WALTON, <i>Government Inspector of Railways</i>	. . .	

DESCRIPTION.

On the 27th. December, at about 17-44 hours, 5 goods wagons, 1 third class bogie and 1 combined postal and third class bogie, 1 C class composite and the brake van of No. 4 down mixed train were derailed at mile 144-8. Three of the wagons were thrown off, and two across, the line. The third class bogie telescoped into one of the wagons lying across the line and two of its compartments were smashed in, resulting in injury to three native third class passengers who were its occupants, two of whom subsequently died.

The line at the site of the accident is straight and level, and partly ballasted. The road up to mile 144-7½ is rough-packed. The permanent-way and rolling-stock were damaged to the extent of Rs. 509 and Rs. 6,496, respectively.

EVIDENCE.

A. J. Castelino, guard.—I was guard of No. 4 down mixed train of the 27th December 1905; my train on leaving Itakhola was marshalled in the following order:—

Engine No. 91-I, W. C. G. No. 389, W. C. G. No. 786, I. C. G. No. 448, W. C. G. No. 335, I. C. G. No. 1,280, I. C. G. No. 1,805, W. C. G. No. 736, I. C. G. No. 2,150, 3rd class bogie No. 608, Postal and third class bogie No. 601, C. composite No. 512, brakevan No. 1,557, 3rd class bogies Nos. 558 and 545 and brakevan No. 1,688.

I left Itakhola at 17-1 hours or 22 minutes late. The booked time on the line clear ticket was 17 hours. It was dark when the train left Itakhola. The driver and I exchanged an all-right signal on leaving Itakhola with hand signal lamps. Almost 200 yards from the point, when the train came to a stand, I felt my brakevan oscillating. I put on my brake and after a short time, say less than a minute, the train came to a stand. I looked at my watch; it was then 17-14 hours. I walked along the train and found that there was a serious derailment and sent a message to Mantala station by the driver asking for assistance. Three third class passengers were injured. First assistance arrived from Akhaura at about 20 hours. The permanent-way inspector, Akhaura, accompanied this train; also the station master and driver-in-charge, Akhaura. I accompanied the permanent-way inspector, Akhaura, immediately after he arrived to shew him the first mark of derailment. He walked in towards Itakhola after seeing this and called to me to shew me parts of a broken axle box. Guard Biggie, of No. 12 down mixed, also came up at the time. When the permanent way-inspector called me, I had gone to look at the mileage on the telegraph post. There was an interval of about 3 or 4 minutes between the time of his leaving and calling me to see the parts of the broken axle box. I do not think that from the time of his first arrival to the time of my accompanying him to the point of first derailment he had an opportunity of going to the place where the broken axle box was found.

When I first went to the place there was one piece only. On the morning of the 28th when I accompanied the investigating officers to the place there were three pieces.

J. Soares, driver.—I was driver of No. 4 down mixed train of the 27th December. I left Itakhola at 17 hours. About 5 or 6 telegraph posts from the point where the train came to a stand, I felt the train pulling heavily. On looking back on the right hand side I saw a waggon on the cant. I told my fireman to put on the hand brake; I shut off steam and whistled for guard's brakes. The train parted, I put on my vacuum brake and brought the engine with three goods vehicles to a stand about 15 yards from the parted portion. When I came to a stand I looked at my watch and it was 17-1 hours. I felt nothing wrong on the road. I was travelling at about 18 or 19 miles an hour at the time of the accident. The guard sent me on at once to Mantala with a message asking for assistance. There was no caution order given to me at Itakhola. It was dark enough at Itakhola to necessitate our using hand signal lamps. I could not see which vehicle had canted over, but as far as I could make out, it was near the leading brakevan and was an iron covered goods waggon.

E. T. Sweeney, permanent-way inspector, Akhaura.—I received an all-concerned message of an accident near Mantala. I left Akhaura with the relief train with materials and gangs. We arrived at the scene of the accident about 20 hours. I walked along the line to trace the point of first derailment. I found the first wheel mark at mile 144-7. I walked further ahead (i. e., towards Itakhola). The guard and some of my staff followed me. I came upon half of an axle box (one piece only) also some pieces were strawn along the line between miles 144-7 and 144-8. I called the guard's

attention to it; while doing so the guard and driver of No. 12 down mixed train came up; I also called them to see the broken axle box. The driver-in-charge of Akhaura came up and I drew his attention to it as well and he marked the spot. The local police came up and I showed it to them. I put on a mate to watch it. Almost two hours later my sub-inspector found a brass axle bearing and another piece of an axle box between mile 144-6 and 7 or 144-7 and 8 and I had them placed with the piece just found. The station master, Mantala, told me on arrival there that the train had parted two of three times and collided, according to a story told him by passengers. I was last over this portion of the road on the 24th December on a trolley. There are eleven rail lengths of partly ballasted road at the site of the accident, which have been opened for packing. I cannot say whether the road was open at the time I last trolled over it. I cannot be certain when the road was last packed. When I arrived at the scene of the accident I found that the mate was already on the spot. There were then three gangs present. I was the first to find the broken axle box. This was about half an hour after my arrival. I looked upon this as important and as being the cause of the accident and therefore drew attention to it and was anxious to have as many witnesses as possible and marked the place. The sub-permanent-way inspector lives at Itakhola. He

arrived at the site of the accident before we had returned to Itakhola. When I met him, he reported that the train had been travelling at excessive speed.

Binda, gang mate.—I was in my gang hut at the time of the accident. I had been working on 27th December at the north distant signal of Mantala (*i.e.*, a mile and half from the scene of the accident). The road at the site of the accident was opened out about twenty days or a month ago. The sleepers were packed but the road was left open by the orders of the platelayer. I heard the sound of the accident and came to the place. I arrived there before the platelayer. I found the pieces of a broken axle box. I showed them to the platelayer when he arrived.

Mohabir sub-permanent-way inspector.—I arrived at the scene of the accident at 13-45 hours. On arrival I saw there a piece of a broken axle box. Biniha, mate of the gang, was standing there at the time. The axle box was at mile 144-7 and 8. I found the brasses between mile 144-6 and 7. I went back to Itakhola for materials. I was not at the scene of the accident when the permanent-way inspector arrived.

FINDING.

We are unanimously of opinion that the derailment was caused by the change in the road from the earth ballast to the stone ballast. The first eleven rails of the latter having been opened out and several sleepers in the first rail being unpacked, it caused the vehicles to bound when leaving the earth ballasted part of the road, which was quite firm, this bound or jump of the vehicle being considerably increased by the fact of the second rail of the opened ballast being $\frac{1}{8}$ " out of cross level and this caused the flange of one wheel of one vehicle to mount the rail, on top of which it ran for about a rail and-a-half and then dropped on to the foot of the rail, on which it ran for a considerable distance and till it dropped off the foot of the rail the train staff were unaware of the derailment, hence the distance the train was pulled from the first point of derailment. In conclusion we are of opinion, from a close personal inspection of the site and the marks on the rails and sleepers, that the broken axle box referred to in the evidence was the result of the derailment and not the cause.

Remarks by Acting Agent.

I agree generally with the finding as to the cause of the accident.

The immediate blame for want of supervision falls upon the permanent-way inspector who should be summarily dealt with.

It is evident from the finding that the committee of enquiry believed that the pieces of axle box were deliberately placed and stated to have been found with a view to create a false impression as to the cause of accident, but some further recorded evidence on this point would have been more satisfactory; this matter should be further investigated by the Engineering department and if intentional deception seems proved, the persons at fault should be severely dealt with.

Remarks by the Government Inspector of Railways.

I agree with the finding of the committee. On arrival at the site of the accident in the early morning of December 28th, I made a careful examination of the road which, so far as I could gather, had not been touched since the occurrence of the accident the evening before. The earth packed road up to a point three rail lengths north of telegraph post 144-7 was found in good order; from this point the road was found very scantily ballasted with probably less than two cubic feet per foot run, barely enough for packing, with no allowance for boxing and what ballast there was had been opened out for a length of 11 rails and to all appearance had been so left for some considerable period; there were no signs of the road having recently received attention. The joints over this portion were very much "down" giving the "top" of the road a wave-like appearance; gauge was correct, but cross levels generally a good deal out. In the first ballasted rail length eight sleepers out of the eleven were found to rock, being quite unpacked; in each of the second and third rail lengths, five sleepers were similarly unpacked. The last joint on the earth packed road was packed somewhat high and 45 feet from this point, on the ballasted road, the right hand rail was found $\frac{1}{8}$ " lower than the left; the wheel marks showed that a flange mounted the left rail about here and dropped off outside the rail 45 feet further on. I had no hesitation in concluding that the bad state of the partly ballasted road was sufficient to account for the derailment of a light or partially loaded four wheeler running at fair speed, and the permanent-way inspector is undoubtedly primarily responsible for the accident, as the road showed every sign of neglect.

According to Guard Castelino, the train was running 22 minutes late and came to a stand 13 minutes after leaving Itakhola station; the driver makes the time for this run of $3\frac{1}{4}$ miles, 16 minutes. Allowing one minute each for starting and stopping, this gives a speed of, according to the guard, $17\frac{1}{2}$ and according to the driver 14 miles an hour; but the time table speed is 20 miles an hour and after the derailment of the first waggon the train travelled about 640 yards before being brought to a stand. The grades on leaving Itakhola are favourable for a down train, *i.e.*, 6,000 feet of level, 1,800 feet of 1 in 300 up, 900 feet level, 2,200 feet 1 in 200 down, 1,500 feet 1 in 250 down, 1,500 feet level, and 500 feet of 1 in 300 down to the point of derailment. Taking these points into consideration there is every probability that the train was travelling at considerably greater speed than the 18 or 19 miles an hour given by the driver.

As regards the broken axle-box referred to in the evidence, the possibility of this as a cause of the accident was carefully considered on the ground; several pieces of axle boxes seem to have been deliberately placed at a point alongside the line just before the point of derailment is reached, but two pieces produced as forming part of one and the same axle box did not correspond.

An axle box cover, obviously in the place where it fell, was found by one of the investigating officers on the slope of the bank near the fence which was bespattered with oil; this point was 135 feet beyond the point of derailment and it seems practically certain that the axle box broke shortly after, and as a result of the derailment.

I would recommend that permanent-way inspector, Sweeney, be dismissed as unfit for the responsible work of permanent-way maintenance. I would further recommend that special measures be at once taken by the Railway Administration to get ballast into the road to the amount of 6 cubic feet per foot run, wherever the road is already partly ballasted. There are many places at this part of the line where the road is "partly" ballasted, but the quantity of ballast is inadequate for good packing and in many cases so small as to become a source of danger, as drivers form a false idea of the security of a partly ballasted road for comparatively high speeds.

H. R. WALTON,

Government Inspector.

CHITTAGONG;

The 18th January 1906. }

Remarks by the Senior Government Inspector of Railways.

The accident was caused, I think, by the unsatisfactory condition of the road.

R. W. EGERTON,

Senior Government Inspector.

CALCUTTA;

The 20th January 1906.

Mathu Nana, Brakeman.—After the train started, and after passing the ground disc, I felt the carriage jump and heard a noise. This occurred before reaching the crossing. I was standing on the footboard waiting to exchange signals with the guard. I was on the left-hand side. There were about 50 passengers in the bogie brake, and, on feeling the jump, I shouted out and jumped off.

Furdoonjee Nuseerwanjee, Carriage Examiner.—I heard of the accident at about 14-45. I uncoupled the engine and brake. The vacuum brake pipe I found stretched with the coupling joint slightly open, which had released the vacuum in the train. About a carriage length (four-wheeler) north of the crossing I noticed a mark on the rail, as if the wheel had mounted it. The rail had bulged out on the west side. My attention was not drawn to the fact that any spikes were missing.

P. J. Tonkin, P. W. Inspector.—I arrived at Grant Road at 16-30. I found the road at the crossing correct to gauge. Behind that, for about ten sleeper lengths, the gauge had widened out about $1\frac{1}{2}$ " between the indicator lamp and the crossing. The road north of this bit was also correct to gauge. I did not notice any spikes missing. To bring the road into order I put in ten teak sleepers between the crossing and the switch, and none north of it.

Dossabhoy Dadabhoy, Station Master.—The local started at 14-40, and the porter called me almost immediately to the derailment. All the wheels of the coach next to the engine were derailed, and the last pair of wheels of the next coach were still on the road. The coupling between the engine and the first coach had not parted. After detaching the coaches behind I returned and examined the permanent way. I found that the fourth or fifth sleeper beyond the disc signal had no spikes. The next chair had one on the inside and none on the outside. The third chair had one spike on the outside and none on the inside. These chairs were on the east side of the line.

After the accident I found the east side rail rather sunk beyond the ground indicator. The ground was muddy and wet.

I saw a mark on the top of the left rail, about the fifth or sixth sleeper beyond the indicator, where the derailment commenced.

Ram Sumo Mahabir, Signaller.—After the train started from the station I noticed that, on passing the ground disc, the front brake oscillated and the train came to a standstill about 15 paces from the disc signal. I saw the roof of the carriage next to the engine jumping up and down.

Finding.

We are of opinion that the derailment was caused by the rails spreading and increasing the gauge so much that one of the wheels dropped inside the inner rail of the curve.

The permanent-way staff are in this case to blame for neglect in the upkeep of chairs and spikes.

The Muccadam, we recommend, should be dismissed and the Permanent-Way Inspector dealt with departmentally.

C. G. COTESWORTH,

M. W. FLEISCHER,

H. H. DEANE,

District Locomotive Superintendent. District Traffic Superintendent. Resident Engineer.

Remarks by the Government Inspector of Railways.

1. I agree with the Committee in attributing the derailment to the spreading of the rails; but I am of opinion that the sodden state of the ground at the time, to which no reference is made in the finding although sufficiently established by the evidence, should be recognized as a contributory factor.

2. To test the nature of the subsoil I had a hole excavated, on the day of the inquiry, close to the first point of derailment and found water in it held by a stratum of stiff clay within two feet below the sleepers, although there had been no rain immediately preceding the excavation. Moreover, the formation earth was packed flush with the tops of the sleepers and formed the only lateral boxing, so that on the occurrence of heavy rain, when the ballast underneath the sleepers would be practically embedded in a matrix of fluid mud, the track would offer but little resistance to the outward and downward pressure of a passing engine. The effect of this would be a lurch on the outer rail which would cause the lateral springing of a spike on a weak sleeper, thus starting the spreading of the gauge. The broad tyres of the engine wheels would save them from the immediate consequences of the widened gauge, but the wheels of the first coach, having narrower tyres, could hardly escape derailment, the first effect of the widened gauge being the dropping of the leading inner wheel within the rail. The subsequent mounting of the outer wheels and the remaining features of the accident would follow as a matter of course, and do not call for remark.

3. The Driver's statement that the spikes of two or three chairs of the inner rail were missing is not corroborated by other witnesses. The only other positive evidence in this connection is that of the Station Master, who states that a certain chair of the *outer* rail near the first mark of outer derailment was without spikes, and that the two following chairs had only one spike each. As the accident can be sufficiently accounted for without this evidence, and as it is moreover conceivable that the movement of the spreading rails may have jerked certain loose spikes out of their holes, there is no need to dwell on this point. That later witnesses did not notice any missing spikes can be accounted for by supposing that the first gangman arriving on the scene would hastily restore all spikes to their holes to save appearances.

4. The sleepers (creosoted pine) had been laid only about four years, and yet had been re-spiked no less than twice during that period. This fact alone should have made the permanent-way staff vigilant as regards the condition of the spikes and spike-holes, especially as the chairs would naturally conceal the actual state of the holes from a casual observer.

5. I therefore concur with the finding as regards the culpability of the permanent-way staff.

6. I am further of opinion that the sodden and unstable condition of the tract was due to preventible causes, *viz.*, deficient drainage of the sleeper bed and the absence of lateral boxing, and that these circumstances paved the way to the accident although they would not by themselves have been sufficient to account for the derailment of a bogie coach in good running trim.

7. The views of the Agent and the Chief Engineer are given in annexure 1. In his No. 6588—A-3, dated 15th August 1905, the Chief Engineer agreed with the finding of the Committee that the derailment was caused by the rails spreading and increasing the gauge; but in his later letter, No. 7187—A-3, dated 5th September 1905, he has changed his views and attributed the derailment solely to the sinking of the outer rail on account of heavy rain. He, therefore, does not consider any one punishable.

8. The Agent in his No. 10910-T, dated 6th September 1905, accepts the Chief Engineer's later views.

Bombay, 8th September 1905.

F. G. ROYAL DAWSON,

Government Inspector.

Remarks by the Senior Government Inspector of Railways.

I concur generally in the Government Inspector's remarks, especially in paragraph 6.

From the evidence I am of opinion that the view originally held by the Chief Engineer, that the accident was immediately caused by the spreading of the rails, is correct, and that the subsequent view of the Chief Engineer endorsed by the Agent, that the accident was attributable solely to the settlement of the track, presumably implying that it was an unpreventible accident, is untenable.

The condition of the permanent-way in this locality was commented on recently in the Subsidiary Inspection Report of the Bombay, Baroda and Central India railway for the half-year ending 30th June 1905, and requires the serious attention of the administration.

Bombay, 9th September 1905.

J. S. BROWN,

Senior Government Inspector.

Annexure 1 in Appendix III to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Copy of letter No. 6588—A-3, dated 15th August 1905, from the Chief Engineer, Bombay, Baroda and Central India railway, to the Agent, Bombay, Baroda and Central India railway.

I have the honour to forward herewith proceedings of the joint enquiry into the cause of derailment of 2 bogie third class carriages of No. 176 Up local train on 25th July 1905 at Grant Road station, *vide* accident report submitted per this office No. 6240, dated 4th instant. I agree with the finding of the Committee that the derailment was caused by the rails spreading and increasing the gauge.

Copy of letter No. 7187—A-3, dated 5th September 1905, from the Chief Engineer to the Agent, Bombay, Baroda and Central India railway, Bombay.

Derailment at Grant Road on 25th July 1905.

Papers forwarded with Agent's inquiry as to what action has been taken. I would first point out that there had been continuous rain for some days before the derailment, and it is reasonable to suppose there may have been some settlement; and the Station Master states he noticed a rail on the east as having sunk. This would be on the outside of the curve, and the Committee report that the creosoted pine sleepers were still there when examined and that they looked sound but appear to have moved laterally but that the old chair holes had widened. This is a common defect with the creosoted pine. All these circumstances may have tended to the wheels mounting the rails, especially as the 2 vehicles were long bogies. The engine, however, passed over unaffected.

The mate in charge is a man of 29 years' service who pleads that he asked for sleepers and they were not supplied. But as the road was re-spiked with the existing sleepers, which were reported by the Committee as sound, I am not disposed to attribute the accident to their condition but to the cause I attribute, and the derailment would obviously push out the gauge.

I do not think we can punish anyone for what appears to have been more accidental than neglectful.

Copy of letter No. 10910-T., dated 6th September 1905, from the Agent, Bombay, Baroda and Central India Railway Company, to the Senior Government Inspector for Railways, Bombay.

Derailment at Grant Road on 25th July 1905.

In forwarding the proceedings of the joint inquiry and the departmental reports on the accident to No. 176 Up local at Grant Road on 25th July 1905, I have the honour to remark that, after considering the views put forward by the Chief Engineer, I am not quite in accord with the finding of the Committee, and am of opinion that the derailment took place owing to a combination of circumstances and was not due to the neglect of any of the permanent-way staff.

**Appendix IV to the abstract return of accidents on Indian railways
for the twelve months ended the 31st December 1905.**

Report of the proceedings of a joint committee of enquiry which assembled at Canal Junction station, Eastern Bengal State railway, on the 14th December 1905 to investigate the cause of a collision which occurred between No. 41 up passenger and up Chitpur Branch goods on 12th December 1905.

The committee was composed of the following officers:—

J. H. MURRAY, District Traffic Superintendent, Eastern District	. . . . .	President.
E. S. CHRISTIE, Executive Engineer, Calcutta	: : : :	} Members.
C. J. SILVESTER, Distt. Loco Supdt. Kanchrapara	: : : :	
N. R. BENNET, Assistant Signal Engineer	
Mr. Crabbe, Inspector of Police	. . . . .		Present.

DESCRIPTION.

Kancoorgachi Road (block station) having been temporarily closed, Canal Junction is one end of the block section of which Calcutta "B" cabin is the other. The distance from Calcutta "B" cabin to Canal Junction is 2½ miles, and the time allowed for the run of a passenger train (at 24 miles an hour) is 7 minutes. Trains travelling from Chitpur through Canal Junction to Calcutta, have to run along 406 feet of the up main line before they take the cross-over No. 8 (at Canal Junction) from the up to the down main line. By the interlocked arrangements at Canal Junction, it is not possible to lower the up outer, the up warner or the up home, when the cross-over (No. 8) from the up to the down main line is set for the passage of a train.

On the 12th December 1905, the up Chitpur Branch Goods arrived on the up main line at Canal Junction at 22-42 hours; the train was made up of engine No. 153 E., 38 loaded goods vehicles, 5 empty goods vehicles and a brake-van, in the order given. No. 41 up passenger, running to time, was due to pass through Canal Junction at 22-44, and it was decided to keep the passenger train outside signals until the goods had passed over and cleared the cross-over. The engine and 18 vehicles on the goods train had passed over (and on to) the cross-over when 41 up passenger ran into the station and cut through the goods. Six goods vehicles on the goods train were badly damaged and derailed, the engine of 41 up passenger was badly damaged and three empty horse boxes, on 41 up, were slightly damaged. The permanent-way was badly damaged. The District Traffic Superintendent (who was travelling by 41 up), the District Traffic Superintendent's servant and a Traffic Inspector's chaprasi were slightly hurt, but no other railway servants and no passengers were in any way injured.

No. 41 up passenger was made up of engine No. 29 D., the front brakevan, three empty horse boxes, 12 passenger vehicles, District Traffic Superintendent's carriage and rear brakevan, in the order given.

Both up and down main lines were blocked by the derailed vehicles and the transhipment of passengers, mails, luggage and parcels had to be carried out throughout the night and up to 10-40 hours on the 13th. The down line was cleared at 10-40 hours on the 13th when single line working was introduced; the up line was cleared at 13-15 hours the same day when double line working was resumed.

EVIDENCE.

D. Galloway, drivers.—I was driver of 41 up of 12th December, leaving Calcutta at 22-36 (right time). The night was very foggy. I noticed on approaching Canal Junction that the outer and warner were showing dim green lights. I noticed a goods train between the bridge and the home signal. I thought it was a goods train on the down line. I then looked out for the home signal, and noticed a dim green light, then all at once it was thrown to danger. I immediately shut off steam and applied the emergency brake, when my engine struck the goods train about the centre as it was passing over from the up to the down line.

Cross-examination.—

I was about 8 to 10 yards from the home when it was thrown to danger.

I do not recollect any previous occasion during my service in which signals have been thrown back against my train after having been lowered for any train.

I know personally of cases of the signals being lowered by the signalman pulling the signal wire or lifting the weight when the connections have been out of order. As an instance, I was the driver of 3 up mail, and was standing outside the Alamdanga up outer when the Viceregal special from Damukdia passed through the station, the outer was out of order, and the signal against my train. The station jemadar was waving me in from the station platform, but I refused to accept the signal. He then came half way up to my train and repeated the hand signals. I still refused to accept it. He then came up to the outer and lifted the signal counterweight,

so that the arm dropped. I do not recollect any other instance.

After I struck I could not see the back lights of the two home signals on the signals bridge, or the lights of any other signals, it being too foggy.

There were no fog signals out for my train.

E. Rossiter, Signal Inspector.—I arrived at Canal Junction about 6-15 hours on 13th October, and examined the locking of the cabins between 15, 8, 1, and 6 and 2, 22 and found all correct.

The wires were all intact.

There has been no alteration made to this gear for the last three months.

I do not think it would be possible to lower the outer signal or warner by pulling the wire, but could be lowered by lifting the weights at the signal. A man would have to climb up the post to do this.

Russul Bux, driver.—I was driver of the Chitpur branch train. I was standing on the up line, when I received orders to proceed with my train to Calcutta. I was told by the station jemadar, the assistant station master on duty, and a man from the cabin in turn to proceed quickly as a passenger train had left Calcutta. My starter was off. I exchanged signals with the guard on the left side and while doing so felt the engine jerk back, and looking from the right side I saw that the passenger train had collided with my train.

I then shut off steam and stopped my train.

Cross-examination.—

I did not see the starter when I first started, but saw it when I was on the cross-over road between the up and down line. It was showing a green light. The night was slightly foggy.

I did not notice whether the home and outer for the passenger were lowered.

I did not hear the explosion of any fog signals.

I did not see anything of the passenger train until it collided with my train.

I. R. Francis, assistant station master, Canal Junction.—The Chitpur Branch goods had left Chitpur cabin at 22-30. The run from Chitpur cabin to Canal Junction is only five minutes. Arrangements were made for this train to draw ahead at once and proceed to Calcutta. There are always two engines attached to the branch trains, the one hauls and the other pushes from Chitpur cabin to Canal Junction. The driver lost time on the run owing to the gradient. On arrival of the train at Canal Junction, I spoke to the driver of the leading engine to pull ahead sharp. The train arrived on the up line at 22-42 hours. Immediately points 15 were cleared, cross-over No. 8 was set, and clamped for the facing direction by jemadar Peraly and points 15, 13 and 9 clamped by pointsman Perak. I personally supervised the clamping. The branch train left for Calcutta from the up line, and while passing through cross-over No. 8, the engine and 18 wagons having passed, 41 up disregarded all fixed signals and collided with the branch train and derailed five vehicles, blocking up and down lines. Just as the branch train had started from the up line, the cabin assistant informed me that 41 up passenger had left B cabin, Calcutta, at 22-39. I immediately instructed Peraly jemadar, who had completed clamping No. 8 cross-over to proceed by up line and exhibit danger signals to 41 up. The night was very foggy, and fog signals were being used, two being placed for each train. Immediately the collision occurred I was standing on the down line near No. 8 cross-over, and shouted out to the driver of 41 up, who was on the right hand side of his engine, as to how he managed to come in and cause this accident. He told me that the signals were in his favour. I showed him they were all dead against him. After this I went down and called the station master, who came out at once. He examined the signals, and also the position of the lever in the cabin and found them all at danger. On return

from the quarters I saw Mr. McGuire, Traffic Inspector. I asked him if he noticed the signals. He told me they were at danger immediately when the accident had occurred. He told me that his time was 22-46, and my time was 22-48. Khalassie Ungnos was sent out at 19-30 hours with a box of fog signals. He put signals for all trains up to 35 up main, and pointsman Perak was sent out about 21-20 to place for signals for 181 up or any other train that may be following, but I instructed this man to return as I had received warning for branch goods. He placed two fog signals on the line before returning to the station. He informed me that he had done so. I heard the fog signals explode when 41 up passed over them. The driver stated to me that he had heard the fog signals. I was also protecting down trains by fog signals, and had a man named Cheddy khalasi to do this work. After the departure of 181 up, when the signals were thrown to danger, I saw the back lights of outer, warner and home. On the arrival of 41 up I could not see the back lights of the outer and warner, because of the fog, but could see the back light of the home.

The line was cleared back to Calcutta after the departure of 181 up at 22 hours.

It has always been my custom when at this station to send out a jemadar with a hand-signal lamp in addition to the fixed signal being at danger, when branch trains are crossing over from the up to the down line.

There is practically always a train on its way from Calcutta to Canal Junction while a branch train is crossing from the up to the down line at Canal Junction, and also invariably trains from Dum Dum to Chitpur, and up trains from Chitpur.

Peraly, jemadar, Canal Junction.—When the Chitpur Branch arrived I asked instructions from the assistant station master what was to be done. He, after making references about timings to the cabin assistant, told me to let the branch train through on to the down main line. I clamped points over which the branch train had to pass and signalled it on. While signalling it on, the assistant station master told me to go and exhibit a red light to the incoming passenger train. I had only got as far as the home signal when the passenger train arrived there. My signal lamp was showing red at the time. I was sent out on this occasion, but am not always sent out when a train is coming from one main line to another main line.

After the departure of 181 up, I could see the back lights of the outer, warner and home, but could not see the back lights of outer and warner at time of 41 up owing to the fog.

I did not notice the position of the home signal before the accident, but immediately after the accident, I noticed that the signal was at danger.

Gonesh Chandra Gupta, Cabin Assistant, Canal Junction.—I received warning for Chitpur Branch from Chitpur at 21-45 hours, and out report 22-30 hours. On receipt of the out report I informed the assistant station master on duty. He enquired about 41 up; I replied that I had received warning for 41 up at 22-30 and she is due to pass Canal Junction at 22-44. The run from Chitpur Canal Junction is 4 or 5 minutes. The assistant station master ordered to pull up the branch on up main line saying that there is time for the branch to get away before the passenger, as it will take not more than 5 minutes to arrive at Canal Junction, and 5 or 6 minutes to clear the up main line. The branch lost time on the gradient. The branch train was placed on the up main line at 22-42. When it cleared points No. 15 these points were thrown back and No. 8 cross-over was pulled over. The jemadar clamped points Nos. 8, 9 and 13 and pointsman at points No. 15 clamped those points. The assistant pilot was detached from the rear of the branch and the branch was started for Calcutta 3 minutes after her arrival at Canal Junction. When the branch

train was passing through cross-over No. 8, the driver of 41 up disregarding fixed signals, came in and collided with the branch train.

I received the out report of 41 up at 22-30. I informed the assistant station master. He ordered the jemadar to go forward and show danger signals to 41 up passenger as the night was foggy. I had heard the assistant station master issue orders to pointsman and khalasi to place fog signals for up and down signals from 19-30 hours.

I did not hear the driver of 41 up whistle at all. The up outer, warner and home, were placed at danger after the passage of 181 up, and they were not lowered again before the collision occurred. After the passage of 181 up, the back lights of signals were visible and showed white lights, but I could not see the back lights before the arrival of 41 up.

After clamping points for passage of branch train, the train was passed over the cross-over by the jemadar pointsman by hand signals.

I saw the assistant station master give out fog signals and I heard them exploding as the trains passed over them.

Driver Galloway recalled.—I passed the outer signal at about 23 or 24 miles an hour, and the collision occurred when I was travelling about 20 miles an hour. I eased off at the outer because it was foggy, and I always do ease off when passing through Canal Junction.

Mr. J. H. Murray, District Traffic Superintendent.—I was travelling in my saloon immediately in front of the rear brake van of 41 up. I looked

about for signals and saw a red light, which I afterwards discovered was the home. I walked down the length of the train and back again. While walking towards the station I saw the white back lights of the down main and branch signals on the signal bridge—I turned round and upon this spot saw the green light of the down starter. I walked down to the station and enquired for the station master on duty and was told he had gone to call the senior station master. I then went up into the cabin, and saw that two levers only were over, No 8 and No 22. I questioned the cabin assistant as to the cause of the accident, and he told me that the driver of 41 up had run against signals. After an examination of the train message books, I order the cabin assistant to throw back 22. Shortly after I returned to the engine of 41 up, and asked driver Galloway how the accident had occurred. He told me that signals had been lowered for him and that the home signal had been flung up in his face as he approached it. I asked him if he was aware of the fact that it was impossible for either home or outer to be lowered while the cross-over 8 was set for the passage of a train. He said he was aware of this but could not explain how the signals had been lowered, and then again repeated that they had been lowered.

Cross examination.—I noticed a sudden application of the brake, which was immediately followed by the collision. This was followed by a heavy rebound, which threw me against the end of the carriage, and my hand went through a plate glass window.

I didn't hear any fog signals. I noticed nothing unusual about the driver when I spoke to him.

FINDING.

We are of opinion that the accident was due to driver Galloway having run against fixed danger signals.

Cross-over No. 8 was set for the passage of a train from the up to the down line, and the down starter was off; it was thus mechanically impossible for the up Outer and warner signal and the up home signal controlling the passage of 41 up passenger to have been lowered.

The night was foggy and it is possible that driver Galloway may not have noticed that he was as near Canal Junction as he actually was; he may have been employed at work on his engine, and thus have passed Outer-Warner without knowing it. Under these possible circumstances he would not, in the fog, have seen the light of Home signal until he had approached too near to allow of his pulling up before he had run into the goods train.

We are satisfied that fog signals had been used during the night of the occurrence of this accident, but the evidence offered will not permit of our definitely deciding whether or not fog signals had been placed for this particular train.

Rider by District Locomotive Officer.

I am of opinion that the Canal Junction station master on duty is jointly responsible for the accident in neglecting to observe Rule 187b (1) of General and subsidiary Rules 1904. Had he suspended shunting operations and given preference to 41 up passenger train instead of trying to push through the Down Special goods, the line would have been clear and the collision impossible.

Remarks by the Senior Government Inspector of Railways.

I agree with the finding.

Driver Galloway undoubtedly ran against signals. Paragraph 10 suggest a reason for the driver overrunning his signals, but the driver stated in his evidence that the signals were in his favour and did not state that he was employed at work on his engine or that the night was too foggy for him to see the signals.

The assistant station master on duty at Canal Junction (I. R. Francis) ignored subsidiary rule 187b (1) in which it is laid down that on the double line all points and crossings must be kept clear for an incoming train at least ten minutes before it is due. The cabin assistant (Gonesh Chandra Gupta) also under orders from the assistant station master ignored the rules quoted above.

The disregard of General Rules by the Traffic staff is again brought to notice by this accident.

R. W. EGERTON,
Senior Government Inspector.

CALCUTTA;
The 2nd February 1906.

Appendix V to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Report of the proceedings of a joint committee of enquiry which assembled at Khana Junction, East Indian railway, on the 11th February 1905, to investigate the cause of the collision which occurred at that station on the 7th February 1905.

The committee was composed of the following officers :—

J. DUN BOYLAN, District Engineer	President.
B. F. GAHAN, Offg. Divisional Superintendent, Transportation	...	}	Members.
H. A. WOOD, District Locomotive Superintendent	...		
J. H. WHITE, Government Inspector of Railways	...		
A. B. BARNARD, Dy. Insp.-Genl., Government Railway Police	...	}	Present.
S. T. DUTTON, Signal Engineer	...		
The Inspector, Government Railway Police	...		

DESCRIPTION.

On the 7th February 1905, at about 3.45, when No. 64 down van goods train was standing working on the down platform at Khana Junction and No. 17 up loop passenger was standing on the up platform, No. 124 down goods train (coal) entered the station from the chord line, against signals and dashed into the van goods train, upsetting nine wagons of No. 64 down goods, and two wagons of No. 124 down goods and damaging other six wagons and three vehicles of the passenger train. The two leading pairs of wheels of the engine of No. 124 down were only derailed. The trailing wheels and wheels of tender did not leave the road.

The passengers and parcels of No. 17 up were transhipped into the stock of No. 20 down and those of No. 20 down into the stock of No. 17 up at Khana. Three wagons of No. 64 down were pitched some 30 feet from the loop line track on the native staff quarters block No. 13, of which one room was destroyed by the wagons. One dead body of a woman was taken out from below the debris and other four injured persons were also removed.

On the train the van goods staff were resting; of these one had his leg broken and two others were slightly hurt.

The up main line was cleared at 12.40 hours on the 7th instant and single line working was at once brought into force between Galsi and Khana Junction down end of station.

The down main line was cleared at 8.30 hours on the 8th instant when double-line working was resumed.

The loop turn-out was cleared at 17.25 on the 9th instant, all down loop trains in the meantime being worked through the main line cross-over, up end. The rolling stock was considerably damaged.

EVIDENCE.

Moti Lall Pundit, cabinman.—I have been cabinman at Khana Junction about six months. I came on duty at 2 A.M. I was on duty from 2 to 10. 64 down arrived at 3 hours on the 7th February and was shunted for 2 down mail. The train was stopped near the goods shed. The train came to the platform and was backed on the loop line. The down mail passed at 3.24; after that I gave line for 124 down and it entered the section 3.35. After the passing of down mail 64 down goods was brought on to the down platform for work. The train was working when No. 124 down left Simulia. The brake-van of No. 64 down was just opposite the level-crossing gate when drawn up on the platform. All signals were kept at danger at the time. After receiving the out report of 124 down, in two or three minutes I noticed her coming; at the same time my jemadar was going to pull over the lever for 17 up,

passenger. A red signal was shown from the cabin and we shouted loudly to stop the train but the train came and collided with 64 down. I first noticed 124 down when she was between the outer and the home. The train was coming in very fast. My attention was drawn to the train by seeing the lights and not by the noise. She was coming at the usual speed as if she was going to run through the station. She was not booked to stop here.

The train struck 64 down at about 3.43, immediately after the arrival of 17 up. I looked at the clock immediately the collision happened. I have no fog-signals in the cabin. There was no fog at the time of the accident. A fog arose about 5 o'clock and lasted about 30 to 40 minutes. I cannot say when fog-signals were last used in this station. I was on leave and rejoined on the 24th January; since then, I don't remember fog-signals being used. I do not place the fog-signals.

I simply inform the assistant station master when they are necessary. I was on leave for ten days. Since I have been at Khana fog-signals have been used, but I cannot remember the time. I have not seen the notice in the Gazette of the 7th January re fog-signals. I was on ten days' leave from the 14th January. The usual procedure is that the station master sends a khalasi to place the fog-signals. There is no fog-signal post at Khana Junction. I have never seen it.

The wagner was put to danger immediately the down mail passed and the home signal after she passed the home. It would not be possible to set the points for the loop line unless the main line outer is at danger.

The brake-van lamps of 64 down were alight, and showing at the time that 124 down was coming in.

The driver of 124 down did not whistle as the train came into the station.

D. H. Donegan, driver.—I was working 124 down on the 7th February. The load was 50 coal. I left Asansol at 22-20 on the 6th and had had about 14 hours' rest. I arrived at Gulsi at 3 o'clock. I was detained for 20 minutes for 2 down mail. I left at 3-20. I saw my guard at Gulsi. After leaving Gulsi and before passing Simulia I noticed it was foggy and I could barely see the signals at Simulia. There were no fog-signals down. I shut off steam between Simulia and Khana Junction. I went to left of my engine and could not see the signals at Khana Junction owing to the fog which was getting very dense. There were no fog signals at Khana Junction. I could not see the signals. I passed something, and looking up I saw two white specks, but lost sight of these again on account of the fog. I could not see the home. I saw the two white specks behind me that I had passed, but did not continue seeing them as they were obscured with fog. Realizing that I was in Khana Junction I applied all brakes and whistled three times on the big whistles for the guard's brake to be applied, reversed the engine and did all I could to stop the train. I did not know I had run into the train until I struck it. I could not see the brake-van lights of 64 down owing to its being on the loop when I struck. I must have been running between 6 to 7 miles an hour. The run between Simulia and this is 8 minutes. I cannot state whether the guard applied his brakes when I whistled. The guards sometimes assist in applying the brake and sometimes not. I was working engine No. 654. The engine was in good order before the accident. I looked at my watch at the time of the accident it was 3-45. I have a landmark about a mile out of the outer signal at Khana Junction where I start controlling my train. It is a telegraph post which I can see only in the day time. At night I have to judge. I cannot say if it is usually foggy at Khana Junction, but it was so on this occasion. I cannot remember any other occasion when it was foggy at Khana Junction. I do get fog-signals at stations, but since I have been driving there has been no occasion to put them down. I was running slower than usual up to the outer at Khana Junction.

James Rohead, guard.—I was guard of 124 down of the 6th February from Asansol. I left Asansol 22-20. I arrived at Gulsi at 3 o'clock and left at 3-24, 2 down mail having passed me there. I passed Simulia at 3-33. On approaching Khana Junction I felt my driver applying his brakes and I applied mine also. I think the time he applied his brakes must have been when he had reached the outer. I looked out and found the signals at danger. It was very foggy at the time. I looked out of my brake-van two or three times between Gulsi and Khana Junction. I could see nothing. I put the brake on first and then looking out saw the signals at danger. I also looked out between Simulia and Khana Junction and did not see anything. When my brake-van was about the home signal I felt a jerk and knew we had run into something. I saw the brake-van lights of 64 down after I came up to the scene of the accident; they were all alight. I could not see them from my brake-van before owing to the fog. All signals were at danger. My brake came to a stand about three or four wagon lengths outside the home. I could not see the outer signal until within ten wagon-lengths of the signal. When we passed the outer we were going at ordinary speed: when we struck the working train we were going at from 5 to 7 miles an hour. The driver did whistle for brakes; this was about the time he passed the outer. The load was 50 wagons. I have been running on the Asansol-Howrah section for about two years. I have known fogs at Khana Junction before, but they are not much. I have heard fog-signals given at Khana Junction. I cannot say when I last heard them. I compared my watch with the driver before leaving Asansol. There should have been fog-signals out on the date in question. No fog-signals were used at any other station. I was looking out on the loop line side of the line and I should certainly have seen a man stand near the signal post. The train on this occasion I consider was running at the usual speed when coming into Khana Junction. The time the collision took place was 3-40. I looked at my watch immediately I felt the jerk and recorded the same before I left my brake. The shock was very slight. I endeavoured, with the assistance of the van goods staff, to rescue the persons buried in the native quarters that had been demolished by the wagons that had pitched into them. The guards of 17 up and 64 down with me succeeded in getting four people out. No one knew how many people were in the quarters, and about an hour after we found out there was still a fifth person and succeeded in getting her out. The brake-van of 64 down was about two wagon lengths on this side of the cabin (Howrah side) derailed after the accident. One wagon was attached to the brake-van derailed.

Hira Ram, cabin jemadar.—I was cabin jemadar on the 7th February, between the hours 24 to 8. I was on duty in the cabin. A train came from the loop; they call it the working train. I was ordered to lower the signal for it, which I did. As the train was coming in, the Babu told him to show red and stop it, as the down mail was coming and the loop train had to be shunted. The loop train was shunted back by the goods shed and green given for down mail. After the mail had passed I got

the order to allow the working train on to the down platform for work. I set points No. 10, and pointsman gave the signal for the train to come on to the platform. I then got the order to lower the signals for 17 up passenger that was coming into the station. I then got the order to arrange for the loop line points to be set for 17 up to go out. I did not set the points, because I saw a down coal train coming *via* the chord. I then told the cabinman the coal train was coming at high speed. I then showed a red light from the cabin. Knowing that men were in the working train I raised a cry and the brakesman and Babus that were in it got out. Then the collision took place. The brake-van of 64 Down was standing opposite the level crossing when the train was struck. I showed a red light when the engine was between the outer and home signals. It was a clear night. The signals were all properly lighted. All the signals were in proper working order on the date in question. There is an adjusting apparatus for tightening or slackening the wire of the outer in the cabin.

G. Marley, P. W. Inspector, Pandooah.—As a rule I know that Khana Junction is a foggy place. I have been 10 years on this length as P. W. Inspector. On the morning that I came up from Pandooah, there was a dense fog the whole way to Rasulpur when the sun rose and it commenced to get clear. I left Pandooah at 5-10. It was about 6 hours that I passed Rasulpur. I have a native mistry stationed at Khana Junction.

Emandee Shaik driver.—I was driver of 17 up on the 7th February. I arrived at Khana Junction that day at 3-38. I was 2 minutes late owing to the fog. I cannot say how long it was from the time of my arrival to the time of the collision. I saw my own signals. The morning was very foggy. When I heard the cabinman calling out I looked out and saw the engine of 124 down quite close. If the engine was coming at a fair speed, above 10 miles an hour, I did not hear the driver of 124 down whistle. No fog-signals were given for me coming in. The up starter was at danger.

T. C. O'Connor Byrne, guard.—I was guard of 17 up of the 7th February. I arrived at Khana Junction to time at 3-36. I was just about to start off, but I could not see the starter from where I was standing at the rear brake, having received permission from the station master on duty to start. It was too foggy at the time. I could not see the signal. I did not see the signals for my train coming in. I did not look out for them. I had not given the signal to the driver to start. I was walking up to the station master at the time. I did not see any brakesman's signal at the front of the station. There was a very slight noise when the collision took place. I did not hear the train coming in.

C. R. Blinkworth, guard.—I was guard of 64 Down of the 6th February. On the 7th February at Khana Junction I superintended the unloading of about 21 packages and was loading up about the same number of packages, this was being done about the centre of

the train. While this was being done I heard shouting going on. I then ran up the platform towards the cabin and when getting round my brake saw the lights of 124 Down close alongside; the lights were about 10 yards away. The train was coming on very slowly. I could just see the back light (white), of the home signal; it was very dim owing to the fog. It was very foggy at the time. The fog existed when I came into the station; in fact I could not see my own signals when I came into the station. I have seen a fog once before at Khana Junction, but not so bad as on the 7th of February.

W. O. Randeau, guard.—I was guard of 2 Down mail of the 6th February. I passed Khana Junction on the 7th February at 3-27. I saw the signals for my train as I came up to them. I did not see them put back, as the weather was very foggy. I was looking out. I could not see the signals on account of the fog.

Busmeer Khan, driver.—I was driver of 64 Down of the 6th February. On arrival at Khana Junction at 2-55 on the 7th idem I pulled up and stopped outside the outer for ten minutes. I could not see the distant signal until I was close on it on account of the fog. No fog-signals were on the line. There was no one near the signal. On the signal being lowered I came up to the home and stood there about 14 or 15 minutes because 2 Down mail was coming in. On the signal being lowered I brought the train into the station: when the train was struck my engine moved forward about three vehicle lengths. I saw the brake-van lamp back light from my engine when standing on the platform.

Mohammed Hossein, Van Goods Clerk.—I have been about 10 years van goods clerk. On arrival of 64 Down at Khana Junction on the 7th February I was occupied in loading and unloading packages and was inside a wagon with a khalasi named Nubibux when the collision took place. I jumped out and the khalasi fell down with some goods.

Bankim Chandra Moitra, Platform Assistant.—I was on the Down platform when 64 Down goods was unloading packages; in the meantime 17 Up mixed being due. I had to come on to the up platform. After issuing tickets for 17 Up I came on the up platform and noticed one down coal train coming towards the station. The engine was beyond the outer when I noticed it. All signals were at danger. After I attended the brake and signed the guard guidance I found that 17 Up moved a little backwards and also heard shouts from cabin and sounds which I could not make out. I had given the line clear to the guard of 17 Up when I attended the brake-van. I gave the line clear to guard before the up loop line starter was lowered. I had given the order to lower the up starter. When I knew the accident had occurred I called the station master, who came 15 minutes later. I did not assist in releasing the injured. I went to the station to arrange with Burdwan to send the relief van. I have been at Khana Junction since last June. I have used fog-signals, but I cannot say when I used them last. The morning was not foggy, but clear.

Pullin Kahar, pointsman.—I was pointsman at Khana Junction on the 7th February. I came on duty at 2 o'clock. My duty was from 2 to 10 hours. I was the only pointsman on duty at the time. The station master told me to allow 64 down on to the down platform for work immediately after the down mail had passed. This was done. The brake-van came to a stand opposite the level-crossing gate. There was only loading to be done into 64

down goods; no unloading. I was west of the level-crossing on the down line side. When I saw the coal train coming I exhibited a red signal, but the train came on very rapidly. The driver did not whistle. A little after the coal train left Simulia the train was seen; it was seen before it reached the outer. The night was clear; there was no fog. The down main line signals were all at danger. I saw them so.

FINDING.

We, having carefully considered all the evidence, do find as follows:—

That the accident was due to driver Donegan, the driver of 124 down main line goods, failing to control his train soon enough when approaching Khana Junction on the 7th of February 1905, at about 3-45.

We consider this due to an error of judgment on his part in not taking sufficient precautions—*vide* General Rule 96, clause 2, considering the state of the weather and the probable condition of the rails.

It is stated by a number of witnesses that the fog was too dense to admit of signals being seen until quite close to them. This is not borne out by other witnesses. We are of opinion that there was a fairly thick fog, but consider the driver should have seen the signals which were at danger earlier than he did.

We are satisfied no fog signals were used and consider they should have been.

Remarks by the Government Inspector of Railways.

The system of working in force on this section is the so-called Absolute Block (Section clear), in which the running road is held clear for an approaching train up to the second stop signal (home signal) which, in this case, is 280 feet outside the fouling point of the first set of points. The distance from the distant signal to the home signal is 1,800 feet. The distance from the home signal to the site of the accident is 890 feet. The approach to Khana Junction is level for $\frac{3}{4}$ mile up to 600 feet inside the distant signal, then a down grade of 1 in 2,000 to the site of the accident.

No. 124 down consisted of 50 loaded coal wagons weighing 1,200 tons, an engine and tender, C. A. class, weighing 59 tons empty and 81 tons full, and a brake-van weighing 15 tons. The speed allowed for No. 124 down with the above load and engine was 18 miles an hour. The brake power available was 59 tons for engine and tender and 15 tons for brake-van.

Assuming that only 90 per cent of brake power of engine and tender and 70 per cent of brake power of brake-van was used, and assuming .07 for brake co-efficient and taking $\frac{3}{4}$ of this for greasy rails, then (from the formula $D = \frac{V^2}{70 A}$) the train would have pulled up in 2,250 feet.

If the brakes were all applied at the distant signal the train would have stopped 440 feet short of the site of the accident, but 450 feet inside of the home signal, and 170 feet inside the fouling point of the first set of points.

I do not think the driver applied his steam brake until some 200 or 300 feet after he had passed the distant signal, the brake of the brake-van being applied some appreciable time later. Considering the state of the weather the driver of No. 124 down goods had not his train under sufficient control, and, not being warned by fog-signals and not seeing the distant signal until he had passed it, he could not pull up the train in time.

The rules of working were broken—

- 1st, by the station master in not having fog-signals placed on the line;
- 2nd, by the driver of No. 124 down goods in not having his train under sufficient control.

The driver (D. H. Donegan) has been prosecuted by the police and found not guilty.

The conduct of the van goods and station staff in not giving any assistance in releasing the injured is reprehensible and should be taken up by the railway administration.

The East Indian railway have under indent gear for fitting 1,000 wagons with vacuum brakes which will be used on mineral and goods trains.

J. H. WHITE,
Government Inspector.

Remarks by the Senior Government Inspector of Railways.

I agree with the 'Finding': the question of brake power will be taken up with the railway administration. If the Absolute Block system of working had been in force, namely, line clear up to the starting signal, the accident would probably not have happened.

H. SAVORY,
Senior Government Inspector.

CALCUTTA :
The 24th March 1905.

Pioneer Press No. 2252.—4-8-06.

Appendix VII to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Report of the proceedings of a joint enquiry held at Kharindwa station on 3rd May 1905 and at Delhi station on 9th idem, to enquire into the circumstances which led to the derailment of No. 15 up Bombay Mail at Kharindwa station, Delhi-Umballa-Kalka railway, on 30th April 1905.

The committee was composed of the following officers:—

A. H. ASLETT,	<i>Acting District Engineer, E. I. Ry.</i>	... President.
S. W. JEWELL,	<i>District Traffic Supdt.</i>	"} Members.
A. DEVON,	<i>District Loco. Supdt.</i>	"} Present.
CAPTAIN H. A. L. HEPPER, R.E.,	<i>Government Inspector of Railways</i>	... Present.

DESCRIPTION.

At 3-54 hours on the morning of the 30th April 1905, 15 up Bombay-Kalka Mail was derailed after passing the facing points of Kharindwa station—the whole train except the two rearmost vehicles having left the rails. The distance from the facing points to the place where the engine came to a stand was about 460 feet. No person complained of any injury. The rolling stock was considerably damaged.

EVIDENCE.

Christopher Ross, mail driver.—I was driver of 15 up Bombay-Kalka Mail on 29th April from Tundla. On approaching Kharindwa all signals were in my favour, including the points indicator which showed a white light. I was looking out for line clear on the left side of the engine, that is, the side on which the line clear message was picked up. I noticed the white light of the points indicator at a distance about half way between the distant signal and points. In my judgment I was running between 25 and 30 miles an hour. After passing over the points I felt the engine oscillate a lot and knew we were off the road, so I applied the brake immediately. Immediately after the accident I examined the points and found them set for the straight line, the indicator still showing white. Apparently the points were not locked for the lever worked both ways. The right hand tongue rail of the points was slightly bent near the end. I asked the jemadar if he had locked the points, and he replied that he had locked them and handed the key over to the station master on duty. I noticed nothing unusual until I had gone over the points.

It was about 4 or 5 minutes after the accident that I went to the points.

Re-called.—The accident happened at 3-54 on the morning of the 30th April 1905.

On passing the points I could not say which road my engine took.

David Halley, fireman.—I was the fireman of 15 up Bombay-Kalka Mail on 29th April from Tundla. On approaching Kharindwa I noticed the signals were in our favour—the points indicator was showing a white light. I saw this just before I picked up the line clear message. After passing the points I felt there was something wrong, whether with the engine or what I am unable to say. I was not aware we were off the road until

we actually stopped. When passing the points I cannot say that I noticed anyone standing there.

In my opinion we were travelling at a speed of about 25 to 30 miles an hour.

Arthur V. Manly, guard.—I was guard of 15 up Bombay-Kalka Mail from Delhi on 30th April. When approaching Kharindwa the driver applied his vacuum brake as usual. I noticed the signals were all right. I could not see the points indicator from the brake-van on account of the curve. The vacuum brake was first applied as my van was passing the distant signal and taken off again. Just as my van reached the points I felt a jump, and the train came to a sudden stop. The valves in my brake of the vacuum opening simultaneously.

I looked back and saw the jemadar standing at the points and the light of the points indicator showing white. I then walked down the other side of the train accompanied by the driver, and examined the points which were set for the straight. The two end carriages were standing on the loop—one officer's carriage No. 1916 and the other my brake van. The remainder of the train, including engine, tender and eleven vehicles was derailed.

I turned the points lever and found it could be worked either way. I noticed the nose of the right tongue rail was slightly bent.

Alfred Kingham, mail driver.—I was the driver of 16 Down Kalka-Bombay Mail from Umballa on the morning of 30th April. I passed through Kharindwa at 1-51 on the straight. I noticed the points indicator was showing a white light at both ends. I passed through at a speed of about 20 to 25 miles an hour. As I passed over the trailing points I noticed nothing unusual. There was no one at the points. If I had burst the points I think I must have heard something. I have never burst points before.

George Dinham, fireman.—I was the fireman of 16 down Kalka-Bombay Mail from Umballa on the morning of 30th April. On passing Kharindwa all signals were in our favour, and lights of points indicators both facing and trailing showing white. I noticed nothing unusual on passing over either points or through the station. We were travelling at a speed of about 25 miles an hour. I have never been on an engine when the points have been burst.

James H. Barrow, guard.—I was the guard of 16 Down Kalka-Bombay Mail from Kalka on the night of the 29th April and passed Kharindwa on the morning of 30th April. I noticed all signals were in our favour and points indicators showing a white light. We passed through on the straight at a speed of about 20 to 25 miles an hour.

Nizam-Uddin, assistant station master, Kharindwa.—I was the station master on duty on the morning of 30th April from 2 to 10 hours. The first train to arrive whilst I was on duty was 15 up Bombay-Kalka Mail. Thanesar asked for line clear for 15 up at 3-5 and I gave line clear at 3-9 and I asked Umballa for line clear at 3-11. When I came on duty I received the keys of the points lock for both ends from the assistant station master named Raghber Dial whom I relieved. I sent Moti jemadar to the facing points, and, after seeing that he displayed a red signal light, I sent out the line clear message by porter Lallu to the line clear post and ordered signals to be lowered. From the platform I could see the points indicator was showing a white light.

Just as the train passed over the points I heard a loud noise and went in the direction of the train to see what had happened. I met the guard at the engine and accompanied him to the points and found them set for the straight.

I came to Kharindwa on the 17th February 1905. The safety locks were fitted to the points on the 22nd February.

About this date I personally pointed out to Mr. Emery, the Permanent-way Inspector, that the key could be removed from the safety lock after locking the points either for the straight or for the loop. The Inspector replied that the safety lock was all right and that the circular was wrong.

I did not send out the key to make sure that the points were set for the straight, as having the key in my possession and seeing the points indicator light showing white, I concluded the points were set for the straight.

The safety lock has been reported out of order and repaired three or four times since it was brought into use.

Moti, points jemadar, Kharindwa.—I received instructions from the station master to go and see that the facing points were set for the straight to receive No. 15 up. I examined the points before signalling to the station master that all was right. After shaking the lever I found them all right, so showed a red light according to the rules. The station master then caused the signals to be lowered. When 15 up arrived the engine took the straight. When the engine had gone a

distance of about 15 paces there was a crash and I knew the train was off the road. I did not touch the points lever, but was standing alongside. I do not know how it happened that the two last carriages had gone on to the loop. After the accident I examined the points thoroughly and found they were all right and nothing bent or damaged.

I did not move the lever whilst the train was passing over the points, as they were correctly set and I had no reason to do so. I did not do anything further as the safety lock key was with the station master.

I am quite sure the points were not damaged when I examined them after the accident. I examined everything connected with the points. I am a man of experience, and if they had been damaged they would have been all in pieces. I have never seen any burst points in my 20 years' service.

Baroo, blacksmith, of Permanent-way Inspector, Umballa.—I fixed the safety locks at Kharindwa in the month of February 1905. The Permanent-way Inspector showed me how to fix the lock, but did not tell me how many slots to cut in the tongue. I cut two slots, and when the Permanent-Way Inspector saw them fixed there were two slots in the tongue. I was not supplied with any plan or sketch showing how the key lock should be fixed.

Raghber Dial, relieving station master, Kharindwa.—On the 29th April I came on duty at 18 hours and worked till 2 hours on the 30th April. Trains No. 17 up, 12 down, 2 down and 16 down passed through whilst I was on duty. Train 17 up was received on the loop or station line; 12 down was also received on this line. Nos. 2 and 16 down were received on the straight.

The timings are as under:—

	Arr.	Dep.	
No. 2 down	20-10		ran through on straight.
No. 17 up	21-0	21-5	on loop.
No. 12 down	23-32	23-37	on loop.
No. 16 down	1-58		ran through on straight.

When 12 down was expected I sent out Jewie, jemadar, with safety lock keys to man the down facing points. I don't know why I sent him, except that it is the rule to examine the points. He returned me the key after examining the points. On receipt of the enquiry message for line clear for 16 down I sent out Moti to set the up facing points and to lock them for the straight line. On his return to me with the key I sent him with the key to lock the down facing points for the straight. He came back and handed me the keys and then returned to the down facing points (Umballa side). I have only been at Kharindwa for twelve days, having arrived on the 22nd April. Before lowering the signals for every train during the term of my duty I saw that the point indicators were showing the proper light for the road over which the train was to pass.

Arthur Devon, District Loco. Superintendent, Tundla.—I travelled in 15 up ex-Tundla on 29th May 1905. My carriage, No. 1916, was in front of the rear brake-van. At Kharindwa

I was suddenly awakened by a rapid stoppage of the train, and I at once thought some sort of accident had occurred. I immediately got out of the carriage, and, after running up the train to see what had happened and whether any passengers had been injured, I returned and examined the facing points. I found the points set for the straight, and the right tongue rail bent away from the stock rail, the amount of opening being $1\frac{3}{8}$ " at the extreme point. The points were locked, but I was able to move them from straight to loop and *vice versa* without difficulty. A subsequent examination of the lock showed that the locking tongue had been forced under the plunger, thereby permitting the movement of the points notwithstanding their being locked. The marks on the plunger clearly show that the locking tongue had been forced from left to right, or from straight to loop. Previously to the examination of the lock I thought the tongue rail might possibly have been opened by a sharp flange, and I accordingly examined all the right wheel flanges from the rear brake van to the bogie wheels, but found all the flanges in good running order. The marks on the locking tongue and plunger, however, clearly prove that the lock had been forced from left to right and not from right to left. I made a careful examination of the ground and rails, taking note of all wheel marks, broken chairs, etc., and personally made measurements for a sketch showing positions of derailed vehicles, wheel marks, etc.

Mansel C. G. Young, Offg. Resident Engineer, Umballa.—I trolled out to Kharindwa, arriving there about 9 hours. I met the District Loco. Officer, Tundla, there on my arrival, and together we went and examined the points and found that the line was set for the straight line, but the east tongue rail had been bent for 2 ft. from the nose, so that the tip was $1\frac{3}{8}$ inch from the stock. The rest of the tongue rail fitted close against the stock rail, as did also the west tongue rail. I examined the points and the line up to the point where it had been broken up, and found it in good condition, correct to gauge level, and the sleepers in good condition and not damaged by the wheels at the time of the accident. I could find nothing in the condition of the permanent-way which could account for the accident except the bent tongue rail. On examining the point lock I found that at the same time as the tongue rail had been bent the lock had been forced, the tongue of the key lock having ploughed a notch in the plunger and bent it up in such a way that the switches could be moved when the plunger had been shot forward. I also found that two slots had been cut in the tongue of the key lock in such a way that, if the tongue rail had not been bent, the plunger could have been shot forward and the key removed whether the points were set for the straight or the loop, though unless the points were locked the key could not be removed.

These locks were put in last February, and almost immediately after they had been put in I went and examined them carefully in company with the Permanent-Way Inspector, Umballa. I found that they were correctly fixed and that the key could not be removed unless the line was set for the main line.

I worked the points and tested putting in and taking out the key personally, and I am absolutely certain that at that time there was only one slot in the tongue of the key lock. I am unable to say when the second slot was put in. I never gave any orders for it to be put in, nor has my attention ever been drawn to the fact that it does not comply with the station rule at present.

D. H. Mangar, driver.—I was driver in charge of engine No. 208 working No. 2 down mail on 29th April 1905 from Umballa.

I passed through Kharindwa station on the straight line at about 20-8.

I have no recollection of what light the disc at the trailing points was showing.

H. E. Kelly, fireman.—I was the fireman on engine No. 208 working 2 Down mail on 29th April 1905, from Umballa.

When passing through Kharindwa station on the straight line I did not notice the disc signal at the trailing points, as I was busy with my fire after picking up the line clear message.

Furzund Ally, fireman, Umballa.—I was the night fireman on engine No. 203 working No. 2 Down mail on 29th April 1905 from Umballa. We passed through Kharindwa on the straight line. I did not observe the disc at the trailing points as I was engaged breaking the coal on the tender.

Alfred Stewart Emery, Permanent-way Inspector, Umballa.—I had the key locks put in at Kharindwa by my blacksmith about the end of February. I inspected them with Mr. Young and found them fixed properly, only one slot being cut in the tongue of the key lock. After we had inspected them I am informed by my blacksmith that the next day he cut the second slot, he thinking that it was necessary for the key lock to lock for both roads. I was not aware of this until last night, the 2nd May. I did not again inspect the key locks as no complaint was made to me by the station master as to the second slot. On a subsequent occasion I asked the station master whether the key locks were working properly and he replied, yes. I totally deny that he informed me that the key lock locked the road in both directions. When I received the telegraphic messages I instructed the blacksmith to do the necessary repairs. I did not go myself. I deny that the blacksmith showed me the tongue of the key lock with two slots cut therein. The reason I have not inspected the key locks since they were put in is that I only considered that petty repairs were needed and that the blacksmith was capable of carrying out what was required—also owing to the heavy work I have in hand over the whole of my section.

William Hugh Hopper, District Inspector, Delhi.—I inspected Kharindwa station on 15th March. I examined the points at both ends of the station as regards their condition and working. I set the points for the straight and could remove the key from the safety lock when so set. I did not try it for the loop on this day, as I had no reason to doubt the mechanical correctness of the safety lock. About

a week previous to this I had orders to inspect the safety locks being put up at Kharindwa and to instruct our staff as to their working. I did so, and the locks were then being fitted and the key then tested by me could only be removed when set for the straight and remained in the key lock when set for the loop.

On the day of the accident I arrived at Kharindwa by 11 Up passenger, and, after looking round the site of the accident, I proceeded to the down facing points which had not been damaged and found that the key could be taken out of the safety lock when set for either road, but not without locking the points in one or the other direction.

FINDING.

We, the undersigned, having carefully considered all the evidence, do find as follows:—

That the up facing points at Kharindwa were fitted with a signal key lock, which, in accordance with the Notification No. 528 contained in the *Weekly Gazette*, Part II, dated 10th December 1904, (copy attached), should have been arranged to lock the points for the straight only.

That at some time previous to the accident and subsequent to its first installation, the lock was altered so that the points could be locked either for the loop or for the straight, the key being free in either case.

That, on the night of the accident, the points were burst trailing, when locked for the loop, by a down train, presumably 16 down, passing through the station on the straight. This is clearly proved by the distortion of the right hand switch rail and damage to the key lock.

That the distortion of the tongue rail, causing the nose to gape 1½" when the points were set for the straight, was the cause of the derailment of 15 Up.

That, from the position of the train after the derailment and the distance run derailed, we are of opinion that the speed was over 30 miles an hour.

That as the two preceding down trains, Nos. 2 and 16 down, passed through Kharindwa during the hours of duty of assistant station master Raghber Dial, he must be held responsible for the points being burst.

That, as regards the responsibility for the accident to No. 15 up, the station master is under General Rule 12, Subsidiary Rule (2), responsible for the detection of any defect in the points, but, as the rule does not oblige him to personally inspect the points before a train is received, it is not easy to see how the blame for not detecting the distortion of the tongue rail can be brought home to him.

The station master is, under the same rule, required to satisfy himself that the points are set for the straight by observing the indicator, but in this case the indicator would convey no indication that the points were damaged as they were.

That the pointsman Moti is primarily responsible for the accident, as it is his duty to set and lock the points, whilst under General Rule No. 112 he should have reported the defect in the tongue rail which he failed to do.

That the station masters, who have been in charge of Kharindwa since the alterations to the key lock, are to blame for not having reported to their superior officer the fact that the key lock did not fulfil the conditions laid down in the *Weekly Gazette*, dated 10th December.

That the Permanent-Way Inspector is to blame for not having personally inspected the key locks after the receipt of the telegraphic complaints from the station master, and that the fact that an alteration vitiating the security of the arrangement could be carried out without his knowledge points to lack of proper supervision on his part.

We consider that at non-interlocked stations, in the case of passenger trains running through, the station master should be obliged to personally inspect the facing points and satisfy himself that they are correctly set and locked before the signal is lowered.

A. H. ASLETT,
Acting District Engineer.

S. W. JEWELL,
District Traffic Supdt.

A. DEVON,
District Loco. Supdt.

Remarks by the Government Inspector of Railways.

I agree with the 'finding.' I examined the switch and lock. The nature of the damage showed clearly that the points had been burst trailing by a down train, running on the straight when the points were set and locked for the loop. The consequent distortion of the switch caused the derailment of No. 15 Up mail.

The accident was primarily due to the fact that the lock was not used as intended. Instead of locking for the straight only, it had been altered to enable the points to be locked either way by the same key. This naturally did away with the security it was intended to afford, as the possession of the key by the station master ceased to be a guarantee as to the position of the points.

Although the provision of such locks does not amount to interlocking, they are a great improvement over the padlock so far as through traffic is concerned, provided they lock for the straight only. But as their use is likely to afford a feeling of security which only exists

if they are correctly fitted, it is desirable that precaution should be taken to ensure that the staff are fully alive to the importance of strictly adhering to the instructions for their use.

The committee express the opinion that the speed of the train at the time of the derailment was over 30 miles an hour. Under Rule 131 of the General Rules the speed of trains through facing points not interlocked with a permanent signal is limited to 10 miles an hour. I was given to understand at the enquiry, however, that it is impossible to conform to this rule under the existing time-table, and that drivers could not keep time if they slowed down to 10 miles an hour over non-interlocked facing points.

Pending the proper interlocking of all roadside stations it would appear necessary to revise the time-tables if these do not admit of the rules being complied with.

The consequences of the accident at Kharindwa were slight as it happens; but in less fortunate circumstances the result might easily have been a disaster.

I fully endorse the recommendation of the committee regarding the personal inspection of the facing points by the station master in the case of non-stopping passenger trains.

Documents accompanying.

Annexure 1.

H. A. L. HEPPER,

CAPTAIN, R.E.,
Government Inspector.

Remarks by Senior Government Inspector of Railways.

I agree with the 'finding' of the committee and the remarks of the Government Inspector.

The failure of the permanent-way inspector to detect the alteration in the locking bar which had been made two months previously without his knowledge shows a serious neglect of his duties and want of appreciation of the responsibilities of his post.

With regard to Captain Hepper's remarks on the proper interlocking of roadside stations, it is indispensable that the time-tables should be revised if it is found impossible for drivers to keep time without breaking rules, or that the proper interlocking of such stations should be taken in hand at once.

LUCKNOW :

Dated 19th June 1905.

C. S. ROSE,
MAJOR, R.E.,
Senior Government Inspector

Annexure 1 in Appendix VII to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Copy of Notification No. 528 of Weekly Gazettee, Part II, dated 10th December 1904.

528.—Allahabad and Delhi Districts new key locks for facing points.

New key locks are now being fitted and work as follows :—

The keys can only be removed from the locks at the points when the latter are set and locked for the main or straight line.

It is essential that before signals are lowered for a train to run through the station without stopping that the trailing as well as the facing points should be properly secured and set for the main line.

Before giving orders for signals to be lowered for a train to run through the station, the station master on duty will satisfy himself by being in possession of the two keys, that the facing and trailing points are properly set and secured for the passage of the train.

Appendix IX to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Report of the proceedings of a joint committee of enquiry held at Howrah station on the 24th, 25th and 27th November 1905, to investigate the cause of collision between No. 10 up Bengal-Nagpur railway passenger, No. 7 down Bengal-Nagpur railway passenger and a goods pilot, which occurred at the junction between the East Indian and Bengal-Nagpur railways near Howrah on the 19th November 1905.

The committee was composed of the following officers:—

S. J. RENDRICK, Assistant Carriage and Wagon Superintendent		President
A. C. CARR, Works Manager, Locomotive Department, Bengal-Nagpur railway.	}	Present first day.
R. H. SCOTT, District Traffic Superintendent, Bengal- Nagpur railway.		
S. S. TULLOCK, District Engineer, Bengal-Nagpur railway.		
J. FINDON, District Superintendent, East Indian railway	}	Members.
S. T. DUTTON, Signal Engineer, East Indian railway		
E. ROGERSON, Acting District Engineer, East Indian railway		
J. F. RICHEY, Assistant District Locomotive Superintendent, East Indian railway.		
J. D. FLYN, Offg. Goods Superintendent East Indian railway.	}	Present 2nd and 3rd days.
R. W. EGERTON, Senior Government Inspector . . . . .			Present.

DESCRIPTION.

At 18-35 on 19th November a collision occurred at the Bengal-Nagpur railway junction on the East Indian railway at Howrah, between the seventh down East Indian railway pilot 10 up Bengal-Nagpur railway and 7 down Bengal-Nagpur railway passenger trains, blocking Bengal-Nagpur railway up and down main lines, up East Indian railway main line and up and down East Indian railway goods lines. Owing to No. 10 up train being on the locking bar of the junction facing points, the latter could not be moved, and consequently it was impossible to lower signals for down East Indian railway main line trains till 19-35.

The engine of 7 down Bengal-Nagpur railway had the bogie and the leading and driving wheels derailed. The engine of 10 up Bengal-Nagpur railway had also the bogie and leading and driving wheels derailed. The two rear vehicles of the 7 down East Indian railway pilot were derailed and badly damaged, the low-sided truck being sandwiched in between the Bengal-Nagpur railway engines.

The East Indian railway vehicles damaged were brake van 1081 and iron open-sided 13632. The low-sided was completely smashed having been jammed in between the two Bengal-Nagpur railway engines. The brake van was badly damaged and totally derailed: the third vehicle from the rear of the train, iron covered goods 15900, had all the wheels derailed. The approximate cost of the damages to East Indian railway rolling-stock is Rs. 4,045. The approximate cost of damages to permanent-way is Rs. 230, that of the Bengal-Nagpur railway engines is approximately Rs. 1,200.

The only person injured was a Locomotive peon who is said to have been riding in the rear brake of 7 down pilot.

Single line working by the down East Indian railway passenger line, was introduced at 19-35 between Howrah and Lillooah, and remained in force till the clearing of the up East Indian railway main line at 21-35.

The up Bengal-Nagpur railway main line was cleared at 9-45 on 20th November 1905. The down Bengal-Nagpur railway main line and up and down East Indian railway goods lines were cleared at 13-10 on 20th November 1905.

The road, at the scene of accident, is on a curve of approximately half a degree and a very slightly falling gradient towards Howrah.

The night was dark and very smoky.

The 7 down pilot of the East Indian railway left Lillooah sorting yard about 17-55, after being detained at that cabin for 10 minutes by signals. After signal was lowered it proceeded as far as Bengal-Nagpur railway junction cabin where it was pulled up for a further 10 minutes by signals, after the signals were lowered it proceeded forward as far as Crows Nest down goods home signal, and came to a stand at the home signal which was "On."

Meanwhile, Bengal-Nagpur railway junction cabin gave line clear to Crows Nest for 10 up Bengal-Nagpur railway passenger, and at the sametime Crows Nest gave line clear to Bengal-Nagpur railway for 7 down Bengal-Nagpur railway passenger.

The signaller at Bengal-Nagpur railway junction cabin thinking that 7 down pilot had cleared the crossing, lowered signals for 10 up and 7 down Bengal-Nagpur railway trains, but the rear of 7 down East Indian railway pilot was still fouling the crossing and the engine of 10 up Bengal-Nagpur railway pitched into the two rear vehicles of the 7 down East Indian railway pilot. At the same moment 7 down Bengal-Nagpur railway arrived on the crossing and also came into collision with the rear portion of the 7 down East Indian railway pilot. The driver of the latter train then drew into the Howrah yard (after Crows Nest down goods home signal had been lowered) without noticing that his two rear vehicles had been run into and detached from his train by the impact of the collision. As it was, the last vehicle of the portion of the train he went off with, was actually derailed (all four wheels) and was pulled along the ballast for a considerable distance (about 500 feet) ultimately rerailling itself.

The distance from the fouling point of the up Bengal-Nagpur railway line and the East Indian railway down goods line to the down goods home signals at Crows Nest, is 1,627' 6".

The load of 7 down pilot when it left sorting yard cabin was engine and 71 vehicles including brake, and had the driver drawn right up to the signal at Crows Nest the rear of his train would still be foul of the crossing at the Bengal-Nagpur railway junction cabin. The total length of the train being 1,647 feet.

In view of the positions of the engines of 10 up and 7 down Bengal-Nagpur railway after the accident, and East Indian railway low-sided wagon, we consider the time occupied in rerailling and clearing the roads was not excessive.

EVIDENCE.

C. W. Moreya, driver, Bengal-Nagpur railway.—I was driver of 10 up Bengal-Nagpur railway ex Howrah on 19th November 1905. I left Howrah at 18-15, signals in my favour. On approaching Tikiapara I shut off steam to stop at Tikiapara according to rules to cut off my pilot; as I was rolling in I bumped into something. I could not tell what it was. I saw that 7 down was coming in and then she bumped into the same thing that I did. I then found that it was a wagon which then capsized. I saw no lights at all. I dropped my fire at 18-25. There were a lot of people present. The evening was very smoky and dark. I saw the engine lights of 7 down just previous to collision. I saw no lights of the brake van. In fact I did not know there was a brake van at all until I got down to speak to the other driver. My engine was not derailed. One of the derailed wagon wheels was under the cow-catcher.

Driver Beard, Bengal-Nagpur railway.—I was driver of 7 down into Howrah on 19th November 1905. I was stopped at Tikiapara at 18-18 and left 19-23. I had not gone more than 25 to 30 yards from Tikiapara when I saw sparks flying from the ballast about 15 yards away and a noise of timber cracking. I at once applied brake, a bump occurred and I was thrown against fire-box. After this the engine travelled two or three yards. I saw no light of any kind except the signal lights, and my signals were lowered for me. I saw no one about except one man lying down on the verandah of the brake van. I afterwards found out that he was Locomotive foreman's peon. I cannot say whether the brake van lamps were lighted or not. I was travelling at about 10 miles per hour when bump occurred. My engine got derailed, all bogie wheels and leading and driving; the trailing wheels and tender wheels were not derailed. I was not injured neither was my fireman.

Chorawan, shunting porter of 7 down pilot.—I was the shunting porter in charge of 7 down East Indian railway pilot on 19th November 1905, and had previously worked this same pilot from Howrah with 40 empties. There was no brake on this train. I rode on the engine. We left Lillooah with 7 down pilot at about 6 P.M. The yard foreman told me to attach the engine which I did, but objected as I wanted to examine the train. The yard foreman said no, and told me to start away. (When my engine was attached to the load of 7 down pilot, which was standing on No. 1 line, the engine fouled the crossing of No. 2 siding.) I started away without examining my train, as the yard foreman told

me everything was all right including lights of rear brake van. The lights in the rear brake van seemed to be burning very dimly. I was riding on the engine. I knew that I ought to be riding in the brake van, but yard foreman told me to get away quickly, so I got on the engine, having received instructions from yard foreman to do so. The Bengal-Nagpur railway cabin signals were down for my train and we went on to Crows Nest, where my train was stopped by home signals. We pulled up three wagon lengths from the home signal. We were there about 15 to 20 minutes. When the signal was lowered, the train was brought on into No. 2 Mayapore line in Howrah yard. I was not aware of any accident that had happened to my train. While at Crows Nest I saw a Bengal-Nagpur railway train coming from Howrah. The Bengal-Nagpur railway train passed as we were standing and should have passed the junction about the same time as we moved on. I felt no jerk at any time, neither did the driver make any remarks. When we arrived in Mayapore siding, the yard foreman said to me how many wagons have you brought and where is your brake van, and your train is fouling the crossing of Mayapore siding, and gave me orders to draw forward; he also said you have brought 70 wagons and two have been left behind. I counted the wagons in Mayapore siding and found 70 wagons. When I was standing at Crows Nest cabin I could not see the rear brake van lamps, on account of the curve and the foggy night. Previous to starting I enquired from the yard foreman at Lillooah what load I had, and he said go on you have a full load. It is not usual for me to take charge of a train alone. There is usually a gunner in charge. On this occasion the gunner had been suspended and this was my first trip without a gunner. Fifty loaded wagons or sixty empty is my full load. Had I known that there were seventy vehicles on the train, I would have refused to take the train.

Juman, driver.—I was driver of 7 down pilot on 19th November with a full load. The yard foreman at Lillooah gave me the starting order. The starting signal was against me. After 10 minutes it was lowered. I went on and was stopped at the down goods outer Bengal-Nagpur railway cabin which was against me. I stopped there again 10 minutes, it was lowered, and I then went on to Crows Nest and was pulled up, the signal being against me. At the down goods home signal I stopped half a wagon length from it. I was again stopped 10 or 11 minutes, then it was lowered. I had gone about 5 wagon lengths and there felt a jerk in the couplings.

I saw a Bengal-Nagpur railway train from Howrah coming along side after the Crows Nest signal was lowered for me and I was moving forward. After feeling the jerk I asked the tindal what was the meaning of the jerk. He replied a loose coupling, so I continued moving and brought my train on and stopped at the usual place. The Howrah yard foreman told me to draw up further because my train was fouling the crossings at the shunting neck. I said how much further shall I go. The yard foreman said you have a great many wagons on, go on ahead. I did not count my wagons at Lillooah, but I did at Howrah with the yard foreman and found I had 70 wagons including the brake van which was the third vehicle from the engine. The yard foreman then told me that the two rear vehicles of my train had been in collision at Bengal-Nagpur railway cabin and had been left behind. All the wagons on arrival at Howrah were on the road. There was a tindal with me who was travelling with me from Howrah to Lillooah, and also returned with me. There was no guard in charge of the train except this tindal. When leaving Lillooah I saw that the lamps of the rear brake van were alight on both sides, and I did not look for them again. The yard foreman in Lillooah told me there were 54 vehicles on the train. Had I been told there were 72 wagons on the train I should have refused to take the load. My loads are 62 empties and 54 loaded. We never have a guard in shunting work between Lillooah sorting yard and Howrah.

A. J. Mackertich, yard foreman, Lillooah sorting yard.—I was on duty in Lillooah sorting yard on 19th November 1905. I despatched 7 down pilot on that date. The train was the load of 120 down goods. The load was 58 vehicles including 15 empties. It had a rear brake, fitted with lamps; the lamps at the time of leaving Lillooah were lighted. The lampman lighted the lamps. I saw him do so. There was no guard in charge of the train, only a shunting porter who came in with the pilot previously; I handed the starting order to driver personally, and told him that as there was only one man in charge of this train not to allow him to ride on the engine, but that he was to ride in the brake van. I was present at the time the train started and distinctly saw that the brake van lamps were lighted in the rear, and the shunting porter was riding in the rear brake on the front verandah. I cannot say if there was a tail lamp. I was called away by my

clerk to the office as there was another train waiting at Lillooah and blocking down passenger line.

B. L. Ghose, cabin man, Bengal-Nagpur railway cabin.—I was on duty in Bengal-Nagpur railway cabin on the evening of 19th November 1905, at 18-4. It was a dark and smoky night. My cabin windows were open after arrival of Bengal-Nagpur railway 19 down empty stock, the signal was lowered for 7 down pilot and she passed my cabin at 18-9, and I saw that the rear brake van was clear of my crossing. I knew this by a light which was a light from a lamp which seemed to be a light on the floor of the brake van. The side lamps of the brake van were not lighted. I saw no man in the brake van. After passing of the rear brake van I gave line clear for 10 up Bengal-Nagpur railway and 7 down Bengal-Nagpur railway and then ordered my Jamedars to set the points for 10 up and 7 down Bengal-Nagpur railway trains; 10 up left Crows Nest at 18-18 and 7 down left Bengal-Nagpur railway junction at 18-17. Rear brake of 7 down pilot passed my cabin at 18-9. The light that I saw on the floor of the brake van was a red light. When I gave the order for 10 up and 7 down to be pulled off, the cross-over was quite clear and I can only account for the accident through the fact that the driver backed his train.

B. M. Ghose, cabin man, sorting yard cabin.—I was on duty on the evening of 19th November 1905 in Lillooah sorting yard cabin. I got line clear from Bengal-Nagpur railway junction cabin at 17-52, and the pilot passed my cabin at 17-55. When the train passed me I noticed that it was a particularly long train. As the rear brake van passed my cabin I noticed both the side lights and the tail light were alight, but burning dimly. I saw no one in the rear brake van. I have been working in this cabin for 3 or 4 months, and never pass a train without one light. I have seen trains with all three lamps burning, with two lamps burning and with one lamp burning, but on only one occasion do I remember a train starting without any lights at all. This was about a month ago. It was a short train and the Bengal-Nagpur railway cabin signals were against it. I sent my signalman to tell the gunner to light his lights, which he did, I am aware of Block regulations, Chapter 28, paragraph 6 c, to the effect that should a brake van pass with the lamps burning dimly, the cabin signaller must advise the cabin in advance of the fact. But I did not do so on that occasion.

FINDING.

We having carefully considered all the evidence, do find as follows:—

(1) That the Foreman of Lillooah sorting yard, A. J. Mackertich, is primarily responsible for the accident for having permitted 7 down pilot to start from the yard with an over load, without any person in charge of the rear brake van, and without any of the brake van lamps being lit.

(2) That the signaller in charge of Bengal-Nagpur railway cabin, B. L. Ghose, is responsible for not having taken steps to assure himself that the rear of 7 down pilot had cleared the crossing, before lowering signals for 10 up Bengal-Nagpur railway and 7 down Bengal-Nagpur railway. As the brake van lamps were not lit, the signaller had nothing to show that the whole of 7 down pilot had arrived, in spite of this he sent "Train Out of section" for that train to sorting yard cabin. Under the circumstances he should have taken steps to ascertain if the train had arrived complete, and if the rear of it was clear of the crossing.

(3) With regard to the over load the down goods home signal at Crows Nest is 1,627 feet in advance of the fouling points of the up Bengal-Nagpur railway lines and the down East Indian railway goods line so that a train of ordinary load standing at the signal would be well clear of the fouling point. A train of maximum load of engine, 62 empties, Officer's carriage and brake van is approximately 1,464 feet long, so that in this case a driver could be standing 163 feet short of the signal and yet be clear of the fouling point.

The actual length of 7 down pilot was 1,647 feet so that even had the driver drawn right up to the signal the fouling point would have been obstructed by 20 feet.

The engine of 10 up struck 7 down pilot 47 feet from the end, therefore, the engine of the pilot must have been, as nearly as possible, 70 feet from the Crows Nest down goods home signal when the collision took place.

Had a qualified person been in the rear brake he could have called the attention of Bengal-Nagpur railway cabin to the fact that the crossing was fouled,

If the brake van lamps had been lit Bengal-Nagpur railway cabin could have ascertained the whereabouts of the train, and that the crossing was fouled.

(4) With regard to the despatch of over load trains between Howrah and sorting yard and *vice versa*;

The Rules issued in Gazette, dated 8th July 1905, for the guidance of the staff with reference to the working of the up and down goods lines, state that all pilots must be treated in all respects as goods trains.

In spite of this we find that these Rules have been disregarded inasmuch as the despatch of over loaded trains has been of frequent occurrence, one train of 80 empties (when the maximum permissible is 62) having been sent from Howrah to sorting yard cabin on 6th November.

(5) The distance from the Bengal-Nagpur railway cabin to the fouling point of the up Bengal-Nagpur railway line and the down East Indian railway goods, is 580 feet. Bearing in mind that at this time of the year the view from the cabin at night is frequently obstructed by fog and smoke we recommend that a clearance bar be fixed at the fouling point.

There is a spare lever No. 3 in the cabin to which this bar might be connected; had such a bar been in use on the 19th November, the accident could not have occurred.

(6) There is no doubt that drivers when pulling up at a signal against them, are in the habit of coming to a stand well short of the signal.

In our opinion this practice is dangerous as signals are placed in advance of fouling points sufficiently far, only to accommodate a train of maximum load.

We, therefore, consider that strict instructions should at once be issued to ensure drivers pulling right up to signals, except when special instructions are issued to the contrary.

(7) That native driver Jumman of the 7 down pilot is responsible for having taken Chorawan, the shunting porter in charge of the pilot, on the engine instead of in the rear brake and also for running into Howrah without any side lights, and for not having exchanged the "all right" signal (General Rules 150 and 152).

(8) That the signaller, sorting yard cabin, B. M. Ghose, is responsible for not having sent "Obstruction danger, brake van lights out" to Bengal-Nagpur railway cabin when the brake of 7 down pilot passed without lights.

(9) That shunting porter Chorawan cannot be held responsible for not travelling in the rear brake, as he was only acting for gunner Roopdeo, and was instructed by yard foreman Mackertich to travel on the engine.

(10) We consider that all trains working between Howrah and sorting yard, should be in charge of fully qualified gunner guards, and that owing to the importance of Bengal-Nagpur railway cabin and the large amount of traffic dealt with at that point, Europeans be placed in charge.

Remarks by the Senior Government Inspector of Railways.

I fully agree with the finding of the Committee and in their recommendations. The accident discloses habitual disregard of working rules on the section between sorting yard and Howrah, a fact which is brought to the notice of the Administration.

R. W. EGERTON,

Senior Government Inspector.

Appendix X to the abstract return of accidents on Indian Railways for the twelve months ended the 31st December 1905.

Report of the proceedings of a joint enquiry held at Kalka station on the 17th April 1905, to enquire into the circumstances attending the collision between the trolley of Sub-Inspector Jawala Singh and No. 11 Up goods train on the Kalka-Simla railway on the 13th April 1905.

The committee was composed of the following officers:—

H. C. SPARKE,	<i>Traffic Superintendent</i>	...	...	...	<i>President.</i>
J. H. SMELLIE,	<i>Loco. Superintendent</i>	...	...	...	} <i>Members.</i>
D. WILSON,	<i>Assistant Engineer</i>	...	...	...
MR. WELBY,	<i>Inspector, Government Railway Police</i>	...	...	...	} <i>Present.</i>
RAM CHAND,	<i>Sub-Inspector</i>	"	"	"	

DESCRIPTION.

At about 11-50 on the morning of the 13th April 1905, the trolley of Sub-Permanent-Way Inspector Jawala Singh, who was returning from Koti to Taksal, was run into by No. 11 Up goods train at mile 4, chain 10, and Station Master Ram Sarup of Koti station, who was on the trolley, was killed.

EVIDENCE.

Jawala Singh, sub-plate layer.—On the 13th instant I worked my way up to Koti. When I had finished work and had turned my trolley round to return, the station master Koti came and asked me if I was going in the down direction and said he had also to go down. I answered I had work on the road and it was against orders and I could not take him down. The station master then stated that he had to go down on urgent business under Traffic Superintendent's orders to attend to the instrument at Taksal, and went to his office and produced a message purporting to be instructions received. I cannot read English, but believed the station master because I knew there was something wrong with the telegraph at Taksal. I therefore allowed the station master, Koti, as well as two of his menials, to sit on the trolley. There were also my 3 trollymen on the trolley. On arrival at Gumman we enquired for the station master but were told he was asleep. The pointsman informed us that no train had left Taksal but one was about to leave Kalka, so we proceeded. The station master, Koti, told me there were no trains. At mile 4, chain 10, the flagman, who was about 5 or 6 rail lengths ahead, shouted out that an engine was coming, and we all got off the trolley. but Ram Sarup, station master, Koti, jumped straight in front and fell on the track in front of the engine which ran over him. Ram Sarup was shoved forward by the cowcatcher and the trolley was run into and broken up. It was at a very sharp curve, and the flagman shouted and gave a danger signal to the driver about five or six rail lengths from the trolley. The speed of the train was very fast, and it ran about five rail lengths from where the station master fell before the train was stopped. My trolley was only travelling at about 6 miles an hour. Seeing Ram Sarup fall in front, I and my men were flurried and forgot all about the trolley. The trolley was actually stopped quite five or six rail lengths from the engine.

I got the time keeper to translate for me telegrams received from cashier asking for the trolley. I did not get any one to translate the message produced by station master, Koti, as an order from Traffic Superintendent, as no one was there, and I unfortunately did not keep the message. The station master really gave me no opportunity of retaining the telegram; he showed it to me and then grabbed it away and put it in his pocket. I had no idea that a fair was being held in Kalka on the day of the accident.

I know the trolley rules. When going up hill slowly I always have a man in front, coming down hill I stop and send a man ahead at the corners. On this date I had stopped at the cut and cover and sent the flagman ahead from there.

Note by Traffic Superintendent—There was an interruption on the Kalka-Taksal train wire between 6 and 8-30 hours on the 13th April.

Jawala Singh recalled:—

Q.—How far did your trolley travel after you receiving the flagman's signal?

A.—Under one rail length, but meanwhile the engine had come within 2 rail lengths of me.

Q.—Did you have the flagman out before this curve?

A.—Yes, I had him out three or four times at bad curves.

Q.—Did you stop the trolley to send the flagman out, and did he go himself or did you give him orders?

A.—I slowed the trolley down almost to a stand and gave the flagman orders in each case.

Q.—Did you send the same flagman out each time that day?

A.—Yes, the same man.

Ranjit Singh, guard, age 25.—I was guard of 11 up on 13th instant. We left Kalka at 10-55 but, owing to the engine slipping, we did not reach Taksal till 12 hours. We got running-through line clear, but the driver stopped to oil his engine for about 5 minutes at Taksal. The driver whistled before leaving Taksal, and again whistled a little beyond the large culvert, as there was a buffalo on the line. I was sitting in the brakevan with the medical officer and heard no noise or shouting. The driver stopped the train, and I went forward to see what was the matter, and then saw Ram Sarup with his head fixed under the cow-catcher. I did not see anyone while on my way from the brake to the engine. The train was not going fast as we were frequently slipping. I did not look at the time the accident occurred, but I think the doctor did. We did not cut off any wagons at Taksal.

Nabi Bakhsh, driver.—I was driver of 11 up goods engine No. 16, on the 13th instant. I left Kalka at 11 o'clock, and, owing to the heavy load, my engine was slipping, and we did not reach Taksal till just 12 o'clock. I stopped at Taksal for 2 minutes just to see to my engine. After leaving Taksal, I whistled owing to some cattle on the line at about mile 4, but at mile 4, ch in 15, as I was coming round the severe curve, I suddenly felt a shock to my engine. I immediately shut off steam and put on my vacuum brake. After feeling the shock I travelled only one rail length before the train stopped. I did not hear any shouting and I did not see any flagman, and the first thing I knew was the shock as I did not even see the trolley till I was actually into it, as the curve goes to the left. I had no idea that there was a trolley on the line. The train was travelling about 10 miles an hour. I had 9 wagons and a water truck on my train, which was heavy. I had not cut off any wagons at Taksal.

Driver Nabi Bakhsh recalled.—

Q.—Why was your brakesman in the water truck instead of on the engine?

A.—There is no room for the brakesman on the engine; he is only seated in front when it is necessary to sand the rails.

Q.—You can only see one side on curves, and your fireman and coalman are working. Why did you not use your fourth man to look out?

A.—This fourth man is only an extra man provided for assisting in oiling and cleaning and sanding with the new engines.

Ishar Dass, fireman.—I was fireman of 11 up goods on engine No. 16 on the 13th instant. I was firing when the driver suddenly jammed on the vacuum and stopped the train. I did not see any signalman or even the trolley before the accident, and only felt we had run into something. The train ran one rail length after the shock. I did not hear any shouting. The train was travelling at about 10 miles an hour. We got off the engine and saw three men on each side, and the station master was jammed under the cow-catcher.

Umar Din, engine jack.—I was working on engine 16 on 11 up of 13th instant. When the accident occurred I was on the coal-bunker breaking coal. I did not see anything

till the engine stopped. The coal chutes are very difficult to work, and I was facing the rear of the train trying to get the coal down to the fireman. I heard no shouting.

Ilm. Din, brakesman.—I was working on engine No. 16 on 11 up on the 13th instant. When the engine was stopped I was in the water truck and was only coming to sand the rails when called by the driver. I heard or saw nothing till the train actually stopped.

Lala Bhairon Dayal, medical officer.—I was travelling in the brakevan of 11 up on the 13th instant. The train had been skidding a lot between Kalka and Taksal, and when it stopped again beyond Taksal I thought it had again skidded, and told the guard to go and see. He came back and said a station master had been killed. I went out and found the station master, Ram Sarup, lying under the cow catcher of the engine, and the driver was pulling him out. I could not say quite how fast the train was going when we stopped, but in my opinion it was not going at any excessive speed. We did not feel any jerk when we stopped. I did not notice any man with flags in advance of the place where the engine had stopped. I was sitting reading a paper in the brakevan, and I did not hear any shouting before the engine stopped. I could not say how far the station master had been pushed along the ballast, as my attention was of course entirely taken up with attending him. I had a look at my watch after removing the station master to the brakevan, and, as far as I recollect, the time was 11-50.

Sobha Ram, pointsman.—I left Koti on the morning of the 13th, accompanying Ram Sarup, station master, on the trolley. I had just gone off duty and was going to sleep when the station master called me and ordered me to accompany him for an outing; he told me to sit at the back of the trolley, which I did. I sat quiet on the trolley till suddenly the others started shouting "Get off." I jumped off and fell on the side. The trolley was stopped when I got off. The trolley was not stopped after leaving Gumman till stopped at the place of the accident. I do not know if there was a man ahead. The trolley was running at such a speed that a man could have run ahead for a short distance only. The trolley was not stopped for a man to be sent ahead, but I do not know if a man was ahead. I had not got up by the time the engine reached the trolley. I heard no man from in front shouting for the trolley to be taken off. I only heard the babus seated in front say "Get off." In the front of the trolley the two babus sat. There were five men behind on the trolley both on leaving Koti and when the accident occurred.

Allea, trolleyman.—I was with the trolley on the day of the accident. After leaving Gumman the trolley was slowed down for me to get off, and I ran ahead with a red flag as fast as I could. As I came round the corner I saw an engine close upon me. I held up a flag and shouted to the driver "A trolley is coming"; then I looked round and saw the trolley also quite close, about four rail lengths from

me. After shouting to the driver and holding up the flag towards him I turned round and ran towards the trolley. I was on the khud side of the line and cannot say if the driver saw me. When I shouted to the trolley that an engine was coming the babu had already stopped it.

Note.—On being asked to repeat this statement witness contradicted himself, and stated the trolley was still moving when he called to it.

There were four men in the rear of the trolley, and I, the fifth man, had got off. I had no time to warn the trolley; it was too close behind me. I did not hear the engine till I actually saw it coming round the corner.

Allea recalled.—

Q.—You have stated that the trolley was about four rail lengths from you when you signalled it to stop. How far did it travel after you had signalled?

A.—To within 2 to 2½ rail lengths of where I was.

Q.—Did you get off and go ahead of the trolley more than once?

A.—I went ahead two or three times at bad curves.

Q.—Did the babu give you orders to go ahead in each case?

A.—Yes.

Q.—Were you always the man who went ahead?

A.—Yes.

Abdul Rahman, trolleyman.—I was seated at the back of the trolley manning the rear brake. When the flagman ahead shouted that an engine was coming, we stopped the trolley and all jumped off quietly, except the station master, who jumped forward and fell between the lines. The flagman was seven or eight rail lengths ahead. We had not time to lift the trolley, and the station master must have lost his head, and the engine was coming very fast. The flagman was holding a flag towards the engine and was running towards us. The trolley was stopped after the flagman called out to us. There were four seated behind and one trolleyman on ahead.

Badama, trolleyman.—Corroborated Abdul Rahman's statement; also states that the flagman was six rail lengths in front of the trolley and that the trolley travelled four rail lengths after the signal was given to stop.

Abdul Rahman recalled.—

Q.—From the time the flagman shouted, how far did the trolley travel before it was stopped?

A.—The trolley went on to within about two and a half rail lengths of the engine before it stopped.

Abdul Rahman and Badama recalled.—

Q.—Did a flagman go ahead of the trolley more than once?

Both men's answer—

A.—Yes; two or three times.

Q.—Did the flagman get definite orders to go ahead?

Both men's answer—

A.—Yes.

Q.—Did you take it in turns to run ahead with the flag or did Allea always go?

Both men's answer—

A.—We took it in turns.

Yanoo, tunnel chaukidar.—I came on the trolley at the request of the station master, under whom I had served ten months as a waterman. There were only four men on the trolley behind. After leaving Gumman the trolley was slowed down once or twice, but not stopped till the place of the accident. When the babus shouted "Get off" I jumped off after the trolley stopped. I fell down and had not got up by the time the engine had run into the trolley. I could not see if a flagman was ahead as the babus on the front seat obscured my view. I did not hear any shouting or warning until the babus shouted "Get off."

Santokh Singh, signaller.—I was on duty at Koti station. The station master told me to let him know when the sub-platelayer's trolley arrived, and I advised him accordingly. The station master went to the sub-platelayer while I remained in the office. The station master had some conversation with the sub-platelayer, and then came back to the office and picked up a letter from Traffic Superintendent and went out to the sub-platelayer again, and I saw him show the letter to the sub-platelayer. The station master then called the pointsman and chaukidar, and they got on the trolley and went away. The station master said that he was going for an outing.

Among the articles found on the body of the station master by the police and handed to me was the letter from Traffic Superintendent which the station master had taken out and shown to the platelayer.—Copy attached.

FINDING.

We have carefully considered the evidence and inspected the site of the accident.

The accident took place on a portion of the line where the view on either side is very small, owing to the sharp curve and high wall and cutting. We are of opinion:—

(i) No responsibility rests with the sub-platelayer for the presence of the station master, Ram Sarup, on his trolley. The sub-platelayer's statement on this point is corroborated by the evidence of Santokh Singh, signaller, Koti, and the fact of the bogus letter of authority being found on the station master's body.

(ii) We think there is some doubt as to whether a flagman was actually ahead of the trolley, but if he was ahead he was not sufficiently far. It was, however, impossible for the person in charge of the trolley to have seen his flagman if he was more than 120 feet ahead of him.

(iii) From the position of the line it was impossible for the driver to have seen the trolley, and, as stated in para. 2, it is doubtful if a flagman was ahead. The look-out on the engine was not satisfactory. The fireman and engine jack were in a position to have seen the trolley 120 feet ahead, though it is doubtful if the accident could have been avoided even had they done so.

(iv) Regarding the speed of the train, the difficulties already experienced with the load and the evidence recorded show that the train was not travelling at an excessive speed.

(v) We beg to recommend that the following men be fined 1 week's pay each:—

Sub-platelayer	...	Jawala Singh,
Trolleyman	...	Allea,
Fireman	...	Ishar Dass,
Engine Jack	...	Umar Din,
Brakesman	...	Ilm Din,

and that

Sobha, Pointsman,
Yanoo, Tunnel Chowkidar,
be dismissed as they had no business on the trolley.

H. SPARKE,
Traffic Superintendent.

J. H. SMELLIE,
Loco. Superintendent.

D. WILSON,
Assistant Engineer.

Orders by the Agent and Chief Engineer.

I do not concur entirely with the finding of committee. From the evidence it seems that the sub-platelayer cannot be held responsible for the accident. In the first instance he was misled by station master, Koti, regarding trains, and secondly it was impossible for him to see his flagman at a sufficient distance ahead of him at the point where the accident occurred. At the same time it is most necessary for trolley-holders to exercise the greatest care when on their trollies and the fines recommended are allowed to stand. In the case of the two menials, Sobha, pointsman, and Yanoo, the fine of a week's pay appears sufficient punishment for their being on the trolley. Both men were under the orders of station master, Koti, and came on at his bidding.

The fireman, engine jack and brakesman could not have prevented the accident, but from their own statements it is apparent a proper look-out was not being kept on the engine. The fines are therefore allowed to stand.

Remarks by the Government Inspector of Railways.

I am unable to concur in the above finding of the committee of enquiry.

In the first place it is not proved that sub-platelayer, Jawala Singh, took proper precautions for the protection of his trolley. In his favour there is only the evidence of himself and his three trollymen, all interested persons, and the evidence of the latter is further conflicting as to who had been sent ahead with a flag.

On the other hand, the evidence of Sobha Ram, pointsman, one of the two disinterested witnesses who were on the trolley, is distinctly opposed to the above. He states that the trolley was not stopped after leaving Gumman until reaching the site of the accident and that the trolley was running at such a speed that a man could have run ahead for a short distance only, and that there were five men at the back of the trolley.

I am, therefore, of opinion that sub-platelayer, Jawala Singh, was primarily responsible for this accident, in that he did not take the precautions laid down in the rules for working of trollies on the Kalka-Simla railway in sending a man sufficiently far ahead for purposes of protection. Admitting that immediately prior to the accident a flagman had been sent, ahead, it is quite evident that he was not more than 100 feet or so in advance of the trolley which, under the circumstances, was quite useless. Had the flagman been sufficiently far ahead, as laid down in the rules, he would have been able to stop the train in time to save the collision.

Further, Subsidiary Rule 231 (M) lays down that "no trolley shall on any account ever be run through any station without stopping. The trolley will be stopped dead, and the official in charge will personally interview station master or assistant station master."

At Gumman station the only person interviewed by the sub-platelayer appears to have been the pointsman who informed him that a train was about to leave Kalka.

As explained in para. i of the above finding, however, I do not consider that platelayer, Jawala Singh, can be held responsible for the presence of the Koti station master, Ram Sarup, and of pointsman Sobha Ram and tunnel chowkidar Yanoo on his trolley, though it is not clear that the bogus authority quoted by the station master, Ram Sarup, justified him in concluding that the pointsman and tunnel chowkidar were to be included.

In conformity with the above view of the case, I do not consider that any blame can be attached to the engine staff for not keeping a sufficiently sharp look-out, as it is stated that 120 feet is the utmost distance from which the trolley could have been seen from the engine. Owing to the special danger attending the working of trollies on this line and to the frequent trolley accidents which have already occurred, I would suggest for consideration the introduction of the following rule:—“No trolley will leave a station towards which a train is already approaching from the opposite direction, but should the section be clear the station master will wire the station master at the opposite end of the section to endorse all line clears, drivers to keep sharp look-out for trolley on section, and the trolley may then leave, the person in charge having ascertained what trains are running.”

W. D. WAGHORN,
MAJOR, R.E.,
Government Inspector.

Documents accompanying.

Annexure 1.

Remarks by the Senior Government Inspector of Railways.

I concur in the remarks made by Major Waghorn, R.E., Government Inspector of Railways, Lahore, on the finding of the committee. Taking this view of the case I consider the punishment awarded to Jawala Singh, Sub-Inspector of Works, to be a great deal too lenient. Owing to the number of trolley accidents which have taken place on this line the attention of the Agent is especially invited to the necessity for the early introduction of more stringent rules regarding the use of trollies on the line, and the strict observance of these rules.

LUCKNOW:
Dated 24th May 1905.

C. S. ROSE,
MAJOR, R. E.,
Senior Government Inspector.

Annexure 1 in Appendix X to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Copy of a letter No. T. E.-2280, dated Simla, the 25th/28th March 1905, to Station Master, Kotli.

In reply to your No. 18, dated 16th instant, asking the appointment of a waterman, I have to inform you that no provision has been given for the Hindu waterman in revenue estimate to your station; hence the sanction for an extra man cannot be accorded.

(Sd.) H. C. SPARKE,
Traffic Superintendent, K.-S. Ry.

This letter was handed to me by Santokh Singh as the letter found on Ram Sarup's body by the Police.

(Sd.) H. SPARKE,
Traffic Superintendent, K.-S. Ry.

This is the letter which I found in the pocket of Ram Sarup, deceased, on 13th April 1905.

(Sd.) R. CHAND,
Sub-Inspector.

Appendix XI to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Report of the proceedings of a joint enquiry held at Kot Sultan station, North Western State railway, on the 22nd July 1905, to enquire into the cause of a collision between No. 9 up passenger and No. 10 down mixed trains which occurred at that station on the 17th July 1905.

The committee was composed of the following officers :—

W. C. RODGERS,	<i>Executive Engineer</i>	...	... <i>President.</i>
A. S. CHASE,	<i>District Locomotive Superintendent</i>		} <i>Members.</i>
N. C. HALDAR,	<i>District Traffic Superintendent</i>		
MAJOR W. D. WAGHORN, R.F.,	<i>Government Inspector of Railways, Lahore</i>		} <i>Present.</i>
RAI MOTI LALL,	<i>1st Class Magistrate, Bhakkar</i>		
LALA ISHER DASS,	<i>Civil Police Inspector, Bhakkar</i>		

DESCRIPTION.

On the 17th July 1905, No. 10 down mixed arrived at Kot Sultan at 12-11, right time, and was admitted on the main or platform line. No. 9 up passenger, which is timed to cross 10 down at this station, was also running to time and entering on the main or platform line, the south points not having been set for the loop, collided with 10 down in front of the station at 12-15.

Sixteen of the passengers in 9 up and 1 in 10 down were slightly injured.

The rolling stock was slightly damaged.

The approach to this station from the north is straight but approaching from the south the line curves to the right from near to the outer signal and this curve continues up to within about 800 feet of the south facing points. The station is not interlocked and the home signal consists of a double-armed semaphore on the station platform. Owing to the above-mentioned curve this home signal is not easily visible to approaching up trains until within a short distance of the outer signal; from this point, however, it is clear enough, but would stand out better were the top of a tree in the back ground cut down. Similarly the position of the south outer signal would be more clearly visible from the station were a tree in the back ground cut down.

EVIDENCE.

Tailloo, driver of 9 up passenger.—I was driver of 9 up on the 17th July. We left Daera Dinpanah to time and on approaching Kot Sultan I whistled as usual and when about a mile from the distant signal I saw it was off. On approaching the distant signal I shut off steam and ordered the second fireman to put on the tender brake. When I got on the curve I saw there was a train on the station line and on getting on to the straight I saw from the disc indicator that the points were set for the main or station line. I immediately opened both whistles, reversed the lever and gave her steam and called my first fireman, who was oiling the engine, to come back and put on the engine hand-brake. When I got to the points I saw a green flag sticking out of the pointsman's hut and he was asleep inside.

I did my best to stop, but collided with the other train. I saw the home signal when getting near the distant signal, it was down.

I was running 30 miles an hour, as I approached the distant signal I had slackened to 10 as I passed the facing points.

After the collision I saw the home signal was off. (This the witness on being questioned corrects and states that after passing the points the home signal was raised to danger). There was no vacuum or steam brake on my engine No. 513, H. Class.

I have worked on this section since the line was opened. When 9 up and 10 down are both to time it is usual for 9 up to run through on the loop and to back on to the station line; when 9 up is late 10 down is backed and drawn up on the loop and 9 up received direct on the station line.

The collision occurred at 12 15.

As I was running to time I expected to run through on the loop.

Mohammed Husain, first fireman of 9 up passenger.—I was first fireman of 9 up passenger on the 17th July. On approaching the distant signal I saw it was off, we were then some 5 or 6 telegraph posts away. Then the driver whistled and shut off steam and I went to oil the valves. When the train got inside the signal the driver again whistled and when approaching the points he opened his danger whistle. I watched my driver and also looked towards the station, my driver called me back and told me to put on the engine hand-brake.

When he had passed the distant signal and I went out to oil my engine I saw the home signal was off.

I saw no pointsman but I saw a green flag sticking out of his hut.

I do not know whether the home signal remained down until the accident occurred.

Muhammed Khan, second fireman of 9 up passenger.—I was second fireman of 9 up on the 17th July. This witness corroborates the evidence of the first fireman of 9 up and further he goes on to add that after the accident he noticed the home signal had again been raised to danger.

Kesho Ram, guard of 9 up passenger.—I was head guard of 9 up on the 17th July. My driver whistled as usual outside the distant signal. I was standing on the right hand side of my brake and saw both home and distant signals were lowered for my train. I then crossed over to the left hand side of my brake to see the facing point disc indicator and when my engine passed over the points my driver blew his danger whistle, and I saw that he was going on to the station line where 10 down was standing and I immediately applied my hand-brake. As I passed the points I saw the pointsman in his hut. After the collision I saw that both home and distant signals had been raised to danger. I should say we were running 10 or 15 miles an hour when we passed the facing points.

I did not notice any pointsman at the points after the collision. I can recognise the pointsman who was in the hut when my train passed.

I did not see any flag with the pointsman or at the hut, had there been a flag I should have noticed it.

Sixteen passengers on my train were slightly injured; none seriously.

(This witness on afterwards being confronted with Mamdoo, pointsman, declared he was the man he saw in the pointsman's hut, whilst Mamdoo equally denied that he was there).

Ishar Dass, second guard of 9 up passenger.—I was second guard of 9 up on the 17th July. My driver whistled according to custom on approaching the distant signal. I looked out of the left hand window of my brake-van and saw the distant signal was off. I then went and put on my brake lest my driver should overshoot. I first saw the distant signal off when I was opposite the fog signal posts. The distant signal is on the left of the line. I saw the home signal was off. I did not notice anything at the points, seeing a collision imminent I was engaged in putting on my brake as hard as I could.

After the collision I saw the home signal had been raised to danger, but I did not notice the distant signal.

Khuda Bhaksh, driver of 10 down mixed.—I was driver of 10 down on the 17th July. I arrived at Kot Sultan at 12-11, right time, and was received on the station line and brought my train to a stand opposite the platform. I and both my firemen got down to look round the engine and when I got up again I noticed the home signal was down for 9 up. As 9 up was approaching I heard the driver give his danger whistle and on seeing him coming over the facing points on to the station line I blew my danger whistle and backed my train. I had only gone about 4 carriage lengths when the collision occurred.

I did not notice when the home signal was put back to danger and I did not notice whether the distant signal was off or on for 9 up.

I did not notice whether there was any pointsman at the south facing points.

Tirath Ram, guard of 10 down mixed.—I was head guard of 10 down on the 17th July. As soon as my train arrived on the platform at 12-11 the station master came to me with cash bag and after the bag had been put into the safe I enquired of him where 9 up was. He replied, "She is to time." Looking out from the left hand window of my brake-van I saw the smoke of 9 up approaching about two miles off. I got down from my brake-van and went towards the station master's office, where I saw the station master following Mamdoo, pointsman, and abusing him, and asking him why he did not turn up for his duty at the proper time. Then I went into the office and signed my arrival. Whilst I was in the office I saw my train backing and on coming out saw 9 up entering on the station line. I looked at the home signal, it was at danger. I did not see the distant signal, the collision occurred at that moment. Except as mentioned above I had not noticed the position of the home signal.

When I was in the station master's office the assistant station master, sub-platelayer Doratta and my second guard were all there until the accident happened.

The station master did not come into the office during that time.

I do not think there was time for pointsman Mamdoo to reach the facing points before 9 up got there. I did not see the pointsman again until 30 or 40 minutes after the accident when he told me that the station master did not warn him of the departure of 9 up from Daera Dinpanah, this was said in the presence of the station master, who replied, "I ordered him to go to the points long ago, but he did not go." When I came out of the office at the time of the collision and saw the home signal at danger I saw a station menial standing near the signal, I cannot say who he was.

A. T. Collins, travelling ticket examiner.—I was travelling by 9 up on the 17th July. I was reading in a 2nd class compartment when the accident occurred. Immediately after the collision I jumped out and saw both the signals were at danger. We were running ordinary speed from Daera Dinpanah and came into Kot Sultan at 10 or 15 miles an hour.

I did not see the pointsman (Mamdoo) who was supposed to be at the facing points for 9 up, on the platform after the collision but saw him walking up from that direction about half an hour later.

Chela Ram, station master.—I was station master at Kot Sultan on the 17th July. When I received the out-report for 9 up at about 4-50, I had the bell rung and sent for Mamdoo, pointsman. I gave him the key of facing points for 9 up and label for loop line and told him "9 up is running to time, she will run through on the loop." I gave these orders in my office after which the pointsman went outside and I asked line clears for 10 down and 9 up.

Some of the staff came and told me that 10 down was in sight, so I went out and exchanged signals with the pointsman and had the home signal lowered. I do not know whom I gave the key to. I think I gave it to Dharoo, pointsman. Having seen the signals lowered for 10 down I returned to my office and got my cash bag. I went outside with the cash bag and on arrival of 10 down raised the home signal myself and went to the brake-van with the cash bag. When I went to raise the signal the key was left in the lock and I took it out myself.

After handing over the cash bag to the guard I was returning to the office when I saw Mamdoo, pointsman, whom I had sent to the south facing points talking with some friends. I was very angry and hustled him off to the south points to admit 9 up. When I asked him why he was not at his points he said nothing. At that time 9 up was a long way off, somewhere near the distant signal. The pointsman had only got about as far as the water column when 9 up passed him. I gave instructions to pointsmen Nazoo and Mamdoo separately regarding the reception of 10 down and 9 up; the assistant station master was in the office when I gave Mamdoo his instructions. After receiving out-report of 10 down at 11-30 I did no line clear work until I asked line clear for 10 down at 11-56. After raising the home signal to danger on arrival of 10 down I had both keys in my possession and both signals were at danger.

Nikoo Mal, assistant station master—I am assistant station master at Kot Sultan. At about 11-55 I asked the station master if 9 up had left Daera Dinpanah and he said yes, then he ordered to ring the bell for 9 up. I do not know whether the bell was rung. Then he called Mamdoo pointsman, and gave him the key and label for the south points and told him to receive 9 up on the loop line.

When 10 down arrived I went out to collect tickets and saw Mamdoo was on the platform. I called the attention of the station master to this and said 9 up is in sight and no one at the points. Then the station master ordered Mamdoo to go at once to the points. 9 up at this time was about half a mile beyond the distant signal.

Mamdoo, pointsman.—There is no regular roster of duty kept at this station, but at about 11-30 Abdulla, Nazoo and I all went to the station master, and on the bell being rung for 10 down, Nazoo, pointsman, was sent off by the station master to the north facing points. After Nazoo left I enquired of the station master if 9 up had left the last station. He replied, "It had not."

After 5 minutes I again asked if the train had left, and he replied, "Wait, the train has not yet left." At last when 10 down arrived

9 up whistled near the distant signal and the station master gave me the key and label and told me to run to the points. I did not notice the position of the signal before the collision.

(This witness later denied that he received any label from the station master).

I was about eight paces beyond the water column when 9 up passed me.

I returned to the station 10 or 12 minutes, after the collision. (The witness cannot satisfactorily explain what he did during this time).

Abdulla, pointsman.—I am certain I saw the station master himself lower the home signal for 10 down on the 17th July.

Dharoo, pointsman.—I am pointsman at Kot Sultan, but my general duties are to load and unload parcels during the daytime

On the ringing of the bell for departure of 10 down from Leiah I was standing on the platform with Nazoo, Abdulla and Mamdoo. Nazoo went inside and the station master sent him off to the north facing points to receive 10 down. Then Mamdoo went inside the office and stopped there 15 or 20 minutes. At the end of this time the station master came out and gave Nihala, bhisti, the key of the home signal and told him to lower it for 10 down. I saw the station master do this. Mamdoo also came out on the platform with the station master. At this time 10 down was in sight. The station master went back to his office for cash bags, Mamdoo remaining outside. When the station master came out of his office again on the arrival of 10 down he saw Mamdoo on the platform and said to him, "Why have you not gone to your point?" and at the same time abused and pushed him, and told him to run off and show a red flag. I did not see the station master give him a key or label. To this Mamdoo made no reply but ran towards 9 up showing a red flag.

I did not hear the bell rung for 9 up. I am sure that neither signal was lowered for 9 up.

I do not know who raised the home signal after admitting 10 down.

I heard the station master, earlier in the morning, give Mamdoo orders to go to south facing points for the reception of 25 up and despatch of 22 down goods and I saw him go.

Nihala, bhisti.—I am Hindu bhisti at Kot Sultan. The station master gave me the key of the home signal and told me to lower it for 10 down and also to ring the bell for 10 down which I did. After unlocking the signal I left the keys in the lock; I do not know who put the signal to danger again.

FINDING.

We, having carefully considered all the evidence do find as follows:—

1. That the driver of 9 up (Tailloo) undoubtedly passed over the facing points at a higher speed than 10 miles an hour, contravening Rule 131.
2. That owing to the unreliability of Mamdoo pointsman's evidence, his general slackness in the discharge of his duties on the morning of the accident, and the various contradictions in the evidence of the staff regarding the lowering and raising of signals, it is quite possible that

Mamdoo did go to the up facing points and lower the distant signal for 9 up (though exactly when he did this it is impossible to determine from the evidence) and returned to the station without setting the points for the loop and we therefore acquit the driver of 9 up on the charge of running past the distant signal at danger.

3. That the driver of 10 down showed great pluck and presence of mind in sticking to his engine and backing his train in order to try and prevent the collision which he saw was imminent and we strongly commend him for his conduct.

4. That the station master, Chela Ram, is responsible for not carrying out Subsidiary Rule 113 (d) IX in that he failed to see that the up and down facing points were set correctly for the lines on which he intended to receive the two trains, soon after he had given line clear for them. And that he is responsible for not carrying out Subsidiary Rule 113 (d) IX (2) in that he did not convey his instructions regarding the reception of 10 down and 9 up (which he knew were going to cross at his station) to Nazoo and Mamdoo, pointsmen, in each others presence.

5. There is strong suspicion although no absolute proof that the station master, Chela Ram, lowered the home signal for 9 up without having satisfied himself that the facing points were set for the loop.

6. That had the engine of 9 up been vacuum-braked and travelling at the speed we believed it to be moving at when it came over the facing points, the probability is that with vacuum brake throughout the train either the collision would have been averted or else the force of impact would have been very much lighter.

W. RODGERS,
Executive Engineer.

A. S. CHASE,
Dist. Loco. Supdt.

N. C. HALDAR,
Dist. Traffic Supdt.

Remarks by the Government Inspector of Railways.

Much of the evidence given at this enquiry was contradictory and quite unreliable, but I generally agree with the above 'Finding' that pointsman Mamdoo was primarily responsible for this accident, in that he did not carry out the instructions given by the station master.

The evidence as regards the position of the signals for 9 up is most conflicting, but in this I also agree with the 'Finding' that the benefit of the doubt must be given to the driver of 9 up and that both the home and outer signals were probably lowered for 9 up.

The evidence of the driver of 10 down, who may be accepted as an unbiassed witness, is to the effect that the home signal was lowered for 9 up and, allowing this to be the case, it may be assumed that the outer signal was also lowered in accordance with Subsidiary Rule 91 (c) of the General Rules. It is unfortunately quite impossible to ascertain by whom the home signal was lowered and equally so as regards the outer signal, though I think there is little doubt that Mamdoo, pointsman, who was ordered by the station master to go to the south facing points, was responsible for the position of this signal.

I also agree with paragraph 4 of the 'Finding' that the station master was so far responsible for the accident in that he failed to carry out the instructions conveyed in Subsidiary Rules 113 (d) 8, 9 and 10 (2).

Accepting that the home signal was lowered for 9 Up, the station master must also be held responsible for this, in that it was lowered without his first having satisfied himself that the facing points were correctly set.

As regards the speed of 9 up over the facing points, though the impact of the collision judging by results, was not excessive, I think there is little doubt that the train entered the yard at a speed of from 15 to 20 miles an hour and that the driver thus contravened General Rule 131. In considering this point, however, it must, in justice to the driver, be pointed out that he was running to time and that, consequently, he was expecting to run through on the loop and to back on to the platform line after the departure of 10 down, and that three minutes is all the booked time allowed for the stopping of 9 up at this station—an insufficient allowance for a non-vacuum train and a speed restriction of 10 miles an hour over facing points. In conclusion, I would draw attention to the fact that though 9 up passenger is timed up to 30 miles an hour between stations, and that all the vehicles on this train were fitted with vacuum brakes, it was on this occasion being hauled by an engine fitted with hand-brakes only.

A sufficiently large number of locomotives and passenger stock on the North Western railway system are now fitted with the vacuum brake to insist on all passenger trains being run with the vacuum brake, and I would suggest a Rule to this effect be enforced.

W. D. WAGHORN,

MAJOR, R.E.,
Government Inspector.

Remarks by Senior Government Inspector for Railways.

I agree with the ' Finding ' of the committee of enquiry and the remarks of the Government Inspector.

It appears that the engine of 9 up passenger was fitted with neither steam nor vacuum brakes. As nearly 89 per cent of the locomotives and passenger stock on this line are now fitted with automatic brakes, there should be no difficulty in arranging that all passenger trains, at least, should be worked with an automatic braked engine. This matter is being taken up with the Manager, North Western railway.

LUCKNOW :
12th August 1905.

}

C. S. ROSE,
MAJOR, R.E.,
Senior Government Inspector.

**Appendix XII to the abstract return of accidents on Indian railways
for the twelve months ended the 31st December 1905.**

Report of the proceedings of a joint enquiry held at Lahore station, North Western State railway, on the 4th and 5th December 1905, to enquire into the cause of a collision which occurred just outside the south outer home signals at that station at about 19-20 hours on the 1st December 1905, between M. M. up special troop train and No. 4 down mail.

The committee was composed of the following officers:—

J. SUTHERLAND, <i>Executive Engineer</i>	President.
V. BOALTH, <i>District Traffic Superintendent</i>	} Members.
A. E. PEARCE, <i>District Locomotive Superintendent</i>	
MAJOR W. D. WAGHOEN, R.E., <i>Government Inspector of Railways</i>	} Present.
CAPTAIN T. FRIZELLE, <i>Magistrate</i>	
J. F. REHILL, <i>Superintendent, Government Railway Police</i>	

DESCRIPTION.

On Friday, the 1st December, M. M. up troop special with a load of 2 brakevans, 4 non-vacuum and 20 coaching vehicles conveying troops from Bareilly to Rawalpindi arrived at Mean Mir East at 18-34 on the new down platform line and was to go on to Mean Mir West over the chord line. Assistant Station Master Hira Lal was on duty at the time and got line clear for the train from Mean Mir West at 18-24. The line clear had the special instructions embodied in it that the train was to enter the Mean Mir West yard cautiously. Guard Mahomed Din of the train signed for the line clear and sent it up to the driver who started on it at 18-42, took the wrong line, and did not stop till he got near the Lahore distant signal. The guard informed him that he had been put on to the wrong line and that he should have gone to Mean Mir West over the chord line. After consulting with the driver, the fireman was sent off with a memorandum to the Station Master Lahore. This memorandum was delivered at the shed which is connected by telephone with Lahore station. Before any action could be taken on it the 4 down Bombay mail, which left Lahore correctly on tablet for Mean Mir East at 19-15, came on and collided with M. M. special at about 19-20. The driver of 4 down at first thought the head lights of the engine of M. M. were those of an engine on the coal line alongside, but as he got nearer he saw a red light being waved and at once shut off steam and applied the brakes, but could not avoid the collision. Ten vehicles on M. M. special train were damaged internally by having their seats knocked out and glasses of windows broken. The engines of both trains suffered slight damages. Seventeen passengers in 4 down complained of slight injuries, but no serious injury was reported to any one.

EVIDENCE.

Hira Lal, assistant station master, Mean Mir East.—When the troop train left Jelloo, I called Sukhi Ram, jamadar. I gave him the key of points No. 3 for Mean Mir West chord line. My distinct order to him was to make over the key to Madho Shah, points jamadar, and when the chord line was all right for the troop train, to come and report to me. By this time the troop train had arrived at the station. I had line clear ready on my table to make over to the guard of the troop train. Before giving line clear to the guard, I went to see the officers in the train to get their permission to start. I got the permission and before handing the line clear to the guard I called Sukhi Ram jamadar. I asked him in my own language "Is the chord line clear for the troop train to go to Mean Mir West." He replied, "It is all right. Let the train go." The guard of the troop train was present when he made the statement and the guard of 80 down goods, Chet Singh, was there, but whether the latter heard or not I do not know. All this conversation took place in office. I made over line clear to guard as usual, the guard returned it to me and told me to send it to the driver. I came on to the platform and I gave the same line clear to Sukhi Ram jamadar and told him to "whistle up" and call loudly that the troop train was going on the chord line. He called out and gave the "green signal" and also whistled. The green signal was also shown

in the direction of No. 3 points. The driver got the line clear from Sukhi Ram and started the train. I returned to office and gave the "out-report" to Mean Mir West. Owing to alteration in our yard there is only one exit to the chord which is from the main line. All the lights of the train were lighted. I first learnt of the accident from Lahore about 19-25.

Questioned by Government Inspector.

Q.—Whom did you hand over the points key to?

A.—To the shunting jamadar.

Q.—Why did you not hand it to the points jamadar?

A.—The man I gave it to was the proper man.

Q.—Where was the brakevan when you came into office?

A.—I came in when it passed me on the platform.

Q.—What time did you give line clear for 4 down?

A.—18-50 and received "out-report" of 4 down at 19-15.

Questioned by Magistrate.

Q.—If you had remained on the platform could you have seen which direction the train was going?

A.—No, I could not see at night time.

Q.—Were the brakevan lamps lighted?

A.—Yes.

Q.—Was the train lighted?

A.—I know the first and second class carriages were lighted.

Q.—Should you have stood on the platform till the train is outside your yard?

A.—No, when the brakevan passes me I come back.

Questioned by District Traffic Superintendent.

Q.—When did you come on duty?

A.—At 18 hours.

Q.—Did you know for certain those troop trains were going to Mean Mir west?

A.—Yes, the two previous trains had gone.

Q.—What other trains did you pass?

A.—This was the first and only train during my duty hours.

Q.—Where was 80 down goods standing?

A.—In the locomotive goods shed siding and was there before I came on duty.

Q.—Had the goods line, at the goods platform, wagons on it?

A.—I cannot say.

Q.—Did you know the driver was a native and illiterate?

A.—Not at the time.

Q.—When did you receive the key of the points back?

A.—I did not get it, I did not want to. Mr. Smith got the key from Thakur Singh after 19-30.

Q.—Points No. 3 are permanently locked?

A.—Yes, and all the pointsmen know when it is sent out it is to admit or let out a train to or from Mean Mir West.

Q.—What are the orders about the key of No. 3 points?

A.—It is always locked in the points box except when required and after use should be returned at once.

Q.—Why did you not see the key was returned?

A.—The mail was ready to leave Lahore and 15 up was coming from Jelloo. I was expecting these trains, and did not insist on the key being returned. The pointsman could not leave his points and I had no man to send.

Recalled.—Q.—Do you know the orders about working Mean Mir East?

A.—Yes.

The Mean Mir East Station Order Book says:—

“The following points will be permanently locked and only opened by Station Master on duty. Nos. 1, 3 and 6 will be kept locked for the main line.”

* * * * *

This is part of 131 C. V. General Rules and Regulations.

I was aware of this, but have never gone to these points myself. I am alone during my duty hours. I have too much work to do and could not see to this. For permanently locked points I give the key to the points jamadar who is a sufficiently responsible person. When I called Sukhi Ram I gave him the key inside and standing at the door. When I took the key out of the box only Chet Singh and the signaller were in the office.

Q.—Rule 11 N, paragraph 11;—knowing the driver was a native, why did you not carry out the above rule and explain the special instructions in the body of the line clear to the driver?

A.—I did not know the driver was a native.

Mr. T. W. Wrench, Assistant Locomotive Superintendent, Lahore.—At 19-30 on 2nd I was at

the station and Mr. Todd, Train Inspector, came up and said he had just received a telephone message from the shed to say M. M. up troop special had taken the wrong line from Mean Mir East and come to Lahore instead of going to Mean Mir West and was standing at the distant signal and had told station master, Lahore, to stop 4 down mail. By this time 4 down mail had left and he asked me to go down and witness what had taken place. I went down to the distant signal and arrived at 19-40 and found the trains had collided. I asked the driver of 4 down why he had not stopped when he saw the engine lights of the troop special on the main line. He said he thought it was an engine on the coaling siding and did not see a red light being waved by the driver of the other train till he was close on to it. He at once applied his “vacuum brake.” It was too late and he ran into the troop special at a speed of about 10 miles an hour. The shock from the collision had knocked the troop train back about 20 yards and had also broken the couplings between the 6th and 7th vehicles. I then went and saw the native driver of the troop train and asked him his name and how long he had been working on the district. He said this was the first trip he had worked a train, but had previously been once between Lahore and Phillour to learn the road. He belonged to Quetta district and had been sent to Lahore on account of the troop rush. I asked him why he had not stopped when he found he was coming to Lahore. He replied it was not until he had been standing 10 minutes at Lahore distant signal that the guard explained to him he should have gone to Mean Mir West instead of Lahore. I asked him why he had come with a “branch” instead of a “main” line clear. He replied that from Amritsar to Mean Mir East he had been working with “Tablets” and thought this was the way trains were worked on this section.

Sukhi Ram, shunting jamadar.—When line clear was given for the troop train to Jelloo station the station master, Hira Lal, called out to me and gave me the key for No. 3 points and informed me that the troop train was to go to Mean Mir West over the chord line. I was then opposite the station master's office on the platform. I went towards the goods shed and called out for Madho jamadar. Thakur Singh, senior pointsman, however, came to me near the points opposite the goods shed. I gave him the key for the chord line and told him the special would go to Mean Mir West and to tell Madho jamadar this. He took the key and went away and told the man to tell Madho to show the green light when the points were correctly set. I went back and was at the end of the up platform opposite the engine of the troop special when the station master came up with the line clear. I then called out to warn the guard that the special was going to Mean Mir West and exchanged signals with the points. A green signal was correctly given from the points. The station master then gave me the line clear to hand to the driver and told me to blow my whistle as some of the soldiers might be out of their carriages. The driver asked me why a line clear was given him and not a tablet. I told him he was going to Mean Mir West and not to Lahore. That tablets were only given to Lahore. I drew the attention of the driver that a green signal had been correctly shown at the points and he started. After the special left, the station master went back into the office and I went towards the engine of the goods train in the siding. About 20 minutes after the departure of the special the station master again called out to me that the mail was about to leave Lahore and told me the mail had started and asked if the station line was correct. I did not notice which way the special went out. I know nothing about the key of the chord line after I once gave it to Thakur Singh. When I shouted out before exchanging signals I got no reply from the points as the engine was making a noise near me. I only saw the signal waved back.

Thakur Singh.—When the Troop Special was at the station, Sukhi Ram, shunting jamadar, came out into the yard near the new cabin and gave me the key of No. 3 points and told me to make it over to jamadar Madho and tell him to set the points for the chord

line when he shouted out. I went back to my points No. 7 where Madho was sitting, gave him the key and the instructions. No one shouted out to us and we only saw a green light being waved. I exchanged a green light and a train started and went on to Lahore. We did not know that there was anything wrong. Long afterwards the shunting jamadar called out where the special had gone to and we replied to Lahore. The key was in the possession of Madho all this time.

Recalled.—Q.—When did you return the key to the station master?

A.—I returned it to the European station master at 21 hours at night. I got the key back from Madho as soon as the special left. The reason that I did not return the key at once was because the station master was recording statements and the key was not returned till then.

The statement that I made to the station master on the 1st December, *viz.*, that I threw the key to Madho Shah and that he never picked it up is true, and further that it was not till after the special had left for Lahore that it was picked up and that then I myself picked it up on being told to do so by Madho Shah. No one else was present when Sukhi Ram first gave me the key. I was sitting with Madho Shah when Sukhi Ram called out to Madho Shah and Madho Shah told me to go and find out what the jamadar was calling him for. Sukhi Ram then gave me the key and told me to repeat the instructions he gave me to Madho Shah, which I did. Sukhi Ram gave me the key at the new signal cabin. The reason that Madho Shah gave me for not picking up the key was that he had not heard the shout, that he had expected to, instructing him to set points No. 3 for the chord line. I had no altercation with Madho Shah about the key. Madho Shah told me after the special had gone to pick up the key and put it with my other keys and that he would take it from me afterwards.

C. H. Elleson, driver.—I was the driver of 4 down on December 1st. My train was 45 minutes late from Lahore. I received Tablet No. 12 and started my train. On approaching Shalamar crossing I whistled for the crossing signal which was not distinct owing to the smoke about. After passing the bend in the track near Shalamar crossing I saw an engine standing, as I thought, on the coal siding and did not take particular note of it until I saw a red light being moved violently up and down. I was going at 30 to 35 miles at the time and was 10 or 12 vehicles distance away from the other engine when I saw the red light. I shut off the regulator at once and put on the vacuum brake, but the distance was so short I was unable to avert the collision. At the time of the collision my speed was 10 miles an hour.

Q.—Where was the red light waved?

A.—On the ground at the side of the engine and not in front. On getting near the Shalamar crossing signal I saw it was all right. The time of the collision was about 19-20.

H. Kenyon, guard.—When I was guard of 4 down on December 1st, we left Lahore 45 minutes late. I gave the "all right" signal to the driver when leaving Lahore platform. On leaving the Lahore "home" signals I heard the driver whistle. I looked out, but could see nothing. As we were approaching the "distant" signal I heard the driver put on the "vacuum" brake and immediately after we collided with something. I enquired if any passengers were hurt and found some with bruises. I did not see the native guard of the Troop Special. I sent word to station master, Lahore, of what had happened and asked for a "pilot" engine to take us back to the station. None of the injured passengers gave up their names. Before the collision we were going 30 miles and at the time of the collision 8 to 10 miles an hour. The down mail consisted of 1 G. F. engine and 14 vehicles (including brake).

Madho Shah, points jamadar.—I came on duty at 18 hours on the 1st December and went to my

station at points No. 7. It was the time for the down mail from Lahore and the up train from Pathankote. A train came in on the down platform. Thakur Singh came running from the station and was showing a green light towards the station a little before he came up to points No. 7 which he set for the loop line and a train started and went to Lahore. I got no instructions or orders or key. It used to be the custom to give me the key direct.

Q.—When did you know that the key for the chord line was sent out?

A.—An hour after the train left. I heard there had been an accident and heard the key had been sent out. I heard there had been an accident from some people walking along the line.

Thakur Singh then told me to take the key of No. 3 back to the station. I refused to do this. I came on duty first at points No. 7. Thakur Singh came up about 10 minutes afterwards.

Imam Bux, driver.—I came down from Quetta on the 20th of November. I have been out in five directions to learn the road. I went out with a goods train to Phillour on the 29th at 9 p.m.; it was a van goods train. I arrived at Phillour at 11 hours on the 30th. I was booked out with a troop train at 12-40 on the 1st. There were four non-vacuum vehicles at the end of the train. I arrived at Mean Mir at 18-38. A porter brought up the line clear to me. I asked him why a line clear was given to me as I had received a tablet when going down and had come up from the station after Amritsar with tablets. The man told me what the station master gave him he gave to me. I examined the line clear, then whistled and got signals from the guard and started at about a minute or two after the time on the line clear (*i.e.*, 19-42). After clearing the loop points (No. 7) I exchanged signals with the guard on my side of the engine. When I approached Lahore distant signal I found it at danger. I stopped outside it and whistled. After about 10 or 12 minutes I whistled again and the guard came up. He told me that the station master at Mean Mir had given me the wrong line. He too had forgotten about it and asked why I had not noticed it. I told him I was a new man and my engine staff were also new and we had no knowledge that we had gone wrong. I then consulted with him as to what we should do and asked him to let me draw up the train carefully inside the signals till we could get to the pointsman or some one. He would not allow this, but asked for a fireman to take a message. He gave a written message to the fireman to take in. I did not know where he sent this man. I took a red lamp and stood by my engine. I soon saw red lights approaching, about 15 minutes after. I then gave my red lamp to my *khallasie* and told him to run ahead and I got on my engine and whistled and reversed my engine and opened steam, but before I could move I was run into by a train. I did not protect my train in front because the guard had gone forward with my fireman and my second fireman was a very ignorant man. I did not hear anyone shouting out "chord line," "chord line" at Mean Mir when I was there. I knew that the line clear form was a branch line one, but had never seen a tablet before and thought there was some reason for this form being used. I told the guard at Phillour that I was illiterate and a new man and he should be more careful in exchanging signals with me. I had no idea that I had to go to Mean Mir West.

Mahomed Din, guard.—On arrival at Mean Mir East at 18-35 I went to the station master's office to get line clear. The station master informed me my train had to go on the chord to Mean Mir West. The station master said first let me enquire from the jamadar whether the points are set. He asked in front of me of the jamadar whether everything was right. The jamadar said, "Yes, the points were right to start the train." I then signed the line clear which the station master took from me saying he would send it to the driver. The station master

then went out on to the platform. I then signed the line clear book counterfoil. On coming out of the office the train was starting. In front of the office I got into the brake. Two wagons away from No. 7 points "trailing" I looked out to exchange signals and saw the train was on the Lahore line. The driver did not exchange signals. I at once put on my brake and shewed a red light on the right hand side of the brakevan till the train came to Lahore distant signal. When the train stopped I went to the driver at once and told him he had come on the wrong line. I told him to send the fireman at once to the station master or yard foreman with a memorandum I gave the fireman a lantern to take along with him. After this I told the driver I was going to protect the rear of the train and that he must look after the front of the train. I did not know that my driver was illiterate, but I knew he was a new man because he had not been with me before. I heard no shouting on the platform as to where the train was going.

Q.—Knowing the driver was a native, why did you not carry out the above rule and explain the special instructions on the body of the line clear?

A.—I did not know the driver was illiterate and did not think it was necessary to explain anything as there was no special endorsement.

Chet Singh, guard.—I was in charge of 80 down goods. My train was put into siding to pass the passenger trains. I was in the assistant station master's office when line clear was given to "M. M." up troop special and she was received on the second line. The guard of the troop special came into the office and asked for line clear for the chord line Mean Mir West. He was told he was going to Mean Mir West by the assistant station master. Line clear was received from Mean Mir West before the arrival of the troop special. Before handing over line clear to the guard, Hira Lal, assistant station master, went outside and asked the shunting jamadar, Sukhi Ram, whether the points were set for the chord line. He said "Yes." The guard took the line clear slip and made it over to the assistant station master. The train started. I arrived at Mean Mir at 16-28. Before the arrival of the troop special the assistant station master informed Sukhi Ram that the troop train would proceed to Mean Mir West. The signaller was there at the time and Sukhi Ram was called in and came into the office. The assistant station master made over the keys to the shunting jamadar before the troop special left Jelloo about 18-15.

Q.—When did you go to the station master's office?

A.—At 16-30.

I was in the office the whole time from 16-30 till the troop special left. The station master called Sukhi Ram in, when train was about to leave Jelloo. I saw the assistant station master make over the keys to Sukhi Ram. He took the key out of the box, gave it to Sukhi Ram and told him to give it to the pointsman. He mentioned no name but specified the points. The signaller was present throughout. I saw Sukhi Ram take the key. I did not see the troop train going on the main line.

Q.—When and what did you hear about the accident?

A.—It was signalled to Mean Mir East about 19-35. The station master asked the shunting jamadar where the train had gone. He said "Mean Mir West." The shunting jamadar then asked the pointsman, who said, "train had gone to Lahore." The station master sent the shunting jamadar to enquire. The assistant station master then went to see the pointsman and returning said the train had gone to Lahore. There was no mention made of the key. My train left Mean Mir East at 21-48. I was not present at the station master's enquiry and did not know it was being held.

After being told at 20 hours my train was to go, I took no further interest in the accident and busied myself with my train till it left at 21-48. At about 20 hours all the pointsmen came to the office. I made no statement before this. The assistant

station master on his return from the points about 20 hours sent a man to call Mr. Smith who was in his bungalow. I was present when Mr. Smith arrived and left five minutes after. I was too interested in my own train to listen to what was going on. The station master did not leave the station to call Mr. Smith.

Mr. Smith, station master at Mean Mir East.—

At 7-45 p. m. I was sent for from my bungalow by my assistant station master, Hira Lal. The luggage clerk came for me. When I came to the station he told me M. M. special troop train had gone to Lahore instead of Mean Mir West. I sent a message in Form D to "all concerned." After sending the message I questioned the assistant station master and asked how the train went on the wrong road. He said, he made over the key of points No. 3 to Sukhi Ram, jamadar, with instructions to give the key to Madho Shah, points jamadar, and set the points for the chord line. The shunting jamadar went away and returned in a few minutes saying the points were set for Mean Mir West. He said the signal was given from the points and the train started. I heard "chord line" being shouted out by the shunting jamadar while I was counting my cash. I could have heard this shout if I had been standing at the engine or at the points. I asked the assistant station master if he had made certain the train had gone to Mean Mir West or not. He said, "he could not see." I asked him if he enquired of Mean Mir West whether the train had arrived or if Mean Mir West had asked him cause of the non-arrival. He said "No." I asked him where the mail was. He said, "She had not left Lahore." After that I started my enquiry. I began it a little after 20 hours. The first man I sent for was the shunting jamadar. He said he got the key for No. 3 points from the assistant station master. He said his instructions were to make the key over to points jamadar, Madho Shah, to set the points for the "chord." He went some distance on the goods platform and called Madho Shah. He said Madho Shah did not turn up, but Thakur Singh, also a senior pointsman, turned up. He made over the key to Thakur Singh to give to Madho Shah to open the points for admission on the "chord line." After that he came away and reported to the assistant station master that he had given the key. I then sent for Madho Shah. I asked him if he had received a key from Thakur Singh. He said "No." He said Thakur Singh told him nothing and that he did not know the troop train was going to Mean Mir West. I asked him where he thought the troop train was going. He said points were set for Lahore and that he had got no orders. I then sent for Thakur Singh. I asked him why he came when Sukhi Ram shouted out for Madho Shah. He said Sukhi Ram called for Madho Shah and Madho Shah sent him. Madho Shah said to Thakur Singh "You go on and hear what he has to say." As soon as Thakur Singh arrived Sukhi Ram gave him the key and ordered him to make the key over to Madho Shah with instructions that when he was to shout to him then he was to open the chord line. Thakur Singh said he threw the key to Madho Shah and told him when he heard a shout from the station he was to open points No. 3 for the chord. I asked Thakur Singh if Madho Shah took up the key. He said "No." I asked what then happened. He said there was no shouting. A signal only was given and I (Thakur Singh) returned that signal. I asked him (Thakur Singh) where the key was and he produced it. This was about 20-40 hours. I asked him why the key was in his possession. He said as Madho Shah had left it on the ground and the train had left for Lahore he had picked it up. I told him, I did not believe him and that it looked as if he had not given the orders he received. Sukhi Ram then told me "I gave this man, Thakur Singh, the key in presence of the chowkidar." I sent for the chowkidar, Deo Gopal Singh, and asked him what he knew. He said, Sukhi Ram shouted out for Madho Shah and that Thakur Singh turned up instead, that Sukhi Ram told Thakur Singh to make over the key of points No. 3 to Madho Shah and tell him to set points No. 3 for the chord line. He also said he saw signals exchanged between the points and the station, but

could not say by whom. I asked the assistant station master if he knew Sukhi Ram had lied when he said he gave the key to Madho Shah. The parcel's clerk was in the office when Thakur Singh made over the key to me and also the "day" assistant station master Devi Dayal. I told the assistant station master, I wanted his defence which he gave me next morning. From 18 hours to 18-20 I was on the platform, but heard nothing about the passing of keys which was quite possible as the orders would not be given in a loud tone. The key of No. 3 points was in a locked box in the assistant station master's office. For the two former trains going to Mean Mir East at 15-0 and 15-55 hours my "day" assistant station master gave the key. The orders about the keys are that as soon as the train passes the key is brought back at once. I asked Hira Lal why he had not had his key for No. 3 points returned at once as usual. He said the mail was expected and that after it passed the key would be given back to him. The shunting jamadar is not the proper man to make over the key to; the points jamadar is the proper man and Madho Shah should have got the orders direct from the assistant station master. The assistant station master's reason given me for not handing the key to Madho Shah was that Madho Shah was at the points for the mail. I saw Chet Singh in the assistant station master's office when I came to make my enquiry. The assistant station master referred me to him as having heard him give the orders. I asked no question of Chet Singh except "what are you doing here." Chet Singh was in the assistant station master's office when I was interrogating the assistant station master from about 19-45 to 20 hours. When I first interrogated the assistant station master he was so excited that I really thought the key had been made away with.

Q.—Have you not made any enquiries down on the file?

A.—Yes, from the luggage clerk who said he heard the orders had been given. As it was only hearsay evidence I paid no further attention to it.

The signaller said he heard the orders given by assistant station master to Sukhi Ram, but did not see the key given as he was busy with his instrument. From my enquiries no one actually saw the key given by the assistant station master to Sukhi Ram. The assistant station master was on the platform when the train (troop) left. When he was expecting the mail he should have been on the platform to see the troop train go out.

Mahomed Husain, signaller, Mean Mir East.—I asked for line clear from Mean Mir West for the troop train at 18-21 and got it at 18-24. The train started at 18-42. The station master then told me to ask about 4 down mail. Signaller, Lahore, replied she would leave at 19-15. At 19-15 departure of mail was given on tablet and instrument. When taking a message from Lahore about 18-50 the station master called to the jamadar and said "Take this key—this train is going on the chord line." After 15 minutes my station master again asked me "Where is 4 down mail." I asked Lahore and they replied that she had returned back to Lahore station. I asked "Why" and Lahore signalled "Why did you send the troop train to Lahore." The assistant station master told me to ask if there had been an accident. Lahore replied, "Yes, both trains collided." I told the assistant station master and he went outside to enquire and beyond that I know nothing more. While I was receiving the message from Lahore I heard the assistant station master from inside the office call to the jamadar outside "*E chabi leto gharry chord line 9 jata.*" I heard no reply. The troop train was in the station ready to go when these instructions were given. I heard it. I did not see the station master give the key to any one nor did I see anybody come inside the office. The station master did not leave the office when he called out.

I saw no one else in the office at the time the assistant station master called to the jamadar. I came on duty at 18 hours and between that time and the departure of the troop train, I saw no one in the office. The station master had taken the line clear when he issued the orders about the key. The guard came and signed the line clear book in the office, but I did not see him do so. I do not remember the message, where it came from or to where going, that I was taking at the time the assistant station master gave his orders about the key.

Deo Gopal Singh, Chowkidar.—I was on duty at the goods shed when I heard Sukhi Ram, jamadar, call to Madho Shah jamadar, to set points No. 3 right for the line to Mean Mir West, that a special train would be going there. This order was given when the line clear was given to Jelloo for this train. After the train came in the jamadar came up near the engine and shouted out again, if the points were right for Mean Mir. The train then left. The key was given to Thakur Singh at a spot about four wagon lengths from the goods shed dead-end, just in front of me. When Thakur Singh came up no mention was made of Madho Shah. Sukhi Ram told the former to set the points. The train was at the station when the key was given to Thakur Singh. Thakur Singh came up from the direction of points No. 7. He was alone there. I cannot say for certain if Madho Shah was at No. 7 points.

Hursok Rai, luggage clerk.—On the departure of the troop train from Jelloo I came to the assistant station master's office. I thought 15 up had left Jelloo and I had many packages for that train and wanted him not to give "line clear" to the guard of 15 up till I had loaded my packages. This was about 18-15. The assistant station master said, this was a troop train not 15 up. "Don't you see I am giving the jamadar orders about putting it on the chord line." He gave the key to the shunting jamadar in my presence in the assistant station master's office. There were 3, or 4 other men in the office at the time, guards, drivers, etc. The jamadar went to the chord line saying "*chord line, chord line.*" When the assistant station master gave the jamadar the key he said, "Take the key and give it to him and set points No. 3." After that I went off. The key was actually in the station master's hand. I did not see him take it out of the almirah. All this took place at the station master's table where I was also. The signaller was at work at the time. The station master (Smith) asked me whether I had heard any instructions given and seen the key given. I said I had heard the instructions and seen the key given, I did not tell the station master that I had not seen or heard anything myself.

Southur, fireman.—I belong to the Quetta district and came down as an extra man for the rush. (He corroborated the driver's statement as regards leaving Mean Mir and what was said to the driver by the guard.) The guard asked the driver to send me with him to take a memorandum to the foreman who would telephone to the station. The guard came with me as far as the crossing, and I do not know what happened to him after this. I took the memorandum to the foreman at the shed. I gave it to the *chaprasi*, who gave it to the foreman.

Memorandum by District Locomotive Superintendent.

Engine No. 7 P., Driver Sunder Singh, was sent by 80 down goods leaving Lahore at 15-41 on 30th November to Phillour to work M. M. up special to leave Phillour at 10-53 on 1st December. 80 down did not arrive at Phillour till 14 hours on 1st, so that the first available goods engine, an L. class, and not intended for this fast troop service was sent.

FINDING.

After considering the evidence we find that assistant station master Hira Lal is to blame for not carrying out Rule 113 c (v) and seeing that points No. 3 were correctly set for the chord line.

We also think he did not send out the key as stated by him, but was under the impression that it was out at the points and that instructions had been given by the jamadar. He took no steps to make sure that the train was correctly leaving his station. The guard, Mahomed Din, has neglected Subsidiary Rule 11 (n) in that he took no steps to ascertain if his driver understood the "line clear" for Mean Mir West.

We are of opinion proper precautions were not taken to protect the front of the train when brought to a standstill outside Lahore distant signal, but we cannot attach the blame. The driver of the troop train is to blame for not making certain, when he got a branch line "line clear" at Mean Mir East, what it meant. The fact of his being a new man on his first trip as well as an illiterate native should be considered as extenuating circumstances in his favour. Such a man should not have been in charge of a troop train and was not meant to be. The cause of his being in charge is noted at the conclusion of the evidence.* Sukhi Ram, shunting jamadar, is to blame for informing the station master that the points were set correctly and he should have handed the points key, if he had it as he says, to the points jamadar direct and not through another person (Thakur Singh). His statements at the enquiry were unsatisfactory.

Except the distinct charge of carelessness brought home as regards the assistant station master, Hira Lal, and the negligence of the guard in not observing the procedure laid down in Subsidiary Rule 11 (n) (Rules and Regulations) the remainder of the evidence is conflicting.

The witnesses, Sukhi Ram, shunting jamadar, Thakur Singh, pointsman, Chet Singh, guard of 80 down, Mahomad Husain, signaller, Deo Gopal Singh, chowkidar, and Hursok Rai, luggage clerk, have all more or less prevaricated.

The driver of No. 4 down acted with commendable promptitude, and no blame of any sort attaches either to him or the guard of his train. The collision could not have been averted by him owing to the short distance away at which he saw the lights and the curvature in the line.

J. SUTHERLAND,
Executive Engineer.

J. H. BOALTH,
District Traffic Superintendent.

A. E. PEARCE,
District Locomotive Superintendent.

Remarks by the Government Inspector of Railways.

I agree with the above "Finding" as regards the direct responsibility of the various individuals of the staff concerned.

I would, however, further point out that though the "out-report" for the up troop special was despatched to Mean Mir West no one, either at Mean Mir West or Mean Mir East, appears to have been in the least concerned as regards the non-arrival of the train at Mean Mir West; and though the run could not have occupied 5 minutes, over half an hour was allowed to elapse and then only was enquiry made by Mean Mir East on learning from Lahore that the train had left on the wrong line and collided there. If possible the slackness of the station master at Mean Mir West was the more reprehensible as though he had received the "out report" he apparently took no steps to satisfy himself whether the train had arrived in the troop sidings. Had reasonable intelligence been used by the staff at either of these stations in enquiring as to the whereabouts of this troop train, there is, I think, little doubt but that this collision might have been avoided.

The most serious point, however, brought to light at this enquiry is the employment of an illiterate native driver, more especially in working a troop train, who was, comparatively speaking, a stranger to the line. In this connection I would invite attention to paragraph 2 of Government of India, Public Works Department, letter No. 27 R. T., dated the 10th January 1905. Under subsidiary Rule 11 (n) of the General Rules, it was clearly the duty of the station master, Mean Mir East, and of the guard of the up troop special to have satisfied themselves that the driver clearly understood his line clear. I am of opinion, however, that some even clearer and more stringent rule is required to meet such cases, which might run somewhat as follows:—

"It is the duty of every guard to satisfy himself that the driver in charge of his train is literate or otherwise. If illiterate it will be his duty to explain all line clears to his driver and satisfy himself that he clearly understands them."

If it is considered impracticable to introduce some such rule as the above, then I am of opinion that no illiterate drivers should be allowed on trains running on open line where written line clears are in use. Under the circumstances the native driver in question was hardly to blame, but he should have insisted on having the line clear explained to him by some responsible person. It was explained at the enquiry that a special driver and engine had been

sent down to bring up this troop special, but that owing to the block of traffic he could not get down to Phillour in time and that, consequently, this native driver and his engine were taken off a goods train work to get the troop special through.

It is difficult, on the evidence forthcoming, to determine the responsibility, if any, of the menial staff, as to the orders actually given by the assistant station master on duty, if indeed he gave any. But I am of opinion that both shunting jamadar Sukhi Ram and pointsman Thakur Singh have prevaricated in the evidence they gave, the latter's own evidence shews this to have been so in his own case. In any case the primary responsibility for not seeing that points No. 3 were correctly set must rest with the assistant station master on duty, and I would here call attention to the want of system in working and irregular method of conveying orders which appears to be customary at this station. A points jamadar is supplied and is presumably responsible for conveying instructions to the pointsman, but it appears to be usual to employ the shunting jamadars on this work. Further, minor points brought out at this enquiry were that the four vehicles in rear of this troop train were not fitted with the vacuum brake, so that the guard, on becoming aware that they were running on the wrong line, was unable to stop the train; and, secondly, that the lamps in the carriages, though fitted for gas, could not be lighted as the gas cylinders were empty. It is possible that had the train been fully lighted up it would have attracted the attention of some of the station staff when, instead of taking the curve to Mean Mir West, it proceeded on the main line to Lahore. I do not consider the non-existence of a disc indicator at points No. 3 a very serious matter; the yard is in process of being remodelled and these points being permanently locked and some distance out it is very improbable that the station master would have looked to see how they were set, as he did not even trouble to satisfy himself which line the out-going train was taking.

W. D. WAGHORN, MAJOR, R.E.,
Government Inspector.

Remarks by Senior Government Inspector of Railways.

I agree with the "Finding" of the committee of enquiry that the accident was due to the culpable neglect of duty on the part of the assistant station master, Hira Lal. The guard, Mohamed Din, is also to blame for gross carelessness and disregard of rules.

The collision could have been averted if the train had been properly protected when it came to a stand at Lahore distant signal where it was waiting some twenty minutes before the accident occurred. The apathy and absence of discipline brought to light by this enquiry require the immediate attention of the railway authorities, who are responsible that the rules for working the railway are efficiently carried out, and that only competent men are employed for important duties.

J. E. GABBETT,
Senior Government Inspector.

LUCKNOW :
The 23rd December 1905.

Appendix XIII to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Report of the proceedings of a joint enquiry held at Harauni station, Oudh and Rohilkhand state railway, on 12th May 1905, to investigate the circumstances attending the collision between Nos. 157 up and 160 down metre gauge goods trains at that station on the 11th May 1905.

The committee was composed of the following officers:—

MAJOR E. W. WALTON, R.E.,	<i>Executive Engineer, O. & R. railway</i>	...	<i>President.</i>
D. H. KEELAN,	<i>Offg. Dist. Traffic Superintendent, O. & R. ry.</i>	}	<i>Members.</i>
W. LEACH,	<i>Assistant Loco. Superintendent</i>		
T. M. STORRAR,	<i>District Loco. Superintendent, B. & N.-W. ry.</i>		
R. WOOD,	<i>District Traffic Superintendent</i>		
CAPTAIN H. A. L. HEPPER, R.E.,	<i>Government Inspector of Railways</i>	...	<i>Present.</i>

DESCRIPTION.

At 1-10 hours on the 11th May 1905, No. 157 up metre gauge goods arrived at Harauni and was admitted on to the station line. About 15 minutes later No. 160 down arrived from the opposite direction (Ajgain) and, being admitted on the same line, a collision occurred.

There was no injury to persons or damage done to permanent-way.

EVIDENCE.

Bhagwan Din, assistant station master.—I gave line clear for 160 down at 23-58 and for 157 up at 0-20, and at the time of giving line clears told pointsmen Kali Din and Badri that I had done so. Subsequently I told them that 160 down had left; I then called for the "out-report" of 157 up from Amausi but received no reply. Shortly after I heard 157 up whistling at the distant signal, and I at once came out of my office and told Badri to admit it on station line. When it had drawn up I sent Kali Din to the down facing points to show red against 160 down. I gave the "in-report" of 157 up at 1-10 and received the "out-report" of 103 up broad gauge goods at 1-12 and proceeded to ask line clear for this train from Ajgain, receiving it at 1-20. I then took the key of the down facing points to set the loop for the admittance of 160 down, but had scarcely started when I heard the train steaming loudly and saw the pointsman waving a red light to stop it. I also at once gave a red signal from the broad gauge platform. When the collision occurred I was still on the platform.

Cross-examined.—Both station and loop lines were clear before the arrival of the two trains. There had been a wagon standing on the loop, but at the time of my hearing 157 up whistle I ordered Badri to put it into the dead-end. I took it for granted that this was done. I did not examine the up facing points before receiving 157 up, as I neither had time to do so nor considered it necessary, their normal condition being "set and locked" for the straight line. Asa Din, waterman, lowered the signals for 157 up under my orders. I told him on no account to lower the signals for 160 down without my orders; by this I mean the distant signal: the home signal was locked at the time and the key in my office. The orders are that wagons cut off are to be stabled in the dead-end. I was not on duty when the wagon referred to above was cut off,

and it was dark when I came on duty and I had no idea of its being on the loop until the pointsman told me. I have not received correction slip No. 7 to General Rules, Chapter XIII, 191 (a) (1), dated 27th March 1905. My first orders to Badri were to admit 157 up on the loop, but on his explaining that the wagon was standing there, I altered them and told him to receive it on station line. I know General Rule 113 (e), but do not consider it was applicable in this case as I never received the "out report" of 157 up.

Badri, pointsman.—When line clear for both trains had been given the station master at his office told me and Kali Din to go to the facing points—I to the up end and Kali Din to the down end of the yard—and said "I will tell you on which lines to receive the two trains as soon as I know which one will arrive first." As I reached the points I saw 157 up approaching. I waved a green light towards the station, the signals were lowered and the train came in.

Cross-examined.—A wagon was cut off here at about 18 hours on the loop and was at once put into the dead-end. There was no wagon on either station or loop line when 157 up was approaching. I never told the assistant station master that there was. It is only when trains are crossing that the station masters personally see to the setting and locking of points. At other times the trains are always received on the station line, the points of which are kept permanently locked.

Kali Din, pointsman.—When 160 down left Ajgain the assistant station master told me of the fact and ordered me to go to the down facing points and show a red light. 157 up was at the time standing at the up distant signal. He also said I will follow you with

the keys of the points. I remained for 10 minutes showing a red light, but the assistant station master did not come. 160 down came in against my signal and the station signals and collided with 157 up. I saw the red light of the home signal at the time of the collision.

Cross-examined.—The distant signal tell-tale was showing red. I don't know if there were any wagons standing on the lines, but we cut off a wagon and put it into the dead-end at about 18 hours. I had no idea when I was sent to the points on which line 160 down was to be received. Station masters do the setting and locking of points personally. It is only when shunting is required to be done that the keys are given to the pointsmen. There is no fixed rule as to which line either train is to be received on when two goods trains are crossing.

Asa Din, waterman.—When both trains had left and the pointsman had gone to the points, the assistant station master gave me the key of the up home signal and I lowered first the distant and then the home signal for 157 up. When the train had arrived I replaced the signals at danger and returned the key to the assistant station master. The assistant station master did not give the key of the down home signal to any one, nor were the down signals lowered. The assistant station master was on the platform when 157 up was received, but was in the office when the collision occurred.

Latta, gateman.—There are two gatemen at level-crossing 13 close to down facing points. We are on duty for 6 hours at a time. I was on duty from midnight on the night in question. I saw the pointsman Kali Din come to the points and show a red light in the direction of 160 down for a quarter of an hour. 160 down then came and the pointsman tried to stop it by waving his lamp and shouting. I did likewise, but the driver did not whistle and came on. The home signal was showing red at the time and the tell tale of the distant showed white (i.e., danger in the direction of the train).

Bakur Beg, driver.—I was driver of 157 up and pulled up my train at up distant signal, that signal being against me. After 8 or 9 minutes the signals were lowered and I arrived at the station at 1-10 on the station line, my engine being about opposite the end of the broad gauge platform. About 12 minutes afterwards I heard the whistle of 160 down and saw it approaching. As it reached the points I saw it was entering the station line. I shouted to my men to look out, and cleared away myself from the right of the engine where I was standing on the ground. At the time of the whistling I saw a green light waved from the points towards the station and some one shouted "lower the signals." I did not see if the signals were lowered; I was otherwise engaged, nor did I look at the signals after the collision, but I heard the driver of 160 down running along on the left hand side of my engine shouting "see the signals

are down." I did not look at the signals because I was anxious about my fireman and khalassi who were under the engine.

Kali Charan, fireman.—Corroborates statement of driver Bakur Beg, except that, when the collision happened, the driver and I were on the engine, and before the collision I saw the home signal was showing green to 160 down. I did not hear the driver of 160 down calling attention to the signal.

Sujat Ali, driver.—I was bringing 160 down and whistled for signals which were lowered as I approached. I saw a green light at the points, but as my engine came on to the crossing I noticed my train was going on to the station line on which I saw a train was already standing. I tried to stop my train, but the distance was so short that I could do little to check it. After the collision I ran towards the home signal, and meeting Guard Kadam Rasool, pointed out that the signal was green and he replied that it was. I then returned to my engine. There was no one else about to whom I could draw attention to the signal.

Kudrat, fireman.—Corroborates statement of driver Sujat Ali, except that the driver was away for 10 minutes after the collision and before he returned the signal had been raised to red.

Kadam Rasool, guard.—Corroborates statement of driver Bakur Beg as regards the arrival of 157 of which he was guard, and states further—"After the collision occurred I walked from my brakevan towards the waiting shed. There I met Sujat Ali, driver, who told me to look at the signal for 160 down, which I did and saw it was down. Shortly after I saw a man putting the signal to danger but said nothing to Sujat Ali although he was near me.

"The load of my train was:—

39 loaded.
6 empties.
1 brakevan.

46 "

Beni Pershad, guard.—I was guard of 160 down. The driver whistled. I looked and saw the signals were down. Then the collision occurred. I got down, and, while walking towards the engine, saw the signal being changed from green to red.

The load of 160 down was:—

33 loaded.
5 empties.
1 brakevan.

39

The speed was 10 miles at the distant signal and we slowed down as we came in.

FINDING.

We are of opinion that the accident was due to the negligence of Babu Bhagwan Din, the assistant station master on duty, in that he failed to carry out Subsidiary Rule (e) of General Rule 113. He excuses himself on the grounds that he received no "out-report" for 157 up from Amausi, but, as that train arrived first and was stopped at the distant signal after he had received the "out-report" for 160 down, this plea cannot be accepted. Whether or not the signals were off for 160 down we are unable to say, as the evidence on this point is very conflicting. In any case had the assistant station master carried out the rule, even if the driver had disobeyed signals, the accident would not have occurred.

We recommend that the assistant station master be prosecuted.

E. W. WALTON, MAJOR, R.E.,
Executive Engineer,
O. & R. Ry.

D. H. KEELAN,
Offg. Dist. Traffic Supdt.,
O. & R. Ry.

W. LEACH,
Asst. Loco. Supdt.,
O. & R. Ry.

R. WOOD,
Dist. Traffic Supdt.,
B. & N.-W. Ry.

J. M. STORRAR,
Dist. Loco. Supdt.,
B. & N.-W. Ry.

RIDER.

The committee desire to bring to notice that the copies of the General Rules and Regulations in the possession of the station master and assistant station masters at Harauni, also the station copy of the same rules, are not kept up to date.

The station copy was received on the 24th May 1904, since when no correction has been made to it.

E. W. WALTON,
MAJOR, R.E.,
Executive Engineer.

W. LEACH,
Asst. Loco. Supdt.

D. H. KEELAN,
Offg. Dist. Traffic Supdt.

In submitting the above proceedings, the Manager, O. & R. railway, reports that "the assistant station master, Bhagwan Din, is being prosecuted."

Remarks by the Government Inspector of Railways.

I agree with the "finding." The point referred to in the Rider is important and should receive attention.

H. A. L. HEPPER,
CAPTAIN, R.E.,
Government Inspector.

Remarks by the Senior Government Inspector of Railways.

I agree with the finding and the remarks of the Government Inspector.

LUCKNOW:
Dated 12th July 1905. }

C. S. ROSE,
MAJOR, R. E.,
Senior Government Inspector.

**Appendix XIV to the abstract return of accidents on Indian railways for
the twelve months ended the 31st December 1905.**

Report of the proceedings of a joint enquiry held at Lucknow on the 2nd June 1905, to investigate the circumstances attending the collision between No. 7 up mixed and 84 down goods trains at Amethi station, Oudh and Rohilkhand railway, on 1st June 1905.

The committee was composed of the following officers:—

H. M. CARDEW, <i>Locomotive Superintendent</i>	...	...	...	<i>President.</i>
A. W. U. POPE, <i>Traffic Superintendent</i>	...	...	...	} <i>Members.</i>
B. BAXTER, <i>Offg. Engineer-in-Chief</i>	...	...	...
H. DE LA ROSS, <i>Superintendent, Government Ry. Police</i>	...	...	...	} <i>Present.</i>
CAPTAIN H. A. L. HEPPER, <i>R.E., Government Inspector of Railways</i>	...	...	...

DESCRIPTION.

On the morning of 1st June 1905, at about 0-40 o'clock, No. 7 up mixed train came into collision with No. 84 down goods at Amethi station, under the following circumstances:—

(i) The ashpit at the down-end of the station is being rebuilt, so that it was necessary to stop trains from running over it. For this purpose a new set of facing points leading from main line to loop were put in just clear of the up end of ash pit. These points for all intents and purposes were the first pair of facing points of the station, the List and Morse points having been spiked over to the main line and therefore not used.

(ii) There was no signal erected at these new facing points, but the List and Morse signals were used for signalling trains into the station, the arm for the main line being worked in the usual way with the points key put into the lock between the switches. The arm for the loop line could not be worked in the usual way, the points having been spiked over for main line, the loop lock was inoperative. Certain alterations were therefore made in the connections between the points and signals which allowed the loop signal to be lowered from the station in the usual way. There was no necessity for the loop key to be sent to the points, except that if it was sent, the down loop key could not be got out of the interlocked box in the station master's office, thus preventing the admission of a down train and an up train on to the loop line at the same time.

(iii) This arrangement of levers between points and loop signal did not interlock the loop signal at all, and it could be lowered at any time from the station, even when the main signal was lowered. Another office it performed was to signal a train into the loop line when the points were actually set for the main.

There was a safety fouling point mark, (a whitewashed sleeper buried in ballast at the crossing leading from the loop to the main line for all trains working in the down direction), but no signal or light to show a driver at night how far he could come without fouling the crossing.

(iv) Two trains, 7 up and 84 down, were arranged to cross at this station on the morning in question. No. 84 down goods arrived at the signals first and came to a stand as the distant signal was not lowered. On the signals being lowered the train was admitted into the main line and came to a stand with the engine on the crossing of the new facing points at the down end. The assistant station master seeing the train had come to a stand, ordered the home signal to be lowered for the admission of 7 up mixed. There was a pointsman at the up List and Morse signals ready to lower the distant signal when he saw the home lowered, but whether he lowered it or not is doubtful; anyhow 7 up came on with the home signal, at least, lowered for it, and, just as the engine had taken the new facing points which were correctly set for the loop or station line, it collided with the engine of 84 down goods, the left buffer of engine of 7 up striking the centre of buffer beam close to drawbar hook of engine of 84 down.

(v) The engine of 7 up was derailed and badly damaged in front; the goods engine had her buffer beam knocked to pieces, but was not derailed or otherwise seriously damaged. Two third class carriages on 7 up were telescoped the length of one compartment each, while the remaining vehicles were all more or less shaken by the collision. Several wagons on 84 down showed signs of damage at their ends.

(vi) No special rules had been issued for the working of this station during the time the temporary facing points were in use, and no extra pointsmen had been put on, the one pointsman that went to lower the up distant signal after the home was lowered being utilised, after lowering the distant signal, to walk back and show a green light at the new facing points. The reason he was not at the new facing points on this occasion was, (according to his statement), that, immediately he saw the home signal lowered for 7 up to come in, he saw (due to a curve on the line outside the distant signal), that 7 up had already passed within the distant signal, so he thought it was useless to lower it, and he ran towards the new facing

points, 450 feet away, in order to show a green light there as usual. He did not get to these points, however, before the train overtook and passed him.

(vii) The new facing points had been correctly set for 7 Up, and it is presumed that the station master, seeing 84 Down come to a stand never thought about its having fouled the points, and gave orders to lower signals for 7 Up.

(viii) The driver of 84 Down states that, on getting off his engine after it had come to a stand, he found engine foul of crossing, and he made attempts to push his train back, but, being a compound engine and difficult to start back, failed in his attempts, and, before he could do anything, 7 Up ran into him.

(ix) An endorsement was on the line clear of 7 Up stating that speed over facing points at Amethi was not to exceed 5 miles an hour.

(x) The new facing points had been in use about a month before the accident, and their presence there was notified in Engineering Notification No. 54, paragraph 5, of Weekly Gazette No. 22 of 27th May 1905.

EVIDENCE.

A. E. T. Olliver, guard of 7 Up mixed train.— I was guard of 7 Up mixed train which left Moghal Sarai on 31st May 1905. On approaching Amethi I found that both home and distant signals were at danger. The driver whistled and slackened off speed, but did not come to a stand. The signals were lowered. When my brake-van was passing over first facing points I felt a shock and the train came to a sudden stand. It was then about 0.43 or 0.44. I picked up my lamp, which was blown out, to see what had happened. I found that a collision had taken place between my train and 84 down goods, whose engine was standing on the crossing of up facing points. I had no conversation with the assistant station master, whom I saw in the office about 10 minutes after the accident. I saw that no passengers were severely injured but 8 or 10 had received slight bruises. I cannot say whether the distant signal was lowered before my engine passed it or after.

Darbaree Kuar, station master, Amethi.— I saw that 84 Down goods had been admitted on the main line, and, when 7 Up mixed whistled, the assistant station master ordered the sweeper to lower the signals for her to enter the station line. I heard the noise of the collision and went to see what had happened. The assistant station master followed me. The assistant station master said: "This is my misfortune, what will happen to me?" At about 1-10 the assistant station master disappeared, and I have not seen him since although I have had a search made for him.

The new facing points have been in use for about a month. I have received no orders as to the working of these points.

The way these points are manned is: the pointsman goes to the List and Morse signals and, after lowering the distant signal, comes back to the new facing points and holds a green light at them if everything is right. On going to the List and Morse points he passes and inspects the new facing points.

I did not question the driver of the Down goods train how he came there. There was no pointsman at the new set of points. I cannot say what signal was given on the night of the accident at the new points. No other trains have fouled that crossing since the new points have been put in during my hours of duty.

C. H. Cook, guard.— I was guard of 84 Down leaving Lucknow on 31st May 1905. I was

detailed outside of signals for two minutes before the signals were lowered for my train to enter the main line. Train arrived at Amethi at 0.40, and, after my train had stood 5 minutes, the collision occurred. I had not made the 'in-report' entry at this time, but did so after the accident. I did not feel my train move after I came to a stand and until the accident occurred.

Q.—How many wagons had you on?

A.—Twenty-five.

Q.—Is it your duty to see that, with a native driver, your train should be clear of all crossings on which trains travel?

A.—No, it was not my duty.

Q.—Did you know there was a set of new points put in at Amethi?

A.—Yes, I did, but I did not see the points.

Ram Gopal, pointsman.—After 84 Down goods left Gauriganj the assistant station master sent the other pointsman to admit it on the main line, and I was told to go to the up facing points to admit 7 Up on the station line. I was at the interlocked points and saw that 84 down had come to a stand. The home signal was lowered, and, as I could not see that the crossing was fouled, I allowed the mixed train to come in and a collision occurred at the crossing.

Recalled.—States that while 84 Down was coming into the station 7 Up was whistling round the curve; as soon as 84 Down engine came to a stand the main signal was lowered; by that time the engine of 7 Up had passed the distant signal by two or three vehicles. Witness did not lower the distant signal but ran to the new facing points to exhibit a green light, as per orders, if everything was right, otherwise red. He had not got up to the crossing when the collision occurred.

Makdoom, station sweeper.— No. 84 Down goods this morning arrived first and was received on the main line. After this train came to a stand, No. 7 Up whistled, and the assistant station master told me to lower the station line signal and I did so. When I saw that the train had come inside the signal I again raised the signals under orders of the assistant station master. When the collision happened we heard the noise. The assistant station master then went to the spot and I did not see him after that.

Q.—Did the assistant station master go outside to see that the train had come to a stand, or did he give orders to lower the signal from inside his office?

A.—He came to the office door, saw the train from there, and gave the order to me to lower the signal.

Q.—Did you see the back light of the distant signal, whether it was lowered?

A.—The passenger train had come inside the distant signal when I lowered the home signal.

Q.—How did you know that?

A.—Because you can see it at night as well.

M. Framjee, Driver.—I was driver of 7 up which left Moghal Sarai on 31st May 1905. I came in sight of Amethi at 0-40. The signals were against me, but, before my train came to a stand and on my whistling, the signals were lowered for my train to enter. While I was entering the station the collision took place exactly on the crossing, my left hand buffer striking the centre of goods engine buffer beam. My line clear was endorsed from Antu with speed over new facing points not to exceed five miles an hour, and I was travelling at that speed when the collision took place. I did not try to check the speed as I did not know the goods train was in my way as I was also on the main line.

Q.—Do you know if the goods train was standing or moving at the time of collision?

A.—I cannot tell, it was very dark.

Q.—What injuries did you or your men receive?

A.—I was hurt on my left knee cap, which is inflamed but not cut. My fireman was scalded on his left forearm and had a slight bruise on the left side and on the left knee. The khalasi was not injured.

Q.—Did you see any lights after passing List and Morse signals?

A.—I did. I saw three engine head lights, two red and one white; I knew there was an engine in front of me.

Q.—Are you sure both signals were lowered for you?

A.—I am positive both main and distant were lowered.

Q.—How far were you from the distant signal when whistling for the signals?

A.—I was about a hundred yards from the distant signal when I whistled, and nearly up to the distant signal when the signal was lowered. I saw the distant signal lowered first. I know the working of interlocked signals and I know that the home signal must be lowered first before the distant.

Recalled.—

Q.—Did you see any pointsman exhibiting a signal and where?

A.—I saw a green light exhibited at the List and Morse points. I did not see any signal at the new points. Most likely I mistook the List and Morse points for the new points and that is why I passed it.

Q.—Had you no idea when you saw the three engine head lights that the line was fouled?

A.—I had not.

Q.—Did you ever run over the new points at Amethi at night?

A.—No, I have never been over these new points at night, but frequently during the day.

Wajid, Driver.—I was driver of 84 Down goods which left Lucknow on 31st May 1905. On approaching Amethi the signals were at danger and I whistled and brought my train to a stand; after 5 minutes signals were lowered and I entered the main line and came to a stand at about 0-40. I got off my engine and found I was fouling the up facing points crossing. I got on the engine and tried to back, but I could not move and 7 Up dashed into me. I had not run this side for a month and it was a very dark night and I could not see where the points were as these points have been shifted. I did not know that any train had left in the opposite direction and no one told me. Neither I nor my men were injured; my engine buffer beam was smashed but the engine can work a train.

My engine was not moved after I came to a stand, although I tried to back I was taken unawares and had no time to whistle.

Q.—What was your load?

A.—Twenty-five wagons.

Q.—Do you remember passing the down facing points?

A.—Yes.

Q.—Why did you take your train, when it was a small load, so far ahead?

A.—Because I wanted to be near the water column.

Q.—Why was it, after you stopped and found you were fouling the crossing and could not move the train, you did not send the fireman or jump down yourself?

A.—Because it was not a minute after I stopped that the collision took place. I did all I could. My engine was a compound one and I tried to back but could not succeed. I did not know that 7 Up was coming.

Q.—Did you hear 7 Up whistle?

A.—No.

Q.—Did you know that the new points existed when you left the last station?

A.—I did not know; but I signed for a pair of points but did not know where they were.

Q.—When did you go on this section prior to the accident?

A.—About a month.

Q.—Did you then see the points?

A.—I then saw the points.

Q.—Did you go over these new points then?

A.—I did.

Q.—Was it day or night?

A.—Day train.

Q.—Was there a pointsman at the new points when you were coming to them on night of 31st May?

A.—No.

Q.—When did you see your guard after your train halted?

A.—About twenty minutes after.

Q.—When the collision occurred where were you?

A.—On my engine.

Rafab Ali, fireman.—I was fireman of No. 7 Up mixed of 31st May. When on the curve coming into Amethi station my driver whistled for signals. At that time the signals were at danger. My driver slowed down. By that time the signals were lowered. We then came on and collided with the engine of 84 down which was fouling the crossing. I did not know till the collision that the line was fouled. I know there was work being done, and as the orders were to travel five miles an hour we were travelling at that speed. I saw a pointsman at the interlocking points. There was no pointsman on the new points.

Khuda Baksh, fireman.—I was fireman of No. 84 Down goods of 31st May. After we left Gauriganj signals were against us. We stopped the train and whistled; after that the signals were lowered. We were admitted on the main line. I thought I had stopped clear of the crossing. I got down to see if all was right; I then saw we were fouling the crossing. I then got up to the brake and the driver tried to back, but before we could move the collision occurred. I heard the whistle of 7 up when I got down. I then got up and the driver tried to back, but he could not manage. We did not open the engine whistle or make any other effort to stop 7 up. It was more than half an hour after the accident that we saw the guard. The passenger train was coming at great speed. I was on the foot board when the collision occurred. I did not know there were any points other than the List and Morse. I do not know why the driver went so far.

FINDING.

We are of opinion that assistant station master, Gunga Singh, of Amethi, is primarily responsible for not having seen that all the points and crossings over which No. 7 Up would have to run were clear of all obstructions before he lowered the signal to admit that train into the station, and we recommend that he be prosecuted for the breach of paragraph 113G of the Rules and Regulations.

We are further of opinion that driver Wajid of No. 84 Down goods is next to blame for overshooting the crossing and fouling the loop, and, after having done this, for not taking sufficient precautions to notify his position by his whistle and thus save an accident, and we recommend that he be dealt with departmentally.

We are of opinion that the next in order to blame is driver Framji of No. 7 Up passenger for running over facing points which were not manned, as per Rule No. 113A of the General Rules; we also think that the speed at which he was running over these points was not in accordance with the remark on his line clear, and we recommend that he be dealt with departmentally.

We are also of opinion that guard Cook, although he did not break any rules, did not take sufficient interest in the safety of his train, especially as he acknowledges by the notice in the *Weekly Gazette* that there were a set of points put in between the interlocked signals, and we recommend that he be dealt with departmentally.

H. M. CARDEW,
Loco. Superintendent.

H. DELA ROSS,
Supdt., Govt. Railway Police.

B. BAXTER,
Offg. Engineer-in-Chief.
A. W. U. POPE,
Traffic Superintendent.

RIDER.

The Committee recommend that, in future, whenever the List and Morse signal and points have, for such reasons, to be put in abeyance, they should be thrown out of working, in the usual manner, with a cross by day and the absence of lights by night, and their place taken by temporary signals at the site of the new points put in.

In forwarding the proceedings the Manager, Oudh and Rohilkhand railway, remarks that the assistant station master is being prosecuted and that the other staff concerned in the collision will be dealt with departmentally.

Remarks by the Government Inspector of Railways.

I agree generally with the finding, except that I am of opinion that no blame attaches to the action of driver Framji under Subsidiary Rule No. 113A.

I consider that the culpability of the staff concerned is minimised by the absence of sufficiently explicit instructions and of special rules for working the station under the temporary arrangement; I also consider that the fact that the clumsy way in which the signal was disconnected from the points left the station master without any control over the loop arm, must be taken as an extenuating circumstance in his case.

Finally, I do not consider that the repairs to the ashpit were of a sufficiently heavy nature to warrant the temporary alteration of the yard. I saw nothing that could not have been done with a few hours daily block.

H. A. L. HEPPER,
CAPTAIN, R.E.,
Government Inspector.

Remarks by the Senior Government Inspector of Railways.

I agree with the 'finding' of the committee and with the 'rider' to that finding.

From the extent of damage done to the rolling stock it is evident driver Framji was entering the yard at a greater speed than 5 miles an hour, for which speed he admits his line clear was endorsed, and he must, therefore, be held responsible for disregarding this endorsement.

This accident and the one which occurred the following night a few stations off (at Par tabgarh) point to the necessity of more definite rules and instructions for working being issued at stations where interlocked signals are, for the time being, out of order and not in use.

LUCKNOW:
The 19th June 1905.

C. S. ROSE,
MAJOR, R.E.,
Senior Government Inspector.

Appendix XV to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Report of the proceedings of a joint enquiry held at Partabgarh station, Oudh and Rohilkhand railway, on the 6th June 1905, to investigate the circumstances attending the collision between No. 6 Down passenger train and a pilot engine at that station on the 2nd June 1905.

The committee was composed of the following officers :—

H. G. N. WHITE, <i>Offg. District Locomotive Superintendent</i>	...	<i>President.</i>
JAI NARAIN, <i>Offg. District Traffic Superintendent</i>	...	} <i>Members.</i>
E. T. SHEPHERD, <i>Sub-Divisional Officer</i>	...	
MAJOR C. S. ROSE, R.E., <i>Senior Government Inspector</i>	...	<i>Present.</i>

DESCRIPTION.

On the morning of the 2nd June 1905, as No. 6 Down passenger train from Lucknow was entering the station at Partabgarh on the main line, it collided with an engine which was standing on that line with the carriage of the District Locomotive Superintendent attached. The carriage in question was badly damaged and one railway servant and 5 passengers were injured. Partabgarh is ordinarily a "List and Morse" interlocked station, but the installation had been disconnected while the new interlocking scheme was in course of erection. The station was therefore being worked as an ordinary station, the points being locked by a jemadar on the badge system.

EVIDENCE.

Babu Rallo Ram, station master, Partabgarh.—The procedure at this station is that when a train is expected, the line jemadar is given a badge. He locks the facing points and makes over the keys to the station master on duty, who then orders the lowering of the home signal.

The line jemadar, or the pointsman at the facing points, lowers the distant signal. When I arrived at the station the distant and home signals were at danger. I made enquiries and was told that the driver ran against signals. I was told this by trains clerk Kishoon Lall and guard Raghbar Dayal. The enclosure of the home signal levers was locked. When I arrived at the station and went to the site of the accident, I observed the locomotive clerk and several others of the locomotive staff talking to passengers in the train and questioning them as regards the position of the signals. The clerk was inducing the passengers to say that the signals were lowered, whereas they were not. I did not find the assistant station master on the platform. I found him at the site of the accident. When I saw the points indicator at the facing points it was not burning. I did not notice any body at the points as I was in a hurry at the time.

Babu R. P. Bhattacharjee, assistant station master, Partabgarh.—On the 2nd June 1905 No. 6 down was about 2 hours late. I had sufficient marshalling and shunting work in the yard to do and I allowed my gunner to make up goods trains. While shunting was going on in the yard the points in the yard were open. At 1-45 I received line clear enquiry from Chilibila for 6 down and gave line clear at 1-50. After giving line clear,

I ordered the porter to ring the bell to warn the station staff and ordered line jemadar, Lulloo, to lock the facing points for the station line for reception of 6 down and gave the line jemadar badge No. 1 for station line. I was then looking after the station staff to see that all of them were on the alert and was expecting the facing points key from the line jemadar. Meantime native guard Raghber Dayal, who was booked to work 192 down goods to Allahabad, came to the station and asked me whether his train was ready. I told him to wait, and went to the yard to see whether the train was being made up and whether the crossings towards Benares end of the yard were clear for the passage of 6 down, as shunting was going on in that direction. When I was returning to the station from the trailing points and when I was close to my office, in the yard opposite I heard a terrible sound just like a collision. I asked guard Raghber Dayal and trains clerk, Kishoon Lall, who were on the platform at the time, what the noise was. They told me that No. 6 down had collided with the shunting engine. I said "I have not received the keys from the line jemadar and the signals are all at danger. How is it possible for 6 down to enter?" I then sent for the station master who arrived at the station at once. I went with the station master to the site of the accident and found that the locomotive staff were inducing the passengers to say that the signals were lowered and instructed them to state that the train stopped at the distant signal and after stopping there for two or three minutes, proceeded to the station. Goods clerk, Hanuman Pershad, who was present there would be able to give further particulars. After the accident, when the train was backed and brought to the station

line, I saw the locomotive clerk Baboo Amolo Nath Bose, inducing one intermediate class passenger to state that the train stopped outside the distant signal and was then started on getting a green light from the home signal. I brought this at once to the notice of Mr. Leach, Assistant Locomotive Superintendent, who was on the platform at the time.

Questioned.—I do not know whether 'out-report' for 6 Down was received from Chilbila or not, as I was not on the platform at the time. I waited at the station for about 7 minutes after giving line clear to Chilbila, but receiving no 'out-report' till then I left the platform for the yard. 192 Down goods for Allahabad and 75 up goods for Lucknow were being made up and one engine was shunting in the yard.

The practice of locking the facing points at this station is that the station master makes over a badge to the line jemadar who is responsible for locking the facing points; the station master then receives the points keys from the jemadar and makes over the key of the points leading to the signal cabin to the signalman who lowers the home signal. The distant signal is lowered from the facing points by the pointsman. A pointsman always remains on duty at the facing points to man them for the passage of trains. The shunting engine stopped work immediately after my giving line clear to Chilbila for 6 Down, and there was no shunting in the yard for about 30 minutes before the collision occurred.

After waiting for 'out-report' for 6 Down from Chilbila, I went to the fourth line and then to the dead siding, and, after satisfying myself that the sidings were clear for 6 Down I came back to the station, and, as soon as I arrived in front of my office, I heard the collision. Both home and distant signals were at danger. There is a points indicator at the facing points, but at the time the lamp in it was not burning. There was a pointsman at the facing points and he was exhibiting a red signal to the shunting engine on the main line. 6 Down and 7 Up cross at Partabgarh. 6 Down is invariably received on the main platform line and 7 Up on the island platform. I did not order the signals to be lowered because I had not received the key of the facing points from the jemadar.

Babu Kishoon Lal, trains clerk, Partabgarh.—I was working outside the office in the verandah at the time line clear enquiry for 6 Down was received. Native guard Raghber Dayal came to the station to work 192 Down goods. He asked me if the train was ready. I told him I did not know. The assistant station master then went to the yard to see whether the train was ready. About 5 minutes after line clear had been given for 6 Down, the signaller called out that the train had left Chilbila. I then prepared myself to receive 6 Down, and after about 7 minutes heard a collision take place. After about 2 minutes the assistant station master came back and asked me what had happened. Both home signals were at danger, as they showed white lights towards the station. The assistant station master showed me the key of the home signal lever enclosure when he came back from the

yard. He asked me who had lowered the signal. I said no one. The driver must have, therefore, run against signals all the way. I heard the train coming and I thought it would come on the station line where I was waiting to receive it with my books

Douri Shanker, gunner.—At about 1-45 A. M. on the 2nd I took the engine to the main line where District Locomotive Superintendent's carriage stood and stopped about three wagon-lengths from the carriage. Shortly afterwards, when I was having the carriage attached to the engine, 6 Down came and collided with the engine. I only heard the line clear bell rung, and not the other which is rung on a train leaving the last station. I saw 6 Down coming in when it had passed over the facing points. I knew that the train was coming on the main line, but I did not know whether the train was going on the 3rd line which was also clear.

Line jemadar Lalloo was seen by me going towards the points. I met him near the water column opposite the goods shed after the accident. I did not hear him shout out to the driver of 6 Down to stop.

The home signals were at danger, as a white light was visible from the yard when the collision occurred. The points indicator went out about half an hour before the accident. I did not see the assistant station master in the yard before the accident.

Shankar Lal, signalman.—Shunting was going on in the yard and I was seated outside the enclosure of the home signal levers. When line clear was asked by Chilbila for 6 Down, the assistant station master sent for the line jemadar who was at the station and ordered him to lock the points for the station line. The jemadar left the station and the assistant station master went to the yard. It was then called out from the telegraph office that the train had left Chilbila. I then ran to the assistant station master to inform him that the train had left Chilbila. I could not find him and came back from the south end of the yard to my post of duty. As soon as I returned I heard a collision and saw the District Locomotive Superintendent's carriage move and dash against the goods wagons standing on the main line. I then ran to the site of the accident and heard the shunter calling out that he had been hurt. I saw the home signals; they were showing white light towards the station.

The enclosure to the home signal levers was locked and the key in possession of the assistant station master. I could not reach the levers without the assistant station master opening the enclosure, and the signals were not therefore lowered. I looked for the assistant station master in the yard, but could not find him there. I did not see him at the station until after the accident.

B. McFarlan, guard.—I was guard of No. 6 Down passenger which left Lucknow on 1st June 1905. After leaving Chilbila the driver shut off at the distant signal and came to a dead stand about a train's length short of the distant signal. On the distant signal being lowered he proceeded; after he started I observed that the home signal was lowered. I saw the distant signal lowered. I was busy

getting my papers ready in the brake-van when the train collided. After the collision I went back to the facing points and found that the home signal had been raised. The points indicator was out. I found a pointsman at the facing points and asked him to reverse the points for the station line, but he refused to do it. When returning from the points I met leading signaller Barrow of Partabgarh. He told me that the signal had been lowered for the station line, but the pointsman put the train on the main line. I then walked up to the front and asked driver Huggins as to what signals he had observed. He said loop line signal had been lowered. He also said that he had collided with the shunting engine. I then went to the station to see the station master, but did not find him as he was in the yard.

Questioned—I saw the pointsman at the facing points with a green light, I did not feel the shock so much. I thought it was only a derailment. I came to a stand at 2-8 and when the train started it was 2-12. The collision happened a minute or a minute and a half after we started. The distant signal was at danger when the train was brought to a stand. As far as I can judge he was outside the distant signal. I did not attend to the passengers of my train after the accident, but went to the facing points first to find out how the accident had happened. I did not take any special precautions to ascertain on which line the train was going after passing the facing points.

Elahi, driver.—At 1-45 on the morning of 2nd June I was called to duty. I was on my engine at 2-12 when the collision took place. I looked at the signals and found that the loop line home signal was green. I was standing on locomotive line No. 2 near the fire lighting furnace when the accident occurred. The tell-tale light of the loop home signal was green towards the station. I could not see the distant signal. I did not see the assistant station master in the yard.

J. L. Huggins, driver.—On approaching Partabgarh with 6 Down passenger on 2nd, I had steam shut off and I saw the distant signal at danger and the signal for the loop line lowered. I applied my vacuum brake and prepared to stop; when I was nearing distant signal, which is on a curve, and just before it was obscured from my view on right side of engine, it was lowered. I left my side of engine and went to the left side and looked at it again, leaving vacuum brake on. From the left side I saw it was completely lowered. I then had the train under complete control and had I seen the signal at danger I could have brought the train to a stand outside the distant signal, but seeing it lowered, I put the handle in running position and allowed train to come to a dead stand, my object being to have the time booked against Traffic as I had lost some time on the road owing to slowing down at that signal. I re-created vacuum, and seeing a man at the points with a green light and the loop line signal arm lowered, I went on. I didn't notice which line I was on until I saw the water column on my right and it should have been on my left side.

I applied the vacuum brake on seeing the water column, and with the application I almost immediately collided with the engine.

Questioned.—I stopped about three carriage lengths inside the distant signal. I remained standing about 3 minutes. There was no light in points indicator. I did not specially look out on which line I was going after passing the facing points. Had I noticed when passing facing points that I was on the wrong line I could have pulled up in 200 feet. I think I have received addenda 5 to General Rule 72; in any case I am aware of this rule.

Laloo, line jemadar.—About 2 A. M. I was seated near the enclosure to the signal lever when I heard the bell ring for 6 Down. The assistant station master then sent for me and gave me the key of the facing points and a badge, and ordered me to lock the points for the station line. I started for the facing points, and when nearing the water column opposite goods shed I heard a collision. I then questioned the gunner as to why he gave such a severe bump, but I was mistaken. It was 6 Down which had collided. As the shunting engine which was on the main line was in steam and was blowing off at the time, I did not hear 6 Down coming in. The back light of the three signals, viz., distant and 2 home, was white towards the station, which shows that they exhibited a red light towards the train. The points indicator was out at the time. There was pointsman Ram Lal at the facing points and he was exhibiting a red light. There were also pointsmen Thakurdin and Raghber at their posts of duty and were exhibiting red light. The procedure at this station is for the line jemadar to receive the keys and the badge from the station master on duty, to lock the points and return the keys to the station master who then orders the signals be lowered.

Questioned.—Whenever the points are shifted the light invariably goes out at facing points. I asked the pointsman why the light was not there and he gave the above reason. This was after the accident. I could not see points indicator lamp at first because shunting was going on on the main line and other lines. The station master on duty gave me the key and the badge about 3 minutes after the ringing of the bell.

Raghber Dayal, guard.—I was booked to work 192 Down goods to Allahabad on the 2nd June 1905. I came to the station a little after 1-30 A. M. and was seated at the table outside the station master's office in the verandah. I asked the assistant station master on duty whether my train was ready. He said he would go and see and told me that in all probability I would have to leave after 6 Down. The assistant station master then went away to the yard. I was seated there talking to the trains clerk Kishoon Lall. After about 7 minutes, the signaller from the telegraph office called out that 6 Down had left Chilibila. After about 6 minutes the train collided in Partabgarh yard with the shunting engine.

The assistant station master came to the station about 2 minutes after the collision and asked how the train had collided as he had the key in his possession. Immediately after the collision I noticed the home signals at danger. The tell-tale light was showing white towards the station. Had it been lowered the light towards the station would have been green, and, in my opinion, without any care, the driver ran against signals. I did not hear any whistle from the engine of 6 down.

Nukat Behari, brakesman.—I was brakesman with 6 down from Lucknow on 1st June 1905. When the train left Chilibila I was in the front brakevan. The train came to a stand about the distant signal. The driver opened his whistle before approaching the distant signal and on the other side of the bridge; I then looked out and found that the distant and the home signals were at danger. I was then seated in my brakevan towards the right hand side. The distant signal is not visible from the place where I was seated. I then went to my left and saw the distant signal at danger. I then saw the home signals from my right also at danger. The train was then stopped. After about 3 minutes, the loop line home signal was lowered. The driver whistled and started. After passing the facing points there was a collision. I at once applied my brake and put on the vacuum. Then I got out of my brakevan and found a buffer lying on the line. The guard came towards my brake-van after about 4 minutes. I did not notice the points indicator. The wind was blowing when the train left Lucknow. It was not very hard when the train arrived at Partabgarh. I was seated in my brakevan towards the right when the collision occurred. I did not hear any noise when the train passed the points until the collision occurred.

Baboo Pran Sukh Misra, travelling despatch clerk.—I was in 6 Down on the 2nd June 1905 when the train arrived at Partabgarh. I left Lucknow in the same train on the 1st June 1905. I was travelling in a 3rd class compartment in the middle of the train. The train on approaching Partabgarh was stopped between the distant signal and the facing points. I then looked out to see what was the matter as I had crossed 7 up at Amethi. I saw that the 2 signals at the facing points were red. I then looked back and found that the tell-tale light of the distant signal was showing white. After about 2 minutes the train started. I was then busy sorting my covers and leather bags when the train collided. Before the train collided I heard no shouting as I was busy with my work. I saw nothing afterwards. I saw the guard of the train coming towards me from the brake-van. After the train stopped, I did not notice the state of the signals when the driver started. I don't know exactly how far the distant signal had been passed by the train, but the carriage in which I was travelling was midway between the facing points and the distant signal.

Questioned.—I started more than an hour late from Lucknow, and a dust-storm commenced blowing from Lucknow. At the time the train came to a stand I do not remem-

ber whether there was a strong wind blowing or not.

Ram Lal, pointsman.—About 1-30 A. M. the shunting engine was taken from the station line to the main line; the points were set for the main line and I was seated at my points facing the station. I did not hear the bell ring at the station to announce that line clear had been given to Chilibila for 6 down. The distant signal was at danger, and I could not lower it as the home signal had not been lowered from the station. The arrangement is that the distant signal cannot be lowered until the home signal is lowered. The light in the points indicator went out when I shifted the points from the station to the main line for the shunting engine to pass. While I was trying to re-light the lamp 6 Down passenger arrived, and, while nearing my points, I showed a red signal and shouted out to the driver, but he did not mind. I was at a distance of about 9 feet from my points, lighting the lamp, when the train arrived, and I had no time to reverse the points and put the train on to the station line. The train did not stop at the distant signal. I did not hear the train coming in, as the wind was blowing very hard at the time. When there is no wind blowing I can hear a train coming over the Sai bridge, not otherwise. The line jemadar did not go over to my points, nor did the assistant station master. Immediately after the accident the guard of 6 Down went to my points and asked me which way the points were set, and I said "main line." He asked me whether the home signal was down; I said no. The guard did not ask me to change the points to station line. It is not the procedure for a train to be received into the yard without line jemadar locking the points. I would not allow any train to come in without orders. If a train ran against signals I would stop it by showing hand signals, but I would not reverse my points without orders, even if a collision were caused by the train going on the line for which my points are set. The shunting engine stood about 100 paces from my points near the water column. The head light was white and the right hand buffer beam had a red light. The lamp at my points was white before the accident. Immediately the train was nearing my points I exhibited a red light.

Fazal Ahmed Khan, constable.—No. 6 down was late. I heard the train coming in and informed the head constable Mohurrir, who asked me whether the signals were down, and I replied to him in the affirmative. I saw that the signals were down because the tell-tale light was green.

Iradat Sher Khan, train guard constable.—I was a train guard constable in 6 down from Rai Bareli. After leaving Chilibila the train stopped after three carriages had passed the distant signal. I was in a 3rd class carriage which was third from the engine and stood just opposite the distant signal. I then looked out of my compartment and saw that the signal was green. By this signal I mean the home signal. I did not see the distant signal light. After two or three minutes the train started and came in contact with a shunting engine in the yard. When the train started I did not see the signal lamps as to what light they were exhibiting.

On being questioned states that, when the train came to a stand, he saw a red light and after 2 or 3 minutes it was turned into a green one.

Sher Mahommad, shunter.—About 15 minutes before line clear for 6 down was called out I went with my engine from the station line to the main line and stopped there. A khalasi then came to me and asked me to couple the engine to District Locomotive Superintendent's carriage, as the train had left Chilbila. The gunner also went and stood near District Locomotive Superintendent's carriage and signalled me to start. I then moved my engine, and, when I had gone about three wagon-lengths and there was still a gap of about a foot between my engine and District Locomotive Superintendent's carriage, 6 down suddenly collided with my engine and the latter with District Locomotive Superintendent's carriage. The District Locomotive Superintendent's carriage and my engine

moved backward I then stopped my engine from moving. I did not hear 6 down entering the station as no noise was heard at all. I did not notice anything concerning the signals.

Dharam Singh, gate-keeper.—The number of my gate lodge is 83.

On the morning of the 2nd June 6 down passenger stopped this side of the distant signal about 2 wagon-lengths. The engine whistled, and, after a short time, the train started on the distant and the home signals being lowered. I could see the arm of the distant signal lowered as it is very close to my gate lodge. The right hand side lamp of the home signal was green. I mean the lamp towards the west.

Slight wind was blowing at the time and it was very dusty. I could see the arm of the signal, but I do not know whether it was moonlight or dark night.

FINDING.

The cause of the accident was 6 down being allowed on main line instead of the loop line, whereby it collided with a shunting engine which was waiting there with District Locomotive Superintendent's carriage, No. 10, to attach the same to 6 down to Moghal Sarai.

From the evidence we are unanimous in declaring (i) that the distant and home signals were first at danger, and subsequently the home signal was lowered for 6 down to come in; (ii) that there is a doubt whether the distant signal was lowered or not; and (iii) that the pointsman is primarily responsible through setting the wrong line we also have no doubt.

The assistant station master is also very greatly to blame inasmuch as he did not see all was clear for 6 down before allowing it to enter, and did not know it had left Chilbila.

The line jemadar is also inculpated because he did not see that the points were correct, and it is evident that he relied on the pointsman to do the work properly although the latter had only one and a half month's service.

Driver Huggins of 6 down is in fault for failing to keep a sharp look-out and thereby running some 750 feet on the wrong line without knowing it and for passing the points indicator when it was not alight.

We recommend that the assistant station master, line jemadar, pointsman and the driver be all very severely punished, as they are all guilty of gross neglect.

In view of the fact that a very serious accident had occurred the previous day we recommend that the 4 men concerned in this case be summarily dismissed, as there is no redeeming feature on which we consider we could recommend them for lighter punishments.

H. G. N. WHITE.

JAI NARAIN.

E. T. SHEPHERD.

In submitting the proceedings the Manager, Oudh and Rohilkhand railway, remarks that the assistant station master and the line jemadar are being prosecuted under section 101 (c) of the Railways Act, and that the other staff concerned will be dealt with departmentally.

Remarks by the Senior Government Inspector of Railways.

In my opinion the accident was primarily due to the neglect of duty and non-observance of General Rule 113 by the assistant station master, Babu K. P. Bhattacharjee.

This station was formerly a roadside station interlocked on the List and Morse system, but ceased to be so from the latter end of 1902 when the Manager, Oudh and Rohilkhand railway, submitted drawings and diagrams for proposed alterations in the yard and interlocking consequent on the entry of the Allahabad-Fyzabad railway into Partabgarh. While the alterations have been in progress the station has been worked as an ordinary non-interlocked station, and, as far as I am aware, no special rules have been introduced either in the working or subsidiary rules of the administration for working it otherwise. The station master on duty was therefore responsible in accordance with General Rule 113 for seeing personally to the locking of the facing points.

Mr. Leach, District Loco. Superintendent, was present at the enquiry. He made a statement regarding the customary working of the points and signals at this station which

had come to his notice on previous occasions, and his evidence should have been recorded. He stated that on a certain occasion, when a train was being admitted into the station, the key of the facing points was with the pointsman and not with the station master, and that the latter lowered the home signal without being in possession of the facing points lock key.

The points indicator is admitted to have been defective and the lamp to have been in the habit of going out when the points were reversed, but no steps seem to have been taken by the station master to have this defect remedied.

The "In Report" for No. 6 Down despatched from Partabgarh to station master, Chilbila, reads: "No. 6 Down passenger train arrived here at 3 H., 20 M." The "In Report" received by station master, Chilbila, from station master, Partabgrah, reads: "No. 6 Down passenger train arrived here at 2 H., 9 M." The discrepancy requires explanation.

The attention of the Manager, Oudh and Rohilkhand railway, is drawn to the delay in completing the interlocking at this station which was started towards the latter end of 1902 and not completed till the 15th June 1905.

C. S. ROSE,
MAJOR, R.E.,
Senior Government Inspector.

**Appendix XVI to the abstract return of accidents on Indian railways for
the twelve months ended the 31st December 1905.**

Report of the proceedings of a joint enquiry held at Ajmer station, Rajputana-Mulwa railway, on the 9th January 1905, to investigate the circumstances attending the collision between No. 32 down passenger and No. 19 up goods trains at that station on the 3rd January 1905.

The committee was composed of the following officers:—

H. S. JONES,	<i>Resident Engineer</i>	...	...	... President.
T. F. W. WOOD,	<i>District Traffic Superintendent</i>	...	...	} Members.
C. G. COTESWORTH,	<i>District Loco. Superintendent</i>	...	...

DESCRIPTION.

No. 19 up goods was leaving Ajmer on the morning of the 3rd January and had just passed the crossing of the junction points of the Nasirabad and main lines when it was run into by No. 32 down passenger, with the result that the engine and tender of No. 32 down were badly derailed and the engine of 19 up had its tender cab roof smashed and the foot-board broken.

The accident occurred at mile 275/9-10 near the fouling mark placed between the Nasirabad and main lines. The line here is on a curve of 800 feet radius and has a gradient of 1 in 100 from level-crossing up to the station.

EVIDENCE.

George D'Roque, driver of 19 up goods.—On the 3rd January I came on duty at 3-30 A. M. and whistled at 5-25 to be admitted into traffic yard. The jemadar gave me the signal and piloted me to my train on the 6th line. The guard of my train brought me the line clear and handed it to me, when I asked the guard what the time was. We compared watches, and both watches were 5-40 A. M. I then whistled for starting signals. Signal No. 25 was lowered and the train was started without delay. I never noticed any signal for in-coming trains as having been lowered from the time of leaving the shed to starting the train. When I got near the junction points I saw 32 down passenger; I whistled for brakes and reversed my engine. The collision then took place. I know nothing about the outer signals. The engine of 32 down was about 100 yards from my engine when I first saw it.

Chotoo, fireman of 19 up.—After coming out of the shed the engine was attached to 19 up on the 6th line. The driver got line clear, and starting signals were given and the train was started. He never saw any signals given for an in-coming train and never looked for them. I first saw 32 down when my engine was about two or three wagons away from the junction points. 32 down was beyond the inner home signals. I called my driver's attention, and he whistled and reversed the engine, and I applied the brake. The collision then took place.

A. Nelson, driver of 32 down passenger.—I got line clear at Hatundi and left 11 minutes late. After passing the cemetery I gave the usual three whistles. As I was coming round the curve by the carriage shops I noticed the

outer signals were against me. I gave three whistles over again, and the outer signal and the signal near the Lal Phatak were lowered for me—that is, the lower arm. As I got close to the level crossing I saw the inner home signal was against me. I put on my steam brake, reversed my engine and whistled for guard's brakes. I was going from eight to ten miles an hour when I noticed the inner home signal at danger, and when I struck 19 up I must have been going about five to six miles an hour. I saw about three or four persons on the right side of the line whom I took for gate-keepers. I saw another man on the left side seated on the lever that works the signals. I never noticed the position of any other signal in the yard. Having wet rails and an O class engine it took time to stop my train.

Jehangir Khan, fireman of 32 down.—When my train was opposite the cemetery the driver gave three whistles, and when the train got round the curve by the carriage and wagon shops the signals were against us. The driver then gave another three whistles. The outer signals were lowered when the train was about the end of the carriage shops. When the train got near the Lal Phatak the driver noticed the inner home signal at danger; he immediately shut off steam and whistled for guard's brakes. The khalasi applied the brake and I opened the sand box. Then the collision took place. The driver also applied the steam brake.

G. Moss, guard of 32 down.—After I left Hatundi, at 5-30 A. M., I heard the driver whistle for signals near gang hut and then again on coming to the straight line. The outer signal and Lal Phatak signal were lowered, and I saw a man sitting on the level near the Lal Phatak. Directly the accident

took place I went towards the engine and found the inner home signal against my train. I did not notice the position of any other signals in the yard. The driver whistled for brakes after passing the level crossing and I applied my brakes, which were in good order.

Babajee, 2nd guard of 32 down.—After the driver had twice whistled for signals, the outer signal and Lal Phatak signal were given. When I had passed the level crossing the driver whistled for brakes. As I passed the level crossing I saw a man sitting on the lever handle. I could not see the home signal until after the collision took place. When I did see it, it was at danger.

T. H. Miller, assistant station master.—I have two years and three months' service of which five months have been as assistant station master. I was on duty on the night of the 2nd from 22 hours to 9 A. M. on the 3rd instant. I endorsed line clear for 32 down to be given. I received line clear for 19 up right time. I handed the line clear of 19 up to guard Mul Chand at about 5 35 A. M. The guard took the line clear to the driver. At 5-40 the driver of 19 up whistled for starting signals which he obtained, and the train started exactly at 5-40 A. M. I ordered the starting signal for 19 up to be given. I gave no orders for signals for 32 down. I only saw the out report of 32 down at 5-37 A. M. after I had already ordered 19 up to be started. I did not expect 32 down till at least 16 minutes after 19 up had started. 32 down has, on several occasions, arrived before the departure of 19 up. I have never seen the signals for a train going out or coming in lowered and then put back to danger and reverse signals given. I have never known the cabinmen give signals for any train without my orders while I have been on duty. The jemadar of the yard is the man who actually conveys my orders to the cabinmen. I never gave orders for signals for 32 down to be given before I gave orders for signals for 19 up, in fact I never gave orders for any signals at all for 32 down on this particular morning. I never noticed any signal as having been given for 32 down. My first knowledge of 32 down being near my yard was when I went to the junction crossing and saw driver Nelson had collided with 19 up. I heard no whistles of 32 down, which I should have done if they had been given.

Driver Nelson recalled.—I saw the signal at the Lal Phatak still lowered for about 7 to 10 minutes after the collision. I did not draw anyone's attention to this, as I could not find anyone at the time. When I did find Mr. Miller the signal had been put to danger.

Lal Khan, jemadar.—I have 23 years' service. I have been jemadar in Ajmer for 6 or 7 years. I was told when 32 down had left Nasirabad and then I heard of its departure from Hlatundi, and about this time the engine of 19 up was coming out of loco. yard and I put it on the train on the 6th line. I do not know what the time was as I have no watch. I saw the line clear in the hand of the guard of 19 up. I then called out to the cabinman to have the level crossing gates

opened as 19 up was going out. I received no orders from the assistant station master, personally, for the departure of 19 up, and gave orders to the cabinman on my own authority. I never ordered the cabinman to give any signals for 32 down and had heard no whistles up to the time of starting 19 up. When about 20 vehicles had passed me I heard three whistles once. I was then standing near the 2nd line about two spaces north of the gate signal. I never saw any signals given for 32 down and can swear that no signal was given.

Soomare, cabinman.—On the morning of the 3rd, assistant station master Miller personally told me 19 up would start before 32 down. As I have nothing to do with the goods train starting signals, I simply sat still. I saw the signal given for 19 up and the train start. I never gave any signals for 32 down and did not see any lowered, and can swear that none were lowered.

Binda, cabinman.—I received orders from the jemadar to have the gates opened for 19 up to start. I rang up the gatemen, and also called them that 19 up was going. The gateman shut the gates and gave me the gate signal. I then pulled levers 11, 15, 19 and then 25. The train started at once very slowly. I never received any orders to give signal for 32 down and never pulled off any signals as I cannot do so with 19 up going out. I heard the driver of 19 up whistle just as he got near the facing points, and I then saw 32 down coming from the Lal Phatak. I heard the three whistles of 32 down in the distance, but, as 19 up was going out, I did nothing. I never attempted to pull any lever to admit 32 down. The gateman at the level-crossing cannot lower the outer signals without my permission. I have 10 years' service and have worked in this cabin for 7 years.

Kistna, gateman.—On the morning of the 3rd I received the bell signal from the south cabin to shut the gates across the road. After locking them I lowered the gate signal. Shortly after this the Nasirabad train whistled. I called out that this train was whistling. The cabinman took no notice, and I understood the gates had been shut for a train to go out, so I showed a red light towards the in-coming train. I saw the starting signal for 19 up lowered. None of the inner home signals for Nasirabad train were lowered, nor had they been lowered. I never lowered the outer signals for the Nasirabad train. I was standing by the gate signal lever. There was no one by the levers which work the outer signals.

Madan Singh, acting gateman.—On the morning of the 3rd we received the bell signal to close the gates, and Kistna and I did so and then lowered the gate signal. I then heard 19 up whistle, and I kept a red signal towards Nasirabad side. I was standing by the gates on the east side of the line. There was no one near the signal levers. The outer signals for Nasirabad trains had not been lowered that morning. None of the inner home signals for a Nasirabad train were lowered.

I heard the whistle of 32 down and continued to show a red light in that direction. There was no one sitting on the lever of the outer signal for Nasirabad trains.

Mr. Timothy, station superintendent, Ajmer.—I have been here as station master for 18 years. I have never known of a case of signals being given for a train to come in and then for those signals to be thrown to danger so as to allow another train to leave or to come in from another line. When I arrived at the site of the accident, at about 6-15, the starting signal for 19 up goods was still down.

Mr. Miller, assistant station master, recalled.—Explained that he did not actually order the starting signal to be lowered, but that the fact of his giving the line clear was an order for the jemadar to get the starting signal lowered.

Mr. Davidson, loco. foreman.—I arrived at the site of the accident about 6-55. I have never seen signals in Ajmer lowered for a train and then put back to danger before the train has arrived.

FINDING.

The driver and staff of 32 down passenger have stated that the outer signal and the home signal near the Lal Phatak were lowered for their train to come in, but that when the train was close to the Lal Phatak they found the inner home signal was at danger. The traffic staff both at the station and also at the Lal Phatak absolutely deny that any signals were given for 32 down to come into the yard. The guard of 32 down supports the statement of the engine staff. After carefully weighing the evidence of all the witnesses and also testing and examining the interlocking apparatus we have come to the conclusion that no signals of any kind were given for 32 down to enter the yard, and, consequently, the driver of 32 down must be held solely responsible for the accident. The driver himself admits that he noticed the inner home signal at danger when he was about 350 yards from it, and that, although he was going only about 10 miles an hour, he was unable to pull up in time to prevent the accident. Taking into consideration that he only had a light load of 19 coaches and had to overcome a gradient of 1 in 100 and a curve of 800 feet radius, it seems highly improbable that he could not pull up his train in time to avert a collision if he himself had really been on the alert.

We recommend that the driver of 32 down be dealt with departmentally for entering the yard against signals, and that the guard of 32 down be also dealt with by his superior officers for giving absolutely false evidence.

H. S. JONES,
Resident Engineer.

T. F. W. WOOD,
Dist. Traffic Supdt.

C. G. COTESWORTH,
Dist. Loco. Supdt.

In forwarding the above proceedings, the Agent, Bombay, Baroda and Central India railway, remarks that "I agree with the finding of the committee that the driver of the passenger train ran against signals and caused the collision. I have ordered his salary to be reduced by Rs. 50 per mensem for a year. The behaviour of the guard of the same train in giving false evidence has duly been noticed, and the man will be punished departmentally."

Remarks by the Senior Government Inspector of Railways.

I concur in the "finding" of the committee, but consider that the driver of No. 32 down passenger train should have been prosecuted.

R. W. EGERTON,
Senior Government Inspector.

**Appendix XVII to the abstract return of accidents on Indian railways for
the twelve months ended the 31st December 1905.**

*Report of the proceedings of a joint enquiry held to ascertain the cause of the collision between
the 2-25 hours down special passenger train and a wagon at Jejuri station, Southern
Maharatta railway, on the 14th May 1905.*

The committee was composed of the following officers:—

C. P. FOX, <i>District Engineer</i>	...	...	...	...	<i>President.</i>
W. M. STEUART, <i>District Traffic Superintendent</i>	...	...	...	...	} <i>Members.</i>
C. P. MOLLOY, <i>District Locomotive Superintendent</i>	...	...	...	...

DESCRIPTION.

On the early morning of the 14th instant, the 2-25 Wathar special arrived at Jejuri at 4-14. On arriving at the north dead-end points, the engine collided with a low-sided wagon which was foul of the line. The evening before three trucks containing engineering materials were shunted from the other end of station, by the help of some gang coolies. It is evident that after shunting these trucks into the dead-end siding, no one on duty ever took the trouble to see that the rules were complied with, so that neither was the Scotch block fixed and locked, nor was the brake of the last wagon fixed down. No. 6 down passed the spot at 1-35, at which time the truck could not have been foul of the line. There have been storms of wind and rain every night, and it is probable that the wind blew the end truck towards the points at some time between passing of No. 6 down and 2-25 Wathar down special. The handle on side of engine first caught the edge of the truck, and then the corner of the truck, caught the corner of the brake and tore off a portion of the woodwork. The driver whistled for brakes and put on his own, so that the special was pulled up almost immediately and before any great damage could be done.

The two leading wheels of the low-sided wagon were derailed, but the truck was very slightly damaged.

EVIDENCE.

Dattatraya Govind, relieving assistant station master, Jejuri.—On the morning of the 14th instant I was on duty. After giving orders about reception of trains I went to inspect the dead-end disc signal points. The lamp was lit and the points correctly set for platform line. This was at about 3-55, 20 minutes before the arrival of the special. I did not see whether the Scotch block was on or not. The three wagons were standing together at the same place as where they were standing in the evening. When I took over from the station master, I examined the wagons and the brakes were down. I put up the Scotch block, but did not lock it. There was no wind or rain at this time, as on the previous evening.

I cannot account for the wagon fouling the line between 3-55 and the time that Wathar special arrived.

Re-examined.—The dead-end siding points had not been altered during the time I was on duty, but I sent the jemadar to alter the top facing points for the platform line, as they had been set for the main line to receive 22 down goods.

I did not go out to the dead-end siding points at 3-55 as stated above.

I went out to the top facing points before 6 down arrived, and at that time, about 1-35, the wagons in the siding were all right.

I did not go out to the top points before the Wathar special arrived, as required by rules, as I was busy with 22 down which arrived at 3-2 and 15 up which arrived at 3-45.

After I came on duty I inspected the wagons in the siding; they were coupled together and brakes were put down. The Scotch block was off and I put it up and put the chain over the staple, but did not lock it.

Pointsman Nana was near me on the platform outside the office when the special whistled; the jemadar was near me also. Nana was showing a danger signal—this was when the train was between the top points and the siding points. I can only account for the accident by some one having moved the wagon foul of the line between 1-35 and the arrival of the special.

S. Mahomed, driver.—I was driver of 2-25 Wathar special on the early morning of Sunday, the 14th instant. When approaching Jejuri, I whistled for signals, and home and distant signals were given all right. The disc signal at the dead-end at Poona end of station was burning and showing green. There was no storm or wind or rain going on at the time.

After I left the top points I saw a wagon in the dead siding about fifteen yards off which appeared to foul the line. I put on

my brake and whistled for the guard's brake. Just then the right hand side handle on my engine struck the wagon, which was pushed back; the handle on engine bent and the truck then struck the end of the third class brake No. 7764, which was next to the engine, and smashed it in, and tore the side of the carriage. The truck was derailed, and I stopped my engine a few yards further. The guard and I examined the spot, and I told the guard that I tried to pull up but could not do so before the accident occurred.

I saw that the wagon was clear of the line so I went on to the platform, detached the third class and put into the siding. I then got line-clear and proceeded to Walhe. When I examined the truck, the Scotch block was not up.

There were two other wagons in the siding about twenty yards off the derailed wagon, and inside the Scotch block. They were coupled together and the brakes were down, but the brake of the derailed wagon was not down.

I asked the station master on duty why he did not see that the line was clear, before he gave me the signal and how the wagon came to foul the line, but he did not reply.

S. R. Fakil, guard.—I was guard of the 2-25 Wathar special on the morning of the 14th instant. When we arrived at Jejuri, soon after passing the north facing points, I heard a noise and felt a bump. The driver whistled for brakes and the train was stopped. The driver and I went and examined the spot and we found that the platform line was fouled by a wagon in the dead-end siding; the wagon was loaded with rails.

The third class brake was damaged at the right hand corner, and the L. S. wagon No. 8185 was derailed.

There were another two L. S. wagons, Nos. 9772 and 8225, in the dead-end siding. When my brake stopped, the engine was near these two wagons, which I noticed were moving by the light of my hand lamp. These trucks must, I think, have bumped the L. S. wagon No. 8185. I did not examine the brakes of any of the wagons, neither did I examine the scotch block. I then came to the station and despatched an accident message. I told the driver to shunt the damaged carriage into the siding, and after obtaining line-clear, we proceeded to Walhe.

Examined.—The assistant station master was in the station office; I asked him if he knew anything of the accident, but he did not reply. No one belonging to the station staff came to the site of accident before we left it.

The driver whistled for brakes after the bump. I had my brake on after passing the top points and we were coming slowly, as a red signal was shown at the south points to prevent us running through to the top of yard as usual.

Wasuleo Narayan, station master.—The three L. S. wagons, Nos. 8185, 9772 and 8225, arrived at my station on the 13th instant by 18 Down at about 15 hours. They were

then shunted into the turntable siding. They were afterwards taken to the platform line, and one truck was unloaded on the platform. They were then in charge of the jemadar, but he was being helped by three gangmen. After this I gave orders to the jemadar to put the trucks into the north dead-end siding which he did and handed over the keys to me; this was about 16-30 hours. I afterwards went myself to inspect the north points before arrival of 8 down. I then took the numbers of the wagons, which were all three coupled together and the brakes were down; I then came back to the office.

Examined.—I was busy issuing tickets after this and I forgot to give the jemadar a lock of the scotch block as I intended. I did not tell the jemadar to put up the scotch block. The scotch block was in good order and was used about 8 days before. I did not say anything about the wagons to my assistant when he took over charge. I was sent for by the assistant station master and arrived whilst the guard was writing out the accident messages. The assistant station master informed me that the 2-25 Wathar special had collided with an L. S. wagon in the dead-end siding. I went to the spot and found two wheels of one wagon derailed, and the other two wagons standing about 50 feet off, about the same place that I saw them on the evening before. The assistant station master did not come with me to inspect the spot, but remained in the office. I made enquiries later from the rest of the station staff as to how the accident happened, and how the truck got foul of the line. The assistant station master appeared to be frightened and could not say anything about the accident. The pointsman at the north points went there at the time of 6 Down and remained there until arrival of Wathar special. He did not return to the station. I have one jemadar and three pointsmen.

Bala Yesso, points jemadar, Jejuri.—On the 14th morning after 22 down arrived at the station, I set the top points for the platform siding and then came back to the station. At that time the dead-end siding was correctly set for platform line, and not fouled by any wagon. The three L. S. wagons were all standing together at the same place as placed in evening previous. This scotch block was up on the rail and the chain fastened, but not locked. I myself put the scotch block on to the rail when 7 Up left Walhe. No lock has ever been put on to the scotch block since I have been here. I took the other spare pointsman to unload packages of 15 Up. These points are always manned. I did not again go to the top points before arrival of the Wathar special. I gave the Home and Distant signals myself for the train and heard a noise when the special was passing the dead-end points. I was then on the platform. I afterwards went to the spot and found the Scotch block was down and one wagon derailed. I went there with the A. S. M., and found the guard and driver there.

Rama Kashiba, pointsman, Jejuri.—On the morning of the 14th I was manning the top points. I went to the points when 6 Down left Rajewadi. I slept near the points as 22

Down was expected, which arrives here about 2-30. When the Wathar special left Rajewadi the points jemadar came and roused me, and the jemadar set the top points for the platform line. The special passed over my points all right, but I heard a noise as it passed over the dead-end siding points. I lighted the disc signal lamp at the dead-end points when I went to man the top points for 6 Down, and it was kept lighted until the Wathar special had passed through. After the Wathar special had got to the platform I came running from my points to see what was the matter, and I found the L. S. wagon derailed. The A. S. M. was on the spot and told me to go and call the station master, which I did. I then went and manned the top points again to pass 15 Up

Police Naik Shivram Yeswant, 4th Class head constable.—On the morning of the 14th instant I was on duty at the time of the arrival of the 2-25 Wathar special. After the train passed the 2nd points I heard a noise, and the train stopped immediately. I went up to the spot at once and found the

guard and driver examining the wagon, and the special duty constable who was travelling in the special, also got out and was on the spot. I examined the two other wagons, which were standing in the siding at some distance from the derailed wagon and I found that the brakes were down. I then examined the brake of the derailed wagon and found that it was up. In the meantime the assistant station master came and began to say that this would not have happened had the scotch block been put on. He then sent porter Rama to call the station master. I know nothing more about the case.

Rama Rawjee, pointsman, Jejuri.—On the morning of 14th instant, at the time of arrival of Wathar Down special, I was on duty at the south points. I took 15 Up into the third siding and set points for the platform siding. The assistant station master told me to show a red light on the platform, as he was going to stop the special at the platform, and I came there I saw the spot afterwards, but I know nothing about the accident.

FINDING.

We find that the accident to the Wathar Down Special at Jejuri, on the early morning of 14th instant, was caused by colliding with an L. S. wagon No. 8185, which was fouling the platform line close to the north dead-end points. We find that the station master when on duty, as well as the assistant station master and points jamadar, all neglected their duty, inasmuch as none of them ever inspected the trucks in the siding to see whether the rules had been complied with, in consequence of which the scotch block was not fixed and locked and one at least of the trucks could not have had the brakes down. We consider that all these three men are responsible and we propose that they be dealt with departmentally.

C. P. MOLLOY, W. M. STEUART, CHAS. P. FOX,
District Locomotive Superintendent. District Traffic Superintendent. District Engineer.

Remarks by the Government Inspector of Railways.

I agree with the finding of the joint committee that the collision was due, as they state, to neglect of duty on the part of the station master, assistant station master and jemadar of pointsmen.

I would, however, point out that a further breach of the rules was committed in that the points which the wagon fouled were facing points to the in-coming train, and should, in accordance with the Company's rules, have been manned. Had this been done there can be little doubt that the position of the wagon would have been observed and the collision avoided. As the pointsman was standing beside them on the platform, both the assistant station master and jemadar must have known that these facing points were unmanned.

Attention is invited to the inadequacy of the staff of pointsmen and jemadars on this section of the line. At Jejuri, where there are 4 or 5 sets of facing points, the staff consists of 1 jemadar and 3 pointsmen. Several stations have only 1 jemadar and 2 pointsmen. During May about 500 trains passed through these stations, on one or two occasions as many as 19 trains during the 24 hours, 10 being passenger trains.

The matter of the hours of pointsmen and jemadars has been the subject of discussion and correspondence between myself and the Agent for some time past, but so far without other result than that reported in connection with the collision at Bijapur.

A copy of the Working Time Table is appended.

It is difficult to see how men who have duties in connection with so frequent trains can possibly be sufficiently alert at all hours to ensure the safety of the travelling public.

W. A. JOHNS,
Government Inspector.

Dharwar, 26th June 1905.

Remarks by the Senior Government Inspector of Railways.

I agree with the remarks of the Government Inspector, and consider that in the interests of the public the provision of jemadars and pointsmen at busy stations should be sufficient to allow separate shifts for day and night duty.

J. S. BROWN,
Senior Government Inspector.

Bombay, 28th June 1905.

Annexure 1 in Appendix XVII to the abstract return of accidents on Indian Railways for the twelve months ended the 31st December 1905.

Letter from Lieutenant-Colonel J. Burn-Murdoch, R.E., Agent, Southern Mahratta Railway Company, to the Junior Consulting Engineer for the S. M. Railway, Dharwar, No. A-3331-4471, dated $\frac{3rd}{6th}$ June 1905.

In continuation of this office letter No. 3831, dated the 15th ultimo, I have the honour to forward herewith copies of proceedings and finding of the committee of joint enquiry held to ascertain the cause of collision between the 2-25 hours Down special passenger train and a wagon at Jejuri station on the 14th idem. It is clear that some time after the arrival at Jejuri of No. 6 Down Mixed train at 1-35 hours on the date of the accident, the wagon had been moved by wind or in some other way, so that it became foul of the platform siding, and when the down special arrived, the engine collided with the wagon, causing its two front wheels to leave the rails.

The station master and the assistant station master, Jejuri, neglected to see that the wagons were properly secured in the dead-end siding in accordance with Rules. The assistant station master further neglected to go out to the top facing points before the arrival of the Down special when, had he done so, he must have seen the position of the wagon.

Annexure 2 in Appendix XVII to the abstract return of accidents on Indian Railways for the twelve months ended the 31st December 1905.

Copy of Time Table.

0-41	} No. 13 Goods.	9-4	} No. 17 Goods.
6		W. S.	
1-5	} No. 6 Fast Mixed.	4	} Wathar Special.
1-4		16	
13		10-11	
1-6		10-11	
3-2	} No. 15 Goods.	4	} No. 4 Passenger.
W.S.		17	
1		10-15	
22	} No. 22 Goods.	10-10	} No. 19 Goods.
4-40		W.S.	
3-19		17	
W.S.		10-14	
1	} No. 14 Goods.	12-10	} No. 3 Passenger.
15		12-13	
4-15	} Wathar Special.	13-29	} No. 18 Goods.
4 W.S. 12 Mail.*		13-31	
22	} 3rd Class Mixed.	14-43	} No. 21 Goods.
15		14-46	
4-14		16-49	
1		16-57	
22	} No. 20 Goods.	18-55	} No. 7 Fast Mixed.
15		20	
4-17	} No. 16 Goods.	19-2	} No. 2 Down Mail.
6-21		19-1	
5	} 3rd Class Mixed.	21	} No. 2 Down Mail.
7-1		7	
7-0	} No. 7 Fast Mixed.	20-0	} No. 2 Down Mail.
14		19-59	
7-3	} No. 16 Goods.	20	} No. 2 Down Mail.
9-11		20-5	
17	} No. 2 Down Mail.	21-19	} No. 2 Down Mail.
9-21		21-20	

* According to Working Time Table for the Wathar Special No. 22 Down Goods should not run when Wathar Special is running. The rule was apparently broken on this occasion, as 22 Down Goods was standing in Jejuri Station.

Appendix XVIII to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

Report of the proceedings of a joint enquiry held to ascertain the cause of the collision between Nos. 73 up and 74 down mixed trains at Bijapur station, Southern Mahratta railway, on the 23rd May 1905.

The committee was composed of the following officers:—

W. ELEY, <i>District Engineer</i>	...	...	...	President.
L. B. MCLAREN, <i>District Locomotive Superintendent</i>	...	...	...	} Members.
T. E. CRICHTON, <i>District Traffic Superintendent</i>	...	...	...
R. P. BENGARI, <i>Huzur Deputy Collector and Magistrate, First Class, Bijapur.</i>				} Present.
W. A. JOHNS, <i>Government Inspector of Railways, Dharwar</i>	...	...	...
L. H. SPENCE, <i>Railway Police Superintendent</i>	...	...	...

DESCRIPTION.

On the morning (2-41 hours) of the 23rd May 1905, Nos. 79 up goods, 74 down mixed and 73 up mixed were to cross at Bijapur station, mile 114½, Bijapur Branch.

Nos. 74 down mixed and 79 up goods were both standing on the platform line to permit No. 73 up mixed to enter upon the main line, but the north facing points No. 11 being wrongly set for the platform line, the incoming train (No. 73 up mixed) ran into the engine of 74 down mixed which was standing on the platform line just clear of the fouling point.

There was no injury to any of the passengers of either train. No damage was done to the permanent-way, the only damage done being to the cowcatchers of the engines.

EVIDENCE.

Govind Balaji, assistant station master.— I took charge of the station at 18-30 hours on 22nd instant I gave line clear to 79 up goods, then for 74 down mixed and then for 73 up mixed, and the trains arrived in that order. On receipt of the departure report of 79 up goods I ordered jemadar Rama to examine all points and receive that train on the main line. The train was correctly received.

On receipt of departure of 74 down mixed I ordered the jemadar to receive it on the platform line, and it was so received. Immediately after arrival of 74 down I ordered jemadar to draw No. 79 up goods ahead and back it on to the platform line behind 74 down mixed. This shunt was finished at 2-30 hours on 23rd instant.

Immediately this shunting was over, I told the jemadar Rama to examine north facing point No 11 for No. 73 up mixed to be received on the main line. I was on the platform when I gave this order to jemadar Rama. The jemadar went to the north facing points and returned and reported to me they were "alright." When the train 73 up whistled, the jemadar Rama was standing beside me near the up distant signal lever. I saw a green signal at the north facing points No. 11 waved up and down five times. I also saw a green signal waved up and down by the jemadar Rama at the up distant signal lever. At that time I was standing at the home signal. I then ordered the home signal to be lowered. It was moonlight and I was able to recognize it was the jemadar Rama. He was in uniform, so were the pointsmen. When the train was coming in

I heard the noise of a collision. I was on the platform. I immediately went to the spot and found 73 up mixed was on the platform line and the cow-catcher of that train was upon the cow-catcher of 74 down mixed. I sent for the station master. After seeing the accident I went to the north points No. 11 about two minutes afterwards. There was no pointsman at the points, which were locked. I tested the lock and found it locked. I sent for the pointsman Buran. I sent a porter, but I do not know who it was. Pointsman Buran came and the porter who went to fetch him told me that he came from his house where he was asleep. I asked him why he ran away from the points and he told me he was not at the points he was sleeping at home. I had seen pointsman Buran at the time 79 up and 74 down mixed came in. 73 up whistled for signals at 2-37. I asked him who showed the green signals from the points No 11 and he again said that he was not at the points. I told the station master that, although I was convinced pointsman Buran was at the points No. 11, he denied altogether having been there. When I went to the points I asked the jemadar Rama for the keys and he immediately took the keys of the facing points No. 11 from pointsman Buran, who had come from his house.

I examined the passengers of both trains and found no one was injured. About 10 minutes before the collision occurred I saw the guard of 79 up. He was in his brake-van. I did not see him again after the collision. I am certain the guard of 79 up was not at the facing points when 73 up was coming in.

There were on duty that night myself, one jemadar, two pointsmen and one porter. One porter lowered the home signal.

On being shown Rule No. 36, Appendix G, Part I, General Rules, the assistant station master said the jemadar could not stand at the advance points for the second incoming train owing to want of staff, and on being asked why the jemadar could not be at the facing points and the pointsman at the lever, he replied, what harm is there in keeping the jemadar at the lever, if he (the jemadar) has the keys. This is my habitual custom. I have been assistant station master at Bijapur for two years. There was no other shunting performed. I was preparing to do shunting with No. 74 and the jemadar had uncoupled the train in readiness soon after its arrival. I am sure there was no shunting done.

I do not wish to say anything beyond the statement given by me.

Jemadar Rama.—Train 79 up came in first. Assistant station master told me 79 up had started from Minchnal and to go and look at the points. I looked at all the points and locked them up: the north top points, goods shed points and main line points (south). The third line points always remain locked. At 1-20, 79 up goods came in and was received on main line. I went and asked the guard of 79 up whether any shunting had to be done and he said "yes, six loads to be taken off and six loads to be put on." The driver informed me that there was no use to do shunting then as it was time for 74 down to come in, and after she had come in, the shunting could be done.

No shunting was done then. I then went and set the south points for the platform line and locked them. I then came to the north points and set and locked them for the platform line. After that I went to the platform and sat down in front of the Telegraph Office for about 5 minutes. In the meanwhile 74 left Jumnal station, and about 5 minutes after 73 up left Minchnal. I then went and awoke both pointsmen Buran and Rahimat who were asleep near the home signal on the platform. The pointsmen both got up and I sent Buran who went to the north and Rahimat to the south. I then went to the south top points and inspected them and found them correctly set for the platform line. I then went to the assistant station master and reported that the south points were correctly set. Just then 74 down whistled and both the gatemen gave me the "all right signal." The south pointsman Rahimat gave me the green signal and I then signalled to the assistant station master five times green signal and 74 down came on to the platform line. The assistant station master then told me 73 up would arrive soon and 79 up must be brought on to the platform line. I then told the assistant station master that I would reverse the north top points again for main line from platform line and I then would take 79 up on to the platform line. The assistant station master replied "No, no"; call the pointsman Buran from the north points. I did so and he came on to the platform. The assistant station master then ordered me to deliver the keys to the pointsman Buran and for me to go ahead

with 79 up. In the presence of the assistant station master I gave up the keys to pointsman Buran and I then took 79 up towards Jumnal after having reversed the south points again for main line. The keys are all on one ring. On further questioning he states that he took off the north point key from the ring and gave it *alone* to Buran, when the assistant station master told him to. I then took 79 up on to the platform line and I again set the points (south) for main line. I was coming towards the station from the top (south) points when 73 up whistled. I ran towards the station, and while on my way the pointsman Buran on the north points gave me the green signal three times. On arrival at the platform, the assistant station master told me "I have given the home signal, you give the distant signal for 73 up." I gave the distant signal as ordered. I asked the assistant station master if he had gone and seen the north points and he answered "yes, it's all right." As Buran had given me the signal all right and assistant station master had said it was all right, I gave the distant signal for 73 up and she came in and collided with 74 down on the platform line. Police naik, two or three Hamals and I ran to the north points and found that the north points were not locked, but the padlock was lying by the side of the points on the ground, locked without the key, and there was nobody at the points. Meanwhile the assistant station master came to the points. I told him that there was nobody at the points and I showed him the padlock. The north points were set for the platform line. The engine and ten loads had passed over the points. Driver Ringrow of 74 down had come up to the points at the time with his fireman Furdonji. They informed the assistant station master that they had just seen the pointsman running away from the points towards the station. The assistant station master sent porter Rajah to call Buran. Rajah brought Buran about 10 or 15 minutes after. I asked Buran what the meaning of this was pointing to the points. He remained silent. I then, in the presence of the police naik, the drivers and others who were there, asked Buran for the key which he gave me. We then backed 73 up and took her on to the main line. The procedure carried out every night when 73 up and 74 down cross is for pointsman Buran to go to the north points and I to the south points.

I uncoupled the wagons of 74 down; this I did after releasing the distant signal lever and in the collision I received a blow on the leg while uncoupling.

Three days before the accident occurred a brake-van had to be attached to the train 78 down; the brake was some distance away from the body of the train and Buran objected to hand-shunt the brake-van and I hand-shunted it myself. On this guard Santa Maria, driver D'Souza, J. D., guard Armugam and under guard Ballapa cried shame on pointsman Buran, and Buran told me "you will only work for three days"; this is the animosity between Buran and myself and I reported this to the assistant station master in the presence of Buran. The assistant station master was annoyed with him.

Re-called.—I deny that I gave the pointsman leave to go away because he was sick. He never asked me for leave.

Pointsman Buran.—The goods train (79 up) had left Minchnal; I cannot say at what time she came in. Before she came in the jemadar told me to light the distant signal lamp and to go home because I had reported to him that I was sick and had worked at sealing wagons up till 23-0 hours. I worked night and day and only sleep for an hour or two when I can. I started sealing about 16-0 hours and went on to 23-0 hours. I am unable to say how many wagons I sealed. I was told by the jemadar I might go. I was going towards the north points when 79 up passed me; the jemadar at the time was at the north points. I told the jemadar I was very sick and going home and he said go, and I went and fell asleep in my quarters. About two hours later I was called by porter Rajah who told me the assistant station master wanted me quickly. I lighted my lamp and asked Rajah where the assistant station master was; he informed me the assistant station master was at the north points, and Rajah and I then came to the north points. We saw a crowd collected there and 73 up was being backed after the collision. At first the assistant station master did not ask me anything, but shortly afterwards he asked me where I had been to. I replied I had gone home under the jemadar's orders as I was sick. Nothing further took place.

The jemadar had the keys and he had locked the points before I went away. They were set for the platform line and no key was ever in my possession. As a rule I always man the north points, but the jemadar is with me until the train leaves the last station (Minchnal) and goes away. I have no enmity with the jemadar and have had no quarrel whatever. About three days before the accident the jemadar asked me to hand-shunt a brake, but being alone I refused. The jemadar with three others hand-shunted it and I then assisted.

Police Naik Ganpatgir Hanmantgir.—I was on duty at Bijapur station on the morning of 23rd May.

After the collision occurred I went to the points (north) with head constable Pandurang Sitaram, the assistant station master and guard Shaikh Buran. The assistant station master asked the jemadar who was at the north points and where the pointsman was, and the jemadar replied he was there a minute or two ago, but had run away. Head constable Pandurang gave me orders to go and look for the pointsman as he would probably try to run away. So taking a constable I went to look for him and I found him near the chief constable's quarters coming towards the north points with a lamp in his hands alone. I told him to remain by the constable and not go away. I took him to the north points. A driver asked him what he had done to the points and he replied he knew nothing about them. I saw the padlock attached to the points and the points were locked. Before I went to look for Buran I saw Rajah, porter, bring the key on a ring and gave it to the jemadar and he said he had got it from Buran. Rajah lowered the home signal: who lowered the distant signal I don't know, but it is customary for the jemadar to do it. There was no shunting. There is a rumour that the day before the

accident there was some quarrel between the jemadar and pointsman Buran concerning fowls, one of which the jemadar had killed and eaten, though it belonged to Buran.

Head Constable Pandurang Sitaram.—On the morning of 23rd May I came on duty when 74 down and 73 up trains left Jumnal and Minchnal, respectively. After about half an hour 74 down came in, and after a lapse of 10 to 20 minutes 73 up whistled, at which time I was in the 3rd class waiting room; I then heard a great noise and ran out of the waiting-room towards the north top points to see what had happened and found on arrival that there had been a collision. The assistant station master went with me to the points. We were the first to arrive at the points and there was no one there on our arrival. We went from the off side and we saw the jemadar on the other side. I asked the jemadar what he had done and he replied he had kept one pointsman, Buran, at the north points, and as he showed a green signal, he had given the distant signal. Then I called for the pointsman and the jemadar told me he had run away. I told one constable Bhima to go and look for Buran and I told head constable Ganputgir to go to the platform and see if any passengers were injured. Shortly afterwards Buran came to the points (north) by himself. I then asked him why he had shown a green signal when the points were wrong and he said he was not at the points, he was at home. I asked him if it was not his duty to be present on the points and he replied that with the permission of the jemadar he had gone home as he was suffering from fever. When I arrived at the points I saw that the padlock was open and had not been locked. I did not see the key or hear anything about it at the time, but the next day I heard the station master and the assistant station master saying that the key had been brought by the pointsman Buran and given to the jemadar. Before the collision there was no shunting.

Porter Rajah Imam.—I was on the station on the morning of 23rd May when the collision occurred. After the collision occurred I went to the north points. The assistant station master ordered me to go to Buran and call him, as he might be in his house. I went to Buran's house and found him asleep there. I called him and told him that a collision had taken place and to come there sharp. We returned together to where the collision took place, and when we got there the jemadar said to Buran you have cut my throat (ruined me), give me the key and he gave the key to the jemadar. After that I went to the station.

Driver Ringrow, E. A.—I was driver of 74 down and arrived on the platform line, Bijapur, on the morning of 23rd. My engine stood close to the fouling point. I did no shunting. When 73 up whistled for signals I saw a man at the north facing points with a lamp, but who the man was I don't know. The signals were given and 73 up ran into my engine. After the collision we examined the engine. I did not examine the points until 73 up had backed over the points. I did not hear any talk about the key or anything about how the collision happened.

On being further questioned states that after the train 73 up had been backed the jemadar opened the lock of the points but where he got the key from I do not know. The assistant station master, the permanent-way inspector, the guards and driver of the other trains and the assistant station master got annoyed with the jemadar and told him you should have kept the keys yourself, to which he replied "he had given it to the pointsman Buran." The pointsman Buran returned about this time alone. The jemadar asked him where he had been to, and he replied "I was sleeping at home." The jemadar told him that he should have been at the points and not at home. Then they all went to the station. There was a man at the north points, but not the jemadar. Had he been there I would have known him.

T. Koomary, driver.—I was driver of 73 up Mixed on the morning of 23rd May. On approaching I whistled for signals and received the home and distant signals as well as points signal. I distinctly saw a man at the north facing points, but I did not recognise who he was. He was in uniform. I noticed my engine turn on to the platform line instead of going straight for the main line and I then tried to stop my engine and train, but had not time and my engine collided with the engine of 74 down. After the collision and when we engine staff of 73 up and 74 down were standing beside our engines, the first man to come was the police havildar who was followed by the jemadar and after him the assistant station master and the other trains staff and the permanent-way inspector. As soon as the jemadar came there he asked me to "Back." My stomach was burning so I told him to wait. After a few minutes I backed clear of the north points, and after the points were reversed went on to the main line. The jemadar, when he came to the engine before asking me to "Back" said "the pointsman has deceived me." When the assistant station master arrived after the collision I told him that the whole staff had been careless. The assistant station master remained silent.

Shaikh Burhan, guard.—I was guard of 74 down mixed. After the accident I went to the site and the drivers of both trains, guards of both trains and the jemadar and the assistant station master were present. The jemadar said that the pointsman had done this and run away. Drivers Ringrow and Koomary were talking together. Driver Koomary asked driver Ringrow, "did you not see who the pointsman was?" Ringrow (driver) replied, "The pointsman was there

because I saw his light." I heard the people saying that Buran was the pointsman. The assistant station master sent a man to call pointsman Buran and he then came from the direction of the station. Buran said he was not present at the points as he was ill and had gone home. The jemadar said to Buran this is all through your rascality. Then they all went away.

Ballajee Amrut, station master.—I was asleep when the collision took place and police havildar and second points jemadar came and told me that a collision had taken place between 73 up mixed and 74 down mixed. I dressed and went out to the office where I saw the assistant station master, and I then went on to the site of the collision and saw that the cow-catcher of 74 down was broken. When I arrived I found that everything had been put right. 73 up had backed and gone on to the main line. After ascertaining damages I saw pointsman Buran and asked him what he had done. I had previously asked the assistant station master and he informed me that he had exchanged signals with the jemadar and thereupon lowered the signals. When I asked Buran what he had done he told me he was sleeping at home and not at the points, and I asked him why, to which he gave me no reply. It was only on the same morning about 11-0 I sent for him in presence of the assistant station master, coaching clerk, second jemadar Babaji and porter Rajah, and asked him to give me a trustworthy statement regarding the collision. Then he told me that he had obtained permission from jemadar Rama to go home and sleep because he was not well. I told him Rama was not the man to grant him leave, it was the assistant station master, and whether he had asked the assistant station master and he replied no.

I then sent for the jemadar Rama and asked him whether he had granted Buran leave, and if so what authority he had to do so. He told me he did not grant him leave. At the same time I asked the jemadar the cause of the collision. He told me he was busy backing 79 up, and no sooner it was backed he heard 73 up whistle and he was going to lock the north point he saw Buran giving him the all right signal from the points, whereupon he exchanged signals with the assistant station master and the signals were lowered. I asked him why he had given the key of north points to Buran and he told me that as he had to back 79 up he had given the key to him, and that he was wrong in doing so. Next day he added that the assistant station master had given him permission to give the key to Buran.

FINDING.

We are of opinion that the assistant station master, Mr. Govind Rao, is to blame for, as he himself admits, having ordered the signals to be lowered for No. 73 up when he knew that the jemadar was on the platform, at the distant signal lever, instead of being at the advance or first set of points, where he should have been, as laid down in Rule No. 36 of Appendix G of Part I of the General Rules.

The jemadar, Rama, is to blame for having, as he himself admits, handed over to the pointsman Buran the key of the points, over which 73 up was to enter the yard, instead of keeping it in his possession and for not having personally locked and manned these points.

We cannot accept pointsman Buran's statement that he was at home at the time of the accident, or that he had asked for leave to go home owing to illness, or that he was really ill,

We consider that he was at the points and showed an "All right" signal for 73 up. There is no evidence in support of Buran's statement, and all the evidence recorded relating to the manning and locking of these points, is directly opposed to what he says.

T. E. CRICHTON, L. B. McLAREN, W. ELLY,
District Traffic Superintendent. District Locomotive Superintendent. District Engineer.

Remarks by the Government Inspector of Railways.

I agree with the committee that the assistant station master and jemadar are to blame for the collision owing to their contravention of the Company's rules in connection with the reception of trains and custody of keys. As regards the minor point whether Buran, pointsman, was at the points or not, my opinion is that he was sleeping at home. It was a moonlight night, and he could not have escaped to his house after the collision occurred without being met or seen by the jemadar and porter running from the platform.

Attention is invited to Buran's statement that, in addition to his duties throughout the 24 hours as pointsman, he was kept sealing wagons from 16 hours to 23 hours, thus depriving him of his proper rest.

This was admitted by the station master, though the statement is not recorded in his evidence.

It will be seen from the Agent's letter that the assistant station master has been fined Rs. 10 a month for three months and the jemadar Rs. 2.

From the evidence of the police it appeared that both—not merely on this occasion but habitually—neglected to carry out the Company's rules both as regards custody of keys and the duty of the jemadar to wait at the outer points for the second incoming train.

At an interview with the Agent, I drew his attention to the fact that both were clearly guilty of negligence and omission of duty in these respects, and that their offence seemed to require more serious treatment.

I also drew attention to the inadequacy of the staff of pointsmen if called upon to perform the additional work of sealing wagons. There are two pointsmen only at Bijapur, and on the day of the enquiry I noticed trains arriving at the station at roughly 9, 12, 16 and 19 hours; in addition to these there are the night passenger trains concerned in the present collision.

Both these subjects—inadequacy of pointsmen and inadequacy of punishment—had previously cropped up in connection with recent accidents at stations.

DHARWAR:
26th June 1905.

W. A. JOHNS,
Government Inspector.

Remarks by the Senior Government Inspector of Railways.

I agree with the conclusions of the Government Inspector.

BOMBAY:
28th June 1905.

J. S. BROWN,
Senior Government Inspector.

Appendix XIX to the abstract return of accidents on Indian railways for
the twelve months ended the 31st December 1905.

Joint report of the Chief Engineer, Loco. and Carriage Superintendent, and Traffic Manager, on the circumstances which resulted in No. 44 passenger train being blown over at mile A56/21 near Conjeeveram station, South Indian railway, on the 29th May 1905.

On the afternoon of the 29th ultimo, No. 44 train consisting of the following vehicles 11 in number:—

Engine No. 183, T. 155, T. 388, T. 243, T. 4, T. 426, T. 453, D. F. 17, S. 3, T. 315, T. 175, and G. V. 48 left Conjeeveram station at 17-21 o'clock. The site of the derailment is on a 10 foot high bank in the middle of a large tank, line is straight and level.

There was no wind when the train left Conjeeveram, but on reaching the open country to the South, a hurricane was encountered which increased in force until on arrival at A56/19 at 17-40 the whole train with the exception of the engine and tender capsized. It was going very slowly at the time and from the position of the vehicles, it is presumed that T388 the second from the engine must have been the first vehicle to turn over, pulling over in turn the carriages in front and behind. The engine tender was also derailed but not capsized, the engine itself kept the road. No accurate account of the force of the wind can be got. The Meteorological Department at Madras reports that nothing abnormal was recorded at the Observatory, the only other evidence available being the fact that between A. 54 and A. 55, 7 telegraph posts (41½ lb. steel rails) were snapped off at ground level, and all the posts in that mile, which were not guyed were badly bent. The wind unbroken by any vegetation in the long empty tank swept up the slope of the high bank and caught the carriages in the worst possible position.

Although the train was fairly full no passengers were hurt in any way, and after the storm had blown itself out, they disappeared going back to Conjeeveram.

As telegraphic communication was interrupted between Conjeeveram and Chingleput, the report of the accident and application for assistance had to be sent over the Madras railway *via* Arkonam.

The Chief Engineer passed over this part of the line on the 24th ultimo, five days prior to the accident and certified that nothing was noticeable in the state of the road at that date. We are therefore justified in stating that, as far as we know, there was nothing in the road that would lead to assist in the derailment of the carriages which we attribute entirely to the abnormal climatic conditions existing at the time. We heard incidentally that trains on the Madras railway running between Madras and Arkonam experienced very heavy wind on the date of our derailment.

The driver of the derailed train reports:—

" * * * While nearing the 57th mile between Conjeeveram and Walajabad, I was met with a heavy hailstorm so I took the precaution and stopped the train for about 5 minutes and sent word to the guard through my first fireman who came back with the information from the guard to proceed cautiously as the storm was a little abated while I was moving slowly the storm rose again and when I stopped and looked back I was blown off my engine on to the aloe fencing at mile 56/22 at 17-35 and observed at the same time all the carriages of my train were capsized and the engine tender hind wheels derailed. * * * "

The site was cleared of the derailed vehicles by midday on the 3rd instant, the work having been delayed by the partial capsizing of the crane employed for lifting the carriages.

A sheet of calculations showing that the force of the wind must have been at least exerting a pressure of 26 to 27 lbs. per sq. ft. equivalent to a velocity of 73 miles per hour, is appended, the same formula shows that the pressure exerted in the case of the train that was overturned on 12th November 1899 near Tirunattiyattangudi on the Tanjore District Board railway amounted to 24 lbs. per sq. ft. equivalent to a velocity of 70 miles per hour.

The gradual introduction now going on of bogie stock in the place of existing light four-wheeled vehicles will render such accidents less likely to occur in the future. It is satisfactory to be able to say that within an interval of 17 years (our first similar accident was on the 31st October 1888, near Chingleput) three similar accidents only have occurred and in neither case was any passenger more than very slightly injured.

FRANCIS F. SMITH, *Chief Engineer.*

14-6-05.

T. J. McCLOUGHIN, *Traffic Manager.*

W. B. REYNOLDS, *Loco. and Carriage Superintendent.*

3

Annexure 1 in Appendix to the abstract return of accidents on Indian railways for the twelve months ended the 31st December 1905.

During Cyclone on 29th May 1905, a train comprising 8 carriages T. class 1 B. F., 1 S., 1 G. Y., and 1 Engine No. 183, was completely (with the exception of engine and tender) overturned on the Chingleput-Arkonam Line at M. 56/20.

CALCULATION OF OVERTURNING FORCE.

	T.	C.	Q.	lb.
Tare of train (exclusive of engine which remained on line) ...	62	10	2	0
Say 100 passengers and 1 Guard at 1½ cwt. each ...	6	5	0	0
Passengers' luggage say 10 lbs. per person ...	0	8	3	5
Load in Guard's van say ...	0	10	0	0
• Total weight overturned ...	<u>69</u>	<u>14</u>	<u>1</u>	<u>5</u>

Moment of stability in foot pounds = 156,162 lbs. × half distance to outside of rails; say 1½ ft. = 156,162 × 1½ = 233,743 foot pounds.

Centre of pressure a point ½ of the height of wagon body above lower side of frame.

8 carriages T. type 20 × 8.08 × 5.79 × 8 =	7,485.28
1 carriage S. type 20 × 8.41 × 5.97	1,004.15
1 carriage DF. type 22 × 8.41 × 5.97	1,104.56
1 carriage CF. type 20 × 8.41 × 5.97	1,004.15

Moment of surface exposed above R.L. 10,598.14

Then the force of wind which would cause the train to be on the point of overturning would be—

$$\frac{\text{Moment of stability in foot pounds } 233,743.62}{\text{Moment of surface exposed in sq. ft. } 10,598.4} = 26.70 \text{ lbs. per sq. ft.}$$

The corresponding velocity of wind is found thus $\frac{\sqrt{26.70}}{0.00492} = 73.067$.

It is evident that it was not the force of the wind that derailed the tender, but the weight of the falling train.

Chief Engineer's Office.
TRICHINOPOLY:
22nd June 1905.

FRANCIS F. SMITH,
Chief Engineer.