Public Works (1890) Department.

RAILWAY BRANCH.

G.O., No. 1818 Ry.

DATED 15th November

1

[Despatch Abstract.]

Return of accidents on Indian Railways. —

Resolution of the Govt of India submitting certain observation on the — for 4th quarter of 1889, Communicated to the Consulting Engineer for Railways, for information.

PART I.

Return of Accidents to Trains, Rolling Stock, Permanent Way, &c., reported by the ~~Madras and~~ South Indian Railways during the 3rd quarter of 18 89, together with the Number of Persons killed and injured thereby.

N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Sheward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
July	3rd	The leading wheels of tender of a pilot engine were derailed at Trichinopoly Junction station owing to pointsman not closing the points properly.	66										
"	"	Engine of a special train was disabled at Koilpati station from want of steam owing to boiler running short of water	13										
"	5th	Brake pod of a cotton truck attached to a special train broke between Kamiyachi and Kadambur stations owing to pin dropping and the rod coming in contact with the road.	17										
"	"	A cattle truck attached to a mixed train was found on fire near Kumandpuram station, the engine ~~burning wood. Spark~~ arrester and ash-pan reported to be in good order. The truck and its contents were entirely burnt causing a delay of 1 hour and 54 minutes.	23										
"	9th	Some fish plates and bolts into nuts were found missing on the line between Trichinopoly Junction and Fort Stations. The matter was reported to the police.	25.										

PART I.

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N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Sheward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
July	14th	During shunting at Villupuram station some trucks which were turned into wrong line came into collision with others that were standing on that line.	3										
	20th	Engine of a special goods train was disabled at Karur station owing to tube bursting from wear and tear.	12 A										
		goods train worked loose between Singaperumal Koil and Chingleput stations.	13										
	23rd	R. H. piston gland of Engine of a mixed train worked out between Elunjalur and Pasur stations.	13										
	26th	Tubes of Engine of a mixed train burst between Ramayachi & Virudupatti [illegible]											
	28th	A luggage brake van attached to a mail train was found on fire between Pasur and Erode stations Engine burning wood. Spark-arrester and ash-pan reported to be in good order.	23										
August	1st	whilst some coolies were pushing a truck from the cotton press down the [illegible] station at Virudupatti near [illegible] station.											

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Return of Accidents to Trains, Rolling Stock, Permanent Way, &c., reported by the ~~Madras and~~ South Indian Railways during the 3rd quarter of 18 89, together with the Number of Persons killed and injured thereby.

N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Sheward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
August	3rd	Engine of a mixed train was disabled between Villupuram and Pawanti stations owing to tubes leaking from wear and tear.	12 A										
	12th	Brake coupling bolt of engine of a mixed train dropped between Mailam and Tindivanam stations from wear & tear.	17										
	15th	R. H. piston gland of engine of a											
September	3	Engine of a mixed train was stopped for 15 minutes between Renigunta and Tirupati stations for want of steam owing to tubes leaking from wear and tear	12 A										
		A pilot train ran through the level crossing gate between Trichinopoly Junction and Fort stations owing to gates not being opened. A fireman and a man who was with pilot engine were injured by the train ~~they answered to~~ [illegible] the 15 ft gate at the siding.	25										
	2nd	A mixed train was stopped for 4 minutes between Tulukapati and Virudupati stations owing to break gear of a luggage break van dropping from wear & tear.	17										

PART I.

Return of Accidents to Trains, Rolling Stock, Permanent Way, &c., reported by the ~~Madras and~~ South Indian Railways during the 3rd quarter of 1879, together with the Number of Persons killed and injured thereby.

N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Sheward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
August	27.	One of the wings of a luggage brake-van and one side lamp of a pilot train were knocked off at a level crossing between Trichinopoly Junction and Fort stations owing to one of the leaves of the gate coming in contact with them.	25										
"	29	Engine of a goods train was stopped for one hour and 23 minutes at Manaparai station for want of steam owing to tubes leaking	12 A										
"		A Goods train was stopped for 5 minutes after starting from Kadumantakam station to detach 2 C. G. wagons which were disabled.	25										
"	14	While a goods train was entering the siding at Tinneverelly station 4 C. G. wagons were derailed owing to the hook of a timber truck trailing on the track and getting caught with the connecting rod of the points which [illegible]	[illegible]										
"		Big end of engine of a goods train ran hot at 322 miles (between Sholavandan and Ammayanayakanur stations) and again at 291/11 miles (near Tyyalur station) where it was found to be disabled.	13										

PART I.

Return of Accident to Trains, Rolling Stock, Permanent Way, &c., reported by the ~~Madras and~~ South Indian Railway during the 3rd quarter of 1889, together with the Number of Persons killed and injured thereby.

N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Sheward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
September	8	During shunting at Kumarapuram station 3 l. g. trucks of a mixed train were derailed at points* owing to points not being properly held. This train together with 3 others was considerably delayed	6										
	8	Some trucks, which were unhooked from a shunting engine at Egmore station, were allowed to run down towards the goods-shed door, which being shut was damaged.	2										
	25	Shunting Engine came into contact with a Special pay-train at Tirupati station owing to shunter exhibiting no signals	3										
		*Left open of the gate.											
	1	Left hand waste water rod of steel-chest of engine of a mail-train dropped between Erode and Pasur stations from wear and tear.	13										

PART I.

Return of Accidents to Trains, Rolling Stock, Permanent Way, &c., reported by the ~~Madras and~~ South Indian Railways during the 3rd quarter of 1809, together with the Number of Persons killed and injured thereby.

N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Steward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured	Killed.	Injured.	Killed.	Injured.
September	20.	While a goods-train was being formed at Trichinopoly Junction Station shunting Engine came into collision with the Engine of a mail-train owing to driver and fireman disregarding signals. Both have been dismissed the service	2 N										
"	24	Engine of a Goods-train was disabled at Perambair station owing to right steam pipe breaking from wear and tear	13										
		Causing the switch to work over and pass a part of the train on to the main line. This train and 2 other mail-trains were Considerably delayed	7										
		While a Buffalo was run over by a mixed-train between Villupuram and Katpadi Junction	1										

PART I.

Return of Cases reported by the ~~Madras and~~ South Indian Railways during the 3rd quarter of 1889, of Trains running through Level-crossing Gates, over Cattle straying on the Line or other obstructions, but in which no personal injury was caused nor any damage done to the Permanent Way.

NOTE.—*The Cow-catcher in use on the Madras Railway is known as the Madras Railway pattern.*
" —*The Cow-catcher in use on the South Indian Railway is known as the South India Railway pattern.*

DATE. Month.	DATE. Day.	Nature and Cause of Accident.
July	1	2 goats were run over by a mixed train between Gudur and Vendodu Stations. The line is unprovided with fencing
	3	a heifer was run over by a mixed train between Kandamangalam and Kilinur stations. Wire fence reported to be in good order
	7	a cow was run over by a mixed train between Anandavapuram and Vaithiyavankil stations. Came thro' unprotected gate. Aloe fence reported to be in good order.
	9	a cow was run over by a mixed train between Kidamangalam and Kovadacheri stations. Wire and aloe fences reported to be in good order. Animal not killed
	11	2 sheep were run over by a mixed train between Kalalai and Karur stations. Wire fence reported to be in good order
	12	a heifer was run over by a mail train between Panayanallur and Madura stations. Came through unprotected gate. aloe fence reported to be in good order. Animal not killed
	"	A calf was run over by one of the night trains between Tindivanam and Trichinopoly stations. aloe fence reported to be in good order
	14	a Buffalo was run over by a mixed train between Gollahalli and Kalahasti stations. The line is unprovided with fencing. Animal not killed
	16	a Buffalo was run over by a mixed train between Chetpet and Tindivanam stations. aloe fence reported to be not fully grown
	17	a Sheep was run over by a shunting engine at Pondicherry station. Compound wall reported to be in good order

PART I.

Return of Cases reported by the Madras and South Indian Railways durirg the 3rd quarter of 1809, of Trains running through Level-crossing Gates, over Cattle straying on the Line or other obstructions, but in which no personal injury was caused nor any damage done to the Permanent Way.

NOTE.—*The Cow-catcher in use on the Madras Railway is known as the Madras Railway pattern.*
" —*The Cow-catcher in use on the South Indian Railway is known as the South India Railway pattern.*

DATE.		Nature and Cause of Accident.
Month.	Day.	
July	10	a calf was run over by a Mixed train between Tirumadamandur and Kavasinganpet stations. Wire fence reported not to be not fully grown
"	20	a Calf was run over by a Mail-train between Lalapet and Katalai stations. Wire fence reported to be in good order.
"	21	a calf was run over by a Special train between Ammapet and Kidamangalam stations. Wire fence reported to be in good order. Animal not Killed.
"	24	a Buffalo was run over by a special Goods train between Pondicherry and Villinur stations. Wire fence reported to be in good order
"		a buffalo was run over by a mixed-train between Vandodu and Gudur stations. The line is unprovided with fencing
"	25	a buffalo was run over by a Mail-train between Ongole and Vaithiswarankoil stations. Wire fence reported to be in good order.
"		A Cow was run over by a Mixed-train between Kadambur and Kanigachi stations. Came over wire fence, which is reported to be not fully grown. Animal not Killed.
"		2 buffaloes were run over by a Mail-train between Tuticorin and Virudupatti stations. Came through gate protected by a gate-Keeper. Wire fence reported to be in good order. Animals not Killed
"		a buffalo was run over by a mixed-train between Gudur and Vendodu stations. The line is unprovided with fencing. Animal not Killed.
"	26	a Sheep was run over by a mixed-train between Tindivanam and Kailasam stations. Came through wing-wall of bridge. Wire fence reported not to be not fully grown
"		a bull was run over by a mixed-train between Kanigachi and Gangaikondan Stations. Came through unprotected gate. Wire fence reported to be in good order. Animal not Killed.

PART I.

Return of Cases reported by the ~~Madras and~~ South Indian Railways durirg the 3rd quarter of 1889, of Trains running through Level-crossing Gates, over Cattle straying on the Line or other obstructions, but in which no personal injury was caused nor any damage done to the Permanent Way.

NOTE.—*The Cow-catcher in use on the Madras Railway is known as the Madras Railway pattern.*
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DATE.		Nature and Cause of Accident.
Month.	Day.	
July	27	a buffalo and a calf were run over by a goods-train between Tailam and Villivandi stations. Came through unprotected gate - also fences reported to be in good order. Animal not killed
"	31	a pig was run over by a mail-train between Kanur and Katalai stations - Came through wire fence, which is reported to be in good order. Engine was fitted with Cow-catcher, but it did not act efficiently
August	2	a buffalo was run over by a special-train between Perambair and Atakur stations - Came through gate - also fences reported to be in good order.
"	7	a Cow was run over by a mail-train between Gangaikondan and Tinnevelly stations - Came through a gap in the also fence which is reported to be not fully grown
"		a Cow was run over by a mixed-train between Gudimanchen and Vandalur stations - Came through gate - also fences reported to be in good order
"	10	a Special ballast-train ran through the level crossing gate between Cuddalore new Town and old Town stations owing to its being closed and gate-keeper asleep.
"	12	a buffalo was run over by a mixed-train between Nagarcoil and Kuttalam stations - also fences reported to be in good order
"	18	a buffalo was run over by a mail-train between Ayyampet and Papanasam stations. Wire fence reported to be in good order
"	19	a heifer was run over by a mail-train between Trichinopoly Junction and Kolattur south stations. also fences reported to be in good order
"		a goat was run over by a Special-train between Elumanur and Trichinopoly Fort stations. Wire fence reported to be in good order

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Return of Cases reported by the ~~Madras and~~ South Indian Railways during the 3rd quarter of 1899, of Trains running through Level-crossing Gates, over Cattle straying on the Line or other obstructions, but in which no personal injury was caused nor any damage done to the Permanent Way.

NOTE.—*The Cow-catcher in use on the Madras Railway is known as the Madras Railway pattern.*

„ —*The Cow-catcher in use on the South Indian Railway is known as the South India Railway pattern.*

DATE.		Nature and Cause of Accident.
Month.	Day.	
August	20	A Cow was run over by a mixed. train between Venkatagiri and yellakur stations. The line is unprovided with fencing. Animal not killed.
"	"	a calf was run over by a mixed. train between Venkatagiri and yellakur stations. The line is unprovided with fencing. Animal not killed.
"	26	A Cow was run over by a mixed. train between Gudur and Vandodu stations. The line is unprovided with fencing. Animal not killed.
September	5.	A Cow was run over by a mixed. train between Gangaikondan and Maniyachi stations. Came through Goods. shed gate. also fence reported to be in good order. Animal not killed.
"	7	a light engine ran through the level crossing gate between pakkil and Nagapatam stations owing to gate Keeper not opening it in time. Gatesman fined.
"	10	A Cow was run over by a mixed. train between Vallavanur and Kandamangalam stations. also and wire fences reported to be in good order. Engine was fitted with cow. catcher but the animal was entangled in it and the train had to be stopped to extricate it.
"	14	2 buffaloes were run over by a mixed. train between Venkatagiri and yellakur stations. The line is unprovided with fencing. one Animal not killed.
"	16	a buffalo was run over by a special Goods. train between Ettinglepat and Singaperumalkoil Stations. Came through unprotected gate. also fence reported to be in good order.
"	"	a Cow was run over by a mail. train between Gudumanchiri and Vandalur stations. Came through unprotected gate also fence reported to be in good order. Animal not killed.
"	"	a pig was run over by a Goods. train near Lalapet station. Wire fence reported to be in good order.

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NOTE.—*The Cow-catcher in use on the Madras Railway is known as the Madras Railway pattern.*
" —*The Cow-catcher in use on the South Indian Railway is known as the South India Railway pattern.*

DATE.		Nature and Cause of Accident.
Month.	Day.	
September	22	a calf was run over by a light. Engine between Cuddalore New Town and Old Town stations. Came through brick stile. Vegetable fence reported to be in good order. Animal not killed.
"	30	A calf was run over by a mixed train at Pondicherry Station. Compound wall and wire fencing reported to be in good order. Engine was fitted with cow catcher but the animal was caught under the Tender wheels as the Engine was moving tender foremost.

N.B. - The action of the Cow-catchers, except where the contrary is stated was generally efficient

PART I.

Return of Rails found fractured in the Permanent Way reported by the South Indian Railway during the 3rd quarter of 1889.

Date when found fractured.		Nature and Cause of Fracture.
Month.	Day.	
July	28	While planing curve at $\frac{349}{2}$ to $\frac{349}{7}$ miles between Madura and Tirupparankundram stations a 24 feet 50 lb rail was found fractured in 3 places due to flaw in metal

PART I.

Return of Failure of Wheels reported by the South Indian Railway during the 3rd quarter of 1889.

Date of Failure.		Nature and Cause of Failure.
Month.	Day.	
Nil		Nil.

PART I.

Return of Failure of Tyres reported by the South Indian Railway during the 3rd quarter of 1889.

Date of Failure.		Nature and Cause of Failure.
Month.	Day.	
		Nil.

Nil

PART I.

Return of Failure of Axles reported by the ~~Madras and~~ South Indian Railways during the 3rd quarter of 1899.

Date of Failure.		Nature and Cause of Failure.
Month.	Day.	
September	17	Axle box stay-bolt of a third class carriage attached to a mixed train dropped between Tirumalur and Kivalur stations from wear and tear

PART I.

Return of the Damage done to the Permanent Way by Floods reported by the ~~Madras and~~ South Indian Railways during the 3rd quarter of 1889.

Date.		Nature and Cause of Accident.
Month.	Day.	
September	14.	Ballast at both the approaches to a 15 ft girder bridge between Ammayanayakanur and pholanandan Stations was washed away in consequence of floods due to heavy local rain-fall. a mixed train was delayed 15 minutes.
"	23.	Line between Fort and Beach stations, Madras was washed away from heavy rain. a plate train was delayed 45 minutes
"	26	about 30 Cubic yards of south embankment of south abutment of the Gadilam temporary diversion was washed away by a Sudden flood. Traffic was stopped and turned on to the high level diversion

PART II.

Return of Accidents to Passengers, Persons passing over Level-crossings, Trespassers, and others on the ~~Madras and~~ South Indian Railways during the 3rd quarter of 1889, exclusive of those killed or injured by Accidents to Train, &c., printed in Part I.

Date of Accident.	Nature and Cause of Accident.	Classification.	Passengers.				Other Persons.					
			Causes beyond own Control.		Misconduct or want of Caution		While passing over Railway at Level-crossings.		Trespassers and Suicides.		Miscellaneous not included in previous Columns.	
			Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
July 5th	A third class passenger of a mail-train jumped out of his carriage between Panayanallur and Sholavandan stations and was slightly hurt	5	.	.	.	1	.	.	.	.	.	.
" 6th	A mixed-train was stopped for 5 minutes at Anuppanadi station owing to an old woman crossing the line at a 3 feet gate	3	.	.	.	.	.	.	.	1	.	.
" 15th	A European passenger of a mail-train jumped out of his carriage between Kallupatti and Sivaganga stations. He was slightly hurt	5	.	.	.	1	.	.	.	.	.	.
" 31st	A third class passenger of a mail-train, who had failed to alight at his destination - Gangaikondan - jumped out of his carriage after the train had left the station. The man was slightly bruised	5	.	.	.	1	.	.	.	.	.	.
September 16	A trespasser was run over and killed by a mail-train between Kumbakonam and Sivanadamanadur stations	6	.	.	.	.	.	.	1	.	.	.
	Total		.	.	3	.	.	.	1	1	.	.

PART III.

Return of Accidents reported during the 3rd quarter of 1889 by the South Indian Railway, as having occurred to Servants in the Company's own employ, or in the employ of Contractors, whilst performing duties connected directly with the transit of Passengers and Goods, exclusive of those killed by Accidents to Trains, &c., in Part I.

Date of Accident.	Name of Person.	Class of Service.	Place where the Accident happened.	Causes beyond own Control.		Misconduct or want of Caution.		See Key to this Part.	Remarks.
				Killed.	Injured.	Killed.	Injured.		
July 6th	Savoo.	Blacksmith	Between Nellikuppam and Panruti stations	..	..	..	15	95	Whilst cutting a rail it fell on his thumb
" 10th	Appasawmy	Porter	at Egmore station: Madras	..	..	1	..	115	Whilst crossing the line in front of an engine
" 16th	Maruppan	Gangcooly	Between Tanjore and Tittagudy stations	..	..	1	..	115	— Do — Do —
August 11th	V. Krishnan	Porter	at Villupuram						Whilst attempting to [illegible] a special goods train in motion
" 18th	Narayanaswamy	Cooly	at Nellore station	..	..	..	1	195	Was scalded by melted rosin
" 20th	Veerasawmy	Porter	at Wallajahbad station	..	..	..	1	18	Whilst coupling engine to the train
" 22nd	Moorthy	Gangcooly	Between Budalur and Tiruvannamalai stations	..	..	..	1	165	Fell off a girder bridge
September 16th	Soobrayen	Cooly	Between Chidambaram and Kollidam stations	..	..	..	1	175	a Derrick pole fell on him
" 18	Jyakannoo	Do.	Between Cuddalore old Town and new Town stations	..	..	..	1	95	Whilst removing rails
			Carried over	..	..	3	6.		

PART III.

Return of Accidents reported during the 3rd quarter of 1889 by the South Indian Railway, as having occurred to Servants in the Company's own employ, or in the employ of Contractors, whilst performing duties connected directly with the transit of Passengers and Goods, exclusive of those killed by Accidents to Trains, &c., in Part I.

Date of Accident.	Name of Person.	Class of Service.	Place where the Accident happened.	Causes beyond own Control.		Misconduct or want of Caution.		See Key to this Part.	Remarks.
				Killed.	Injured.	Killed.	Injured.		
			Brought forward	"	"	3	6.		
September 19th	Karuppannan	Gangcooly	at Madura station	"	"	1	"	5	Whilst jumping from one truck to another in motion, fell between and was run over
" 20th	Hari Krishnan	Pointsman	at Trichinopoly Junction station	-	"	-	1	5	Whilst getting on to a Van in motion
" 27th	C. Ponnuswamy	Porter	at Kille station	1	-	-	-	1	supposed to have been sleeping on the platform & fell
			Total	1	1	4	7.		

PART IV.

The following Accidents to Railway Servants and others not included in Part I, II, and III have also been reported by the ~~Madras~~ ~~and~~ South Indian Railways during the 3rd quarter of 1889.

Date of Accident.	Nature and Cause of Accident.	Passengers and others.				Railway Servants.			
		Causes beyond own control.		Misconduct or want of caution.		Causes beyond own control.		Misconduct or want of caution.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
July 5th	A moulder at the Negapatam Workshops was injured by some molten iron falling on his foot	..	..	..	..	..	..	..	1
August 19th	A fitter at the Negapatam Workshops was injured while examining the stationary engine of the tool-shop	..	..	..	..	..	..	..	1
29th	A boy who had accompanied a water-cooly was found dead on the wooden covering of the pumping well at Ammayandyaka-nad stations - He complained of pain in the stomach, &c previous to death	1	..	..	..	..	..	..	..
Sept 6th	A fitter at the Negapatam Workshops was injured by a piece of hot iron dropping on his head while holding it with tongs	..	..	..	..	..	..	..	1

PART V.

List of Deaths of Passengers in Carriages and Stations on the ~~Madras and~~ South Indian Railways during the 3rd quarter of 1889, from causes unconnected with the working of the Line.

No.	Particulars.	Date.	Assigned cause.	Sex. Female.	Sex. Male.	Age.	Remarks.
1	A third class passenger of a mixed train was found dead in a carriage at Kumbakonam Station	August 1st	Asthma		1	35 years	
1	On arrival of a mixed train at Chingleput station a passenger was found dead in a third class carriage	Septr. 3rd	Natural causes		1	35 years	

Sidney Smith
Major R.E.
for Consg. Engineer for Ryp.

Madras
30th Octr. 89

TABLE No. 2.

Number of Persons reported during the 3rd *Quarter of* 1889 *as killed or injured on the Railways open for Traffic in the Madras Presidency, distinguishing between Passengers, Railway Servants, and other persons, and classifying as far as practicable, the nature and causes of the accidents occasioning the death or injury.*

| | PASSENGERS. | | |

Return of Accidents to Trains, Rolling Stock, Permanent Way, &c., reported by the Madras ~~and South Indian~~ Railways during the 3rd quarter of 1889, together with the Number of Persons killed and injured thereby.

N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Sheward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
July	4th	While the engine of a local train was returning to shed at Rayapuram Station its tender was derailed owing to the carelessness of the man who held the points.	6						1 2				
	6th	A.L.S.O. Guard attached to an extra train was derailed between Kanavasamudram and Kuppam Stations owing to a cow being run over by the train.	7										
	"	Engine of a goods train was disabled near Kelandapatti station owing to some coconut coir having found its way into and jamming in the middle slack of the feed.	13										
	7th	A pilot engine was derailed at the points at Bangalore City station owing to the carelessness of pointsman.	6										
	9th	The trailing wheels of tender of an engine were derailed at points at Jolarpet station owing to the carelessness of pointsman.	6										
	13th	A mixed train parted twice between Nagari and Puttur Stations due to the rough											

PART I.

Return of Accidents to Trains, Rolling Stock, Permanent Way, &c., reported by the Madras ~~and South Indian~~ Railways during the 3rd/4th quarter of 1889, together with the Number of Persons killed and injured thereby.

N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Sheward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured	Killed.	Injured.	Killed.	Injured.
July	13th	rough handling of the engine by the driver, who has been dismissed the Service.	25										
	16th	The leading wheels of an engine were derailed at points in the engine Shed siding at Salem Station owing to an obstruction on the line.	6										
	18th	The trailing wheels of an engine were derailed at the ~~engine~~ turn table at Bangalore Cantonment station on this date and again on the 20th idem due to an inequality in the road combined with a want of weight on one of the trailing wheels.	6										
	23rd	While a brake van was being shunted at Kolar Road station for the purpose of being attached to a special train it came into collision with the last waggon in train which was standing foul of the crossing.	3										
	27th	The engine of a mixed train was disabled between Vizianagaram and Vittakate stations owing to Steam pipe joint in the boiler breaking.	13										

PART I.

Return of Accidents to Trains, Rolling Stock, Permanent Way, &c., reported by the Madras ~~and South Indian~~ Railways during the 3rd quarter of 1889, together with the Number of Persons killed and injured thereby.

N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Sheward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured	Killed.	Injured.	Killed.	Injured.
July	30th	A pilot engine was derailed at Katpadi station owing to the carelessness of P.W. yard Maistry who allowed the engine to travel over an imperfectly fished joint at which a cut rail had newly been inverted.	6										
August	5th	While an engine was backing some empty wagons at the Salt Godowns, Madras, its trailing wheels were derail	6										
	6th	Engine of a goods train was disabled at Kayankarai station owing to tube bursting.	12A										
	12th	During shunting at Kayapuram station the trailing and middle wheels of the tender of engine were derailed owing to points not being	6										
	14th	The leading wheels of a pilot engine were derailed at points at Arkonam station owing to the carelessness of pointsman.	6										
	15th	Fish bolts, fish plates and keys were found removed from a											

PART I.

Return of Accidents to Trains, Rolling Stock, Permanent Way, &c., reported by the Madras ~~and South Indian~~ Railways during the 3rd quarter of 1889, together with the Number of Persons killed and injured thereby.

N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Sheward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured	Killed.	Injured.	Killed.	Injured.
August	15th	20 feet rail at 134 1/2 miles between Jalarpet and Tirupatur stations by some person or persons unknown.	25										
"	17th	The trailing wheels of an Engine tender were derailed at the Loco: points in the Rayapuram station-yard owing to the carelessness of pointsman	6										
"	"	While a Goods-train was shunting for- ward at the platform line owing to brakes not being down but were let into the catch sticking and stopped. Porters in fault have been fined.	25										
"	22	34 vehicles of a passenger-train which were standing on the 2nd line at Renigunta ran out of the station to the north due to want of care on the part of the head porter in not having properly secured them. The man has been fined.	25										
"	25	While an engine was returning from the turntable at Raichur station, its leading and driving wheels were derailed owing to driver moving it											

PART I.

Return of Accidents to Trains, Rolling Stock, Permanent Way, &c., reported by the Madras ~~and South Indian~~ Railways during the 3rd quarter of 1889, together with the Number of Persons killed and injured thereby.

N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Sheward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
August	25	it without first satisfying himself that the table was properly secured.	6										
"	26	Shunting engine was derailed at point 8 in the Arkonam station yard.	6										
"	28	While the engine of Special train was being turned at the turn table at Katpadi station, it took a sharp curve to driver attempting to move it before the turning was completed and the catches put in position.	6										
September	1	A pilot engine was derailed at Jalarpet station owing to the carelessness of pointsman	6										
"	6	While a mixed train was leaving Cauvery station, 16 of its vehicles, parted owing to a defective joint											

PART I.

Return of Accidents to Trains, Rolling Stock, Permanent Way, &c., reported by the Madras ~~and South Indian~~ Railways during the 3rd quarter of 1889, together with the Number of Persons killed and injured thereby.

N.B.—The Spark-arrester in use on the Madras Railway is known as the Madras Railway pattern. The Spark-arrester in use on the South Indian Railway is known as Sheward's pattern.

Date of Accident.		Nature and Cause of Accident.	Classification.	Passengers.				Railway Servants.				Total of all Classes.	
				From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.			
Month.	Day.			Killed.	Injured.	Killed.	Injured	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
September	6	given by the driver in starting, which caused the couplings of 2 timber trucks to give way.	25										
"	9	During shunting at Jalarpet station a 3rd class carriage came into collision with a brake-Van which was standing foul of the crossing shunter in fault has been fined	2										
"	21	During shunting at Jalarpet station tender of engine was derailed.	6										
"	29	A pilot engine was derailed at Katpadi station owing to the carelessness of ~~a~~ pointsman.	6										

PART I.

Return of Cases reported by the Madras ~~and South Indian~~ Railways during the 3rd quarter of 1889, of Trains running through Level-crossing Gates, over Cattle straying on the Line or other obstructions, but in which no personal injury was caused nor any damage done to the Permanent Way.

NOTE.—*The Cow-catcher in use on the Madras Railway is known as the Madras Railway pattern.*
" —*The Cow-catcher in use on the South Indian Railway is known as the South India Railway pattern.*

DATE.		Nature and Cause of Accident.
Month.	Day.	
July	2	A Cow was run over by a mixed train between Kamalasamudram and Kuppam Stations. Came through self closing gate. Also fence in good order.
"	"	a buffalo was run over by a passenger train between Kuppal and Adam Stations. Also and wire fence in good order Animal not killed
"	6	A Cow was run over by a Special train between Kuppam and Kamalasamudram Stations. Came through Self. closing gate. Also fence in good order. Engine was fitted with Cow-catcher but it did not act as the train was running tender foremost.
"	12	[illegible] Stations which was opened by some boys who were standing near by.
"	14	A Cow and a calf were run over by a mail train between Peddapad and Kodur stations. Also fence in good order.
"	23	a bull was run over by a Goods train between Ramgunta and Damanderu stations. Also fence in good order.
"	27	a bull was run over by a passenger train between Damanderu and Peddapad stations. Stone wall fence in good order.
"	"	[illegible] between Attoor and Tirumalla st[illegible]
"	28	a bullock was run over by a passenger train between Arkonam and Tiruttani stations. Came through gate near by. Prickly pear and also fences in good order. Animal not killed owner fined Rs 5
August	5	A Cow was run over by a mail train between Avadi and Tirunamur stations. Came through self. closing gate. Also fences in good orders.
"	11	Engine of a passenger train came in contact with a stone measuring 2"×1"×6" placed on the line between Parrumbedur and Vizianagalam stations by some person or persons unknown

PART I.

Return of Cases reported by the Madras ~~and South Indian~~ Railways during the 3rd quarter of 1889, of Trains running through Level-crossing Gates, over Cattle straying on the Line or other obstructions, but in which no personal injury was caused nor any damage done to the Permanent Way.

NOTE.—*The Cow-catcher in use on the Madras Railway is known as the Madras Railway pattern.*
" —*The Cow-catcher in use on the South Indian Railway is known as the South India Railway pattern.*

DATE.		Nature and Cause of Accident.
Month.	Day.	
August	29	a bull was run over by a mixed train between Arcot and Tiruvallam stations. also fence in good order. Animal not killed
"	30	a buffalo was run over by a mail-train between Rajampet and Reddipalle stations. also fence in good order. Engine was fitted with cow-catcher but the ~~bones~~ of the animal becoming entangled in it, it was dragged for some distance.
September	6	a buffalo was run over by a mail-train between Kondapuram and Venganur stations. also and wire fences in good order.
		in good order. one animal not killed.
	14	A cow and a calf were run over by a passenger-train near Nanchetla station. also fence in good order. Animals not Killed
		A cow was run over by a mail-train between Tiruvandur and ?Eddapad stations. stone wall fence in good order. Animal not killed
	15	a heifer was run over by a special-train between Mr. Donald's chantry and Sankaridrug stations. also fence in good order.
	17	a bull was run over by a goods train between Arcot and Tiruvallam stations. also fence in good order. Animal not killed
	20	a cow was run over by a mail-train between Tirupatur and Kaveripakam stations. Came through gate. also fence in good order. Animal not killed
	22	a calf was run over by a mail-train between Thirumur and Puttambi stations. Wire fence in good order.

PART I.

Return of Cases reported by the Madras ~~and South Indian~~ Railway~~s~~ during the 3rd quarter of 1899, of Trains running through Level-crossing Gates, over Cattle straying on the Line or other obstructions, but in which no personal injury was caused nor any damage done to the Permanent Way.

NOTE.—*The Cow-catcher in use on the Madras Railway is known as the Madras Railway pattern.*

„ —*The Cow-catcher in use on the South Indian Railway is known as the South India Railway pattern.*

DATE.		Nature and Cause of Accident.
Month.	Day.	
September	25	As a Special train was approaching Arakonam station a man was seen placing small stones on the line. He was arrested and handed over to the police for prosecution.

N.B. ~~The action of the cow catchers except where the contrary is stated~~ was generally efficient.

PART I.

Return of Rails found fractured in the Permanent Way reported by the Madras Railway during the 3rd quarter of 1899.

Date when found fractured. Month.	Day.	Nature and Cause of Fracture.
Nil.		Nil.

		Ex Cauvery	6	"	"	"	"	"	"	1	1	2	"
	17	A woman was run over and killed by a wagon being shunted while she was crossing the station yard at Salem station	3								1		
September	21	A child passenger fell out from a mail train between Patakottachera and Timmanchera stations	5				1						
	28	During shunting at Tiruvur station a beggar who attempted to pass between vehicles was caught by the buffers and was killed	6										
		Total		"	"	"	2	"	"	1	1	2	"

PART I.

Return of Failure of Wheels reported by the Madras Railway during the 3rd quarter of 1889.

Date of Failure.										Nature and Cause of Failure.
Month.	Day.									
August	9th	Chinna swamy	Gangcooly	at Central station Madras	..	..	..	1	9	A crossing plasper fell on him
"	16th	Kanappen	Cart Driver	at Salt Cotans Madras	..	..	..	1	8	Whilst working at a crank
"	23rd	Iyanoo	Gate Jem	Between Triangalam and Somanur stations	..	..	1	..	11	Whilst crossing from the north to the south side of the line to light gate signal lantern
"	20th	Buchaiamah	Riveter	Between Kondapuram and Vanganur stations	..	..	..	1	1	Whilst pushing a truck
September	10th	Narasappah	Cooly porter	at Goorty station	..	..	..	1	6	Whilst shunting
September.	20th	Rangan	Cooly	Between Kanjikode and Kavakode stations	..	..	..	1	5	Whilst attempting to get on to a wagon
				Carried over	..	..	1	9		

PART I.

Return of Failure of Tyres reported by the Madras Railway during the 3rd quarter of 1899.

Date of Failure.		Nature and Cause of Failure.
Month.	Day.	
Nil		Nil

PART I.

Return of Failure of Axles reported by the Madras ~~and South Indian~~ Railway~~s~~ during the 3rd quarter of 1889.

Date of Failure.		Nature and Cause of Failure.
Month.	Day.	
Nil		Nil.

TABLE No. 4.

Accidents to Trains, Rolling Stock, Permanent Way, &c., on the Railways open for Traffic in the Madras Presidency during the 3rd *quarter of* 1879, *distinguishing the different Classes of Accidents, the Number of Passengers and others, and the number of Railway Servants killed or injured thereby.*

Railway.	Collisions between passenger trains, or parts of passenger trains.	Collisions between passenger trains and goods or mineral trains, engines, &c.	Collisions between goods trains, or parts of goods trains.	Collisions between light engines.	Passenger trains, or parts of passenger trains leaving the rails.	Goods trains, or parts of goods trains, engines, &c., leaving the rails.	Trains or engines travelling in the wrong direction through points.	Trains running into stations or sidings at too high a speed.	Trains running over cattle on the line.	Trains running over obstruction on the line.	Trains running through gates at level crossings.	The bursting of boilers of engines.	The bursting of tubes, &c., of engines.	The failure of machinery, springs, &c., of engines.	The failure of tyres.	The failure of wheels.	The failure of axles.	The failure of brake apparatus.	The failure of couplings.	The failure of tunnels, bridges, viaducts or culverts.	Broken rails.	The flooding of portions of permanent way.	Slips in cutting or embankments.	Fire in trains.	Fire at stations, or involving injury to bridges or viaducts.	Other accidents.	Total, all Classes.	Number of Passengers and others. Killed.	Number of Passengers and others. Injured.	Number of Servants. Killed.	Number of Servants. Injured.	Total, all Classes. Killed.	Total, all Classes. Injured.	Mean miles of Railway open.	Number of passengers carried.	Train mileage of all descriptions.	Passenger mileage.	Per Mile open. Number of passengers carried.	Per Mile open. Train mileage of all descriptions.	Per Mile open. Passenger mileage.	Total Passengers. Per million of passengers. Killed.	Total Passengers. Per million of passengers. Injured.	Total Passengers. Per million of passenger miles. Killed.	Total Passengers. Per million of passenger miles. Injured.
Madras Railway ..	"	1	1	"	"	16	"	"	19	2	1	"	1	2	"	"	"	"	"	"	"	"	"	"	5	48																	
South Indian Railway ..	"	1	2	"	"	2	1	"	41	3	"	5	6	"	"	1	3	"	"	1	3	"	2	5	76	"	1	"	1	"	2	654 ×											
South Indian Railway																																											
																																			2013.235	518,455	67,003,050	3,070	793	103,797			
Nellore Branch of the Villupuram Gunta Kal Railway																																											
																																			174502	34536	4103120	2103	416	49435			

× These figures do not include traffic on the Pondicherry Railway in French territory

MADRAS,
30th October 1879.

Sidney Smith
Major, R.E.,
for *Consulting Engineer for Railways.*

TABLE No. I.

Number of Persons reported during the 3rd Quarter of 1889 as killed or injured on the Madras and South Indian 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 happening from causes beyond their own control and Accidents happening otherwise.

Under what Government.	Mean Mileage open.	Railways.	Passengers.						Railway Servants, or Servants of Contractors.						Other Persons.								Total, all Classes.	
			From causes beyond their own control. a.		From their own misconduct or want of caution. b.		Total c.		From causes beyond their own control. d.		From their own misconduct or want of caution. e.		Total f.		Whilst passing over Railways at level crossings. g.		Trespassers and Suicide. h.		Miscellaneous not included in previous columns. i.		Total. k.			
			Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
		Madras Railway	..	..	..	2	..	2	..	..	1	10	1	10	..	..	1	1	2	..	3	1	4	13
		South Indian Railway	..	..	..	3	..	3	1	1	4	7	5	8	..	..	1	1	..	..	1	1	6	12

(*a*) and (*b*)—Totals for each Railway from Parts I and II.
(*c*)—The figures in this column should tally with the totals in Table 2, column (*a*).
(*d*)—and (*e*)—Totals for each Railway from Parts I and III.
(*f*)—The figures in this column should tally with the totals in Table 2, column (*b*).
(*g*) (*h*) and (*i*)—Totals for each Railway from columns (*c*), (*d*), and (*e*), from Part II.
(*k*)—The figures in this column should tally with the totals in Table 2, column (*c*).
(*l*)—Totals of each Railway should tally with the totals in Table 2, column (*d*).

MADRAS,
30th October 1889.

Sidney Smith
Major, R.E.,
for *Consulting Engineer for Railways.*

PART II.

Return of Accidents to Passengers, Persons passing over Level-crossings, Trespassers, and others on the Madras ~~and South Indian~~ Railways during the 3rd quarter of 1889, exclusive of those killed or injured by Accidents to Train, &c., printed in Part I.

Date of Accident.	Nature and Cause of Accident.	Classification.	Passengers.				Other Persons.					
			Causes beyond own Control.		Misconduct or want of Caution		While passing over Railway at Level-crossings.		Trespassers and Suicides.		Miscellaneous not included in previous Columns.	
			Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
July. 3	a passenger in jumping out of his carriage at Vantimitta Station, while the train was in motion, was severely injured	5	..	..	..	1	..	..	..	1	..	..
" 5	a person supposed to be of unsound mind was seen to place some stones on the line between Arcot and Timmallam stations and then place himself across the rails. The man was handed over to the police	6	..	..	..	..	..	..	..	1	..	..
August 3	a mahomedan who was seated between the rails between Mallapuram and Kadiampatti stations											

PART III.

Return of Accidents reported during the 3rd quarter of 1889 by the Madras Railway, as having occurred to Servants in the Company's own employ, or in the employ of Contractors, whilst performing duties connected directly with the transit of Passengers and Goods, exclusive of those killed by Accidents to Trains, &c., in Part I.

Date of Accident.	Name of Person.	Class of Service.	Place where the Accident happened.	Causes beyond own Control.		Misconduct or want of Caution.		See Key to this Part.	Remarks.
				Killed.	Injured.	Killed.	Injured.		
July 9th	Pazan	Line Watchman	Between Ambur and Vaniyambadi stations				1	17	a bill hook dropped from his hand on his left knee
" 15th	J. Rawlins	Ticket collector	at Perambur station				1	12	Whilst crossing between 2 carriages
" 24th	Muthuswamy	Volunteer range cooly	Between Perambur and Kannur stations				1	11	Whilst walking across the line was knocked by a passing passenger train
" 30th	Karuppen	Bandsman	at Egmore.						Whilst unloading beam

PART III.

Return of Accidents reported during the 3rd quarter of 1889 by the Madras Railway, as having occurred to Servants in the Company's own employ, or in the employ of Contractors, whilst performing duties connected directly with the transit of Passengers and Goods, exclusive of those killed by Accidents to Trains, &c., in Part I.

Date of Accident.	Name of Person.	Class of Service.	Place where the Accident happened.	Causes beyond own Control.		Misconduct or want of Caution.		See Key to this Part.	Remarks.
				Killed.	Injured.	Killed.	Injured.		
			Brought forward	"	"	1	9.		
September 28th	J. E. Jones	Assistant Carriage Examiner	at Raichur platform	-	--	--	1	11	Whilst attempting to cross the line where shunting was being performed
			Total	"	"	1	10.		

PART IV.

The following Accidents to Railway Servants and others not included in Part I, II, and III have also been reported by the Madras ~~and South Indian~~ Railways during the 3rd quarter of 1889.

Date of Accident.	Nature and Cause of Accident.	Passengers and others.				Railway Servants.			
		Causes beyond own control.		Misconduct or want of caution.		Causes beyond own control.		Misconduct or want of caution.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
July 5th	A Coolie at the Perambur Workshops was injured whilst lifting a four-legged ladder	..	..	..	..	..	..	..	1
" 15th	A Coolie at the Perambur Workshops was injured by his hand getting caught between the pinion and wheel of a crane	..	..	..	..	..	..	..	1
" 16th	A Carpenter at the Rayapuram Engineers workshop was injured while attempting to climb the Carpenter's bench	..	..	..	..	..	..	..	1

PART V.

List of Deaths of Passengers in Carriages and Stations on the Madras ~~and South Indian~~ Railways during the 3rd quarter of 1879, from causes unconnected with the working of the Line.

No.	Particulars.	Date.	Assigned cause.	Sex. Female.	Sex. Male.	Age.	Remarks.
1.	a housekeeper who was travelling in a passenger-train was found to be suffering from cholera and was therefore removed from the horse-box at Jalarpet station, where he died the same day	July 6th	Cholera		1		
1	A native 3rd class passenger was removed dead from a passenger-train at Jalarpet station	" 8th	Fever		1	50 years.	
1	On arrival of a mail-train at Renigunta station a passenger was found dead	" 9th	Diarrhœa		1	65 years	
1	On arrival of a mail-train at						
1		September 8th			1	40 years	
1.	On arrival of a passenger-train at Vonkimitta station a pariah child died	" 21st	Fever	1		10 months	
1	An infant belonging to an intending passenger died in the station compound at Raichur	" 21st	Fever		1	4 months	
1.	a native passenger who was injured by the fall of a wall and brought to Timmamcherla station in vcan to his being taken to Gooty for medical treatment died in the station compound	" 23rd	Injuries received		1	40 years	

Madras
30th October 79

Sidney Smith
Major
I.O.C. Engr. for Rys

R/2/11/79

Accidents to Trains, Rolling Stock, Permanent Way, &c., reported ring the 3rd quarter of 1899 *as having occurred on the Railways open for traffic in the Madras Presidency, distinguishing the different Classes of Accident and the number of Passengers and others, and of Railway Servants killed or injured in each Class of Accident.*

FROM PART I. (See also Table 4.)

	Madras Railway.						South Indian Railway.					
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.
		Killed.	Injured.	Killed.	Injured.	Killed. Injured.		Killed.	Injured.	Killed.	Injured.	Killed. Injured.
Collisions between passenger trains or parts of passing trains												
Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	1						1					
Collisions between goods trains or parts of goods trains	1						2					
Collisions between light engines												
Passenger trains or parts of passenger trains leaving the rails												
Goods trains or parts of goods trains, engines, &c., leaving the rails	16						2					
Trains or engines travelling in the wrong direction through points							1					
Trains running into stations or sidings at too high a speed												
Trains running over cattle on the line	19						41					
Trains running over obstructions on the line	2											
Trains running through gates at level crossings	1						3		1		1	2
The bursting of boilers of engines												
The bursting of tubes, &c., of engines	1						5					
The failure of machinery, springs, &c., of engines	2						6					
„ „ of tyres												
„ „ of wheels												
„ „ of axles							1					
„ „ of brake apparatus							3					
„ „ of couplings												
„ „ of tunnels, bridges, viaducts, culverts, &c.												
Broken rails							4					
The flooding of portions of permanent way							3					
Slips in cuttings or embankments												
Fire in trains							2					
Fire at stations, or involving injury to bridges or viaducts												
Other accidents	5						5					
Total all Classes	48						76		1		1	2
							S. I. R.		Nellore Branch of the V. G. Railway			
Number of passenger miles							67,883,050 *					4,103,128
Number of servants employed							9,341					613
Train mileage of all descriptions							518,455					34,536

* These figures do not include traffic on the Pondicherry Railway in French territory.

Madras,
30th October 1899.

Major, R.E.,
for *Consulting Engineer for Railways.*

FORM No. 1.

PUBLIC WORKS DEPARTMENT.

OFFICE OF CONSULTING ENGINEER FOR RAILWAYS,

Madras, 30th October — 1899.

Return of accidents on the Madras and — South Indian Railways for the third quarter of 1899.

No. 433A.

SUBMITTED — for the information of — Government, and for transmission to the — Director-General of Railways.

2. The statistics such as passenger mileage, &c., relating to the Madras Railway will be submitted on — receipt from the Agent —

3. It is requested that 30 copies of the General Return of accidents for all Railways in India may be obtained for communication to the Agents and for record in this offi—.

Sd/- Griffith Evans

for Cons: Engr: for

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Form No. 3.

No. 1205 R dy 2nd Nov. '89

From

THE CONSULTING ENGINEER
FOR RAILWAYS,
MADRAS,

No. 433 A.

Dated 30th October, 1889.
Received 31st

No. of Enclosures. Five (in duplicate)

Subject.

Submitting for the information of Govt. and for transmission to S. of S. R. accidents on the Madras and South Indian Railways for the 3rd qr. of '89.

1st Nov.

Ordered that the following letter be forwarded to the Director General of Railways

No. 1206 R 2nd November 1889

To

The Director General of Railways

Sir,

1st Nov. 2nd

In forwarding original Return of accidents on Madras and South Indian Railways for 3rd quarter of 1889, I am directed to request that this Government may be furnished with 40 copies of that General Return of accidents for all Railways in India.

2. The statistics as to passenger mileage &c for the Madras Railway will, in proof, be forwarded.

5-6 R dy 2nd Nov. '89.

CSI
31.10.9

31/X-89
R2/X/89
D4/11

Consg. Engr.'s No. 13.

OFFICE OF CONSULTING ENGINEER FOR RAILWAYS
Madras, 22nd November 1889.

No. 473.

MEMORANDUM.

With adverting to para. 2 of this office endorsement dt. 433 A dated 30th October, the undersigned has the honor to subjoin the following figures, having reference to the Return of Accidents, Madras Railway for the 3rd quarter of 1889:—

No. of passenger miles — 82,830,634
Do — Servants employed — 6,604
Train mileage of all descriptions — 882,026
Mean miles of Railway open — 839
No. of passengers carried — 2,180,119

Sidney Smith
Major R. E.
for Consulting Engineer for Rys.

To,
The Joint Secretary to Govt.
P. W. D. Ry Branch.

Form No. 3.

No. 1338R dy 5th Dcr: '89

Ry Dw

Ordered to be forwarded to the Director General of Railways in continuation of P. W. D. letter No. 1206 R. dated 2nd November 1889.

Ag. No. 1339 R dy 5th Dcr: 89.

Forwarded.

27.11.9

R.

From P.W.C. No. 11115

THE CONSULTING ENGINEER FOR RAILWAYS,

Madras,

No. 473

Dated 22nd Dcr: 1889.

Received 22

No. of Enclosures. Nil.

Subject.

Submitting statistics to the Return of Accidents, Madras Railway, for the 3rd qr. of '89.

No. 1338-9R dy 5th Dcr: '89.

D 7/12

No. 1205-6 R dy 2-11-89.

Ag. No. 29/11/89. R.3. 10/12/89

RRC 9/12.

[Enclosure to P. W. D. No. 0210 R.T. of 1890.]

INDIAN RAILWAYS.

ABSTRACT RETURNS OF ACCIDENTS FOR THE QUARTER ENDING 30TH JUNE 1889,

TOGETHER WITH

REPORTS OF THE INSPECTING OFFICERS UPON CERTAIN ACCIDENTS WHICH WERE INQUIRED INTO.

G. I. C. P. O.—No. 98 D. G. R.—18-2-90.—800.

TABLE No. 1.

GENERAL TOTAL.

NUMBER of PERSONS reported during the Second Quarter of 1889 as KILLED or INJURED on the several 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 happening from Causes beyond their own Control, and ACCIDENTS happening otherwise.

Mean mileage open.	RAILWAYS.		PASSENGERS.						RAILWAY SERVANTS, OR SERVANTS OF CONTRACTORS.						OTHER PERSONS								TOTAL ALL CLASSES.	
			From causes beyond their own control.		From their own misconduct or want of caution.		Total.		From causes beyond their own control.		From their own misconduct or want of caution.		Total.		Whilst passing over Railways at Level-Crossings.		Trespassers and Suicides.		Miscellaneous, not included in preceding columns.		Total.			
			Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
	STATE IMPERIAL.																							
(a)1,691¾ (b)1,605	East Indian ...	Average for 5 corresponding previous quarters.	...	3	3	7	3	10	2	7	7	26	9	3	1	1	17		1		19	3	3	46
		1889	...	...	...	5	...	5	3	16	2	35	5	51	1	1	28	6	1	3	30	10	35	66
(c) 1,628½ 1,691¾	Rajputana-Malwa ...	Average for 5 corresponding previous quarters.	...	...	1	4	1	4	...	2	2	12	2	14	...	...	4	2	...	...	4	2	7	20
		1889	...	...	1	2	1	2	...	3	...	8	...	11	...	...	3	4	...	...	3	4	4	17
(d) 186 293	Bengal-Nágpur	Average for 5 corresponding previous quarters.	...	1	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	2
		1889	...	1	...	...	...	1	...	...	...	1	...	1	...	...	1	...	...	...	1	...	1	2
(e) 410¼ 856¾	Southern Mahratta ...	Average for 4 corresponding previous quarters.	...	...	...	...	...	...	...	...	1	4	1	4	...	...	1	...	...	...	1	...	2	4
		1889	...	...	...	...	...	...	...	...	1	4	1	4	...	...	1	..	...	...	1	...	2	4
129 218¾	Ditto, Mysore Section ...	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	..	...	..	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(f)136¼ 611	Indian Midland	Corresponding previous quarter.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1	1	1	1
		1889	...	...	...	5	...	5	...	1	3	4	3	5	...	...	1	...	...	1	1	1	4	11
(g) 1,931½ 2,386	North Western	Average for 5 corresponding previous quarters.	...	2	1	5	1	7	3	5	5	12	8	17	...	1	8	2	...	1	8	4	17	28
		1889	...	...	4	10	4	10	...	...	9	8	9	8	...	...	12	3	1	1	13	4	26	22
(h) 626½ 692½	Oudh and Rohilkhand	Average for 5 corresponding previous quarters.	...	...	...	1	...	1	...	...	2	4	2	4	...	...	3	2	...	...	3	2	5	7
		1889	...	1	...	3	...	4	1	1	3	2	4	3	1	...	8	1	2	...	11	1	15	8
45 45	Wardha Coal	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	STATE PROVINCIAL.																							
(i) 718 798	Eastern Bengal	Average for 5 corresponding previous quarters.	1	2	...	2	1	4	...	1	3	8	3	9	...	...	5	2	...	...	5	2	9	1
		1889	7	81	...	1	7	82	1	...	2	9	3	9	...	...	9	3	...	...	9	3	19	94
27¼ 27¼	Naihâti	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1
234½ 273	Tirhoot	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1	1	1	1
		1889	...	...	...	1	...	1	...	...	3	3	3	3	...	...	3	...	...	...	3	...	6	4
93½ 105	Lucknow-Sitapur-Sihrámau ...	Average for 5 corresponding previous quarters.	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28½ 30½	Jorhát	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7¼ 7¼	Cherra-Companyganj . .	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
289¼ (j) 553	Burma	Average for 5 corresponding previous quarters.	...	...	...	1	...	1	...	2	1	3	1	5	...	...	1	1	...	...	1	1	2	7
		1889	...	2	1	3	1	5	...	...	3	5	3	5	...	...	1	1	...	...	1	1	5	11
	GUARANTEED COMPANIES.																							
851¾ 839	Madras	Average for 5 corresponding previous quarters.	...	...	...	1	...	1	...	1	1	7	1	8	...	...	2	...	...	...	2	...	3	9
		1889	...	...	...	3	...	3	...	...	2	14	2	14	...	...	1	...	...	...	1	...	3	17
(k) 670½ 738	South Indian	Average for 5 corresponding previous quarters.	...	1	...	1	...	2	...	1	1	6	1	7	...	...	1	...	...	...	1	...	2	9
		1889	...	...	...	3	...	3	...	...	...	13	...	13	...	...	...	1	...	...	...	1	...	17
(l)1,493½ (m)1,445½	Great Indian Peninsula . .	Average for 5 corresponding previous quarters.	...	...	1	2	1	2	...	...	9	26	9	26	...	...	4	2	1	1	5	3	15	31
		1889	2	5	...	7	2	12	1	...	7	33	8	33	...	...	4	1	...	...	4	1	14	46
(n) 461 461	Bombay, Baroda and Central India	Average for 5 corresponding previous quarters.	...	...	1	2	1	2	...	...	3	11	3	11	...	...	2	...	1	...	3	...	7	13
		1889	...	...	2	...	2	...	...	...	2	4	2	4	...	...	2	1	...	...	2	1	6	5
	ASSISTED COMPANIES.																							
51 51	Darjeeling-Himalayan . .	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5¼ 4¾	Deoghur	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
78 78	Dibru-Sadiya . . .	Average for 3 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
286¼ 376	Bengal and North-Western .	Average for 4 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	2	...	2	...	...	3	...	...	...	3	...	3	2
		1889	...	...	...	...	...	...	...	...	...	1	...	1	3	1	2	1	2	...	7	2	7	3

(a) Includes the Patna-Gya, Sindia, Dildárnagar-Ghazipur and Tárakeshwar Railways for five quarters; and the Indian Midland Railway for four quarters.
(b) Includes the Patna-Gya, Dildárnagar-Ghazipur and Tárakeshwar Railways.
(c) Includes H. H. the Gaekwar's Vicamgám-Mehsána-Vadnagar Railway.
(d) Includes the Katni-Umaria Branch.
(e) Includes the Bellary-Kistna State Railway.
(f) Includes the Sindia and Bhopal-Itársi State Railways.
(g) Includes the Amritsar-Pathánkot and Rajpura-Bhatinda State Railways.
(h) Includes the Benares Branch.
(i) Includes the Bengal Central Railway.
(j) Includes the Toungoo-Mandalay Extension.
(k) Includes the Vilupuram-Dharmavaram, Nellore Branch.
(l) Includes the Dhond-Manmád, Amráoti, Khamgaon, and Bhopal-Itársi State Railways.
(m) Includes the Dhond-Manmád, Khamgaon, and Amráoti State Railways.
(n) Includes the Pátri Branch.

TABLE No. 1—*concluded.*

GENERAL TOTAL.

NUMBER of PERSONS reported during the Second Quarter of 1889 as KILLED or INJURED on the several Railways open for Traffic in INDIA, &c.—*concluded.*

Mean mileage open.	RAILWAYS.		PASSENGERS.						RAILWAY SERVANTS OR SERVANTS OF CONTRACTORS.						OTHER PERSONS								TOTAL ALL CLASSES.	
			From causes beyond their own control.		From their own misconduct or want of caution.		Total.		From causes beyond their own control.		From their own misconduct or want of caution.		Total.		Whilst passing over Railways at Level-Crossings.		Trespassers and Suicides.		Miscellaneous, not included in preceding columns.		Total.			
			Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
	ASSISTED COMPANIES—*concld.*																							
(a) 91	Rohilkhand-Kumaun	Average for 4 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
91		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	Thatôn-Duyinzáik	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	FOREIGN.																							
	Pondicherry		...	...	...	...	...	...	...	Worked by the South Indian Railway.					...	...	...	...	...	...	...	...	...	...
	West of India Portuguese		...	...	...	...	...	...	...	...	Information not furnished.				...	...	...	...	...	...	...	...	...	...
	NATIVE STATES.																							
187	H. H. the Nizam's Guaranteed	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	2	1	1	1	3	...	...	...	...	...	...	...	...	1	3
(b) 354		1889	...	...	...	1	...	1	...	...	...	4	...	4	...	...	1	...	...	...	1	...	1	5
59	H. H. the Gaekwar's	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
59		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
193	Bhávnagar-Gondal-Junágarh-Porbandar.	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
260		1889	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...
68	Morvi	Average for 3 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
68		1889	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
79½	Jodhpore	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
124		1889	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
12,766½	TOTAL	Average for 5 corresponding previous quarters(c).	1	10	7	26	8	36	5	22	36	124	41	146	1	2	53	12	3	5	57	19	106	201
15,151¼		1889	9	90	9	44	18	134	6	22	38	150	44	172	5	2	77	22	6	5	88	29	150	335

(a) Includes the Bareilly-Pilibhit State Railway.

(b) Includes the Bezvâda Extension.

(c) Except where statistics for five quarters are not available for any line.

TABLE No. 2.

NUMBER of PERSONS reported during the Second Quarter of 1889 as KILLED or INJURED on all RAILWAYS open for

TABLE No. 2.

practicable, the Nature and Causes of the Traffic in INDIA, distinguishing between PASSENGERS, RAILWAY SERVANTS, and OTHER PERSONS, and classifying, as far as Accidents occasioning the Death or Injury.

| Serial Number. | RAILWAYS. | PASSENGERS. | | |

TABLE No. 3.

ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the Second Quarter of 1889 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.

SEE ALSO TABLE No. 4.

STATE IMPERIAL.

CLASS.	EAST INDIAN (a).							RAJPUTANA-MALWA (c).							BENGAL-NAGPUR. (d).							SOUTHERN MAHRATTA (e).							SOUTHERN MAHRATTA, MYSORE SECTION.						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		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.	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	...	...	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	2	(b)1	(b)1	...	...	1	1	4	...	...	...	...	...	...	2	...	...	...	...	...	...	1	...	...	1	...	1	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	7	...	...	...	...	...	...	3	...	...	...	...	...	...	2	...	...	...	...	...	...	6	...	...	...	...	...	...	1	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Trains running over cattle on the line	32	...	...	...	...	...	...	94	...	..	...	...	...	...	24	...	...	...	...	...	...	83	...	...	...	...	...	...	15	...	...	...	...	...	...
10. Ditto over obstructions on the line	2	...	...	...	...	...	...	9	...	1	...	...	...	1	1	...	...	...	...	...	...	4	(f)1	...	...	...	1	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	1	...	..	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	1	...	...	...	...	...	...	5	...	...	...	...	...	...	2	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	34	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	1	...	...	...	...	...	...	9	...	...	...	...	...	...	3	...	...	...	...	...	...	1	...	...	...	...	...	...	2	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
	3	...	...	...	...	...	...	12	...	...	...	1	...	1	3	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	53	(b)1	(b)1	...	...	1	1	185	...	1	...	3	...	4	39	...	...	...	...	...	...	112	(f)1	...	...	1	1	1	19	...	...	...	...	...	...
Number of passenger miles	246,045,516							123,911,704							7,656,891							34,348,874							6,692,727						
,, of servants employed	26,971							12,245							2,460							6,226							1,124						
Train-mileage of all descriptions	2,201,122							1,968,319							122,031							403,548							56,475						

(a) Includes the Patna-Gya, Dildárnagar-Ghazipur and Tárakeshwar Railways.
(b) Not a passenger, but a trespasser.
(c) Includes H. H. the Gackwar's Viramgam-Muhsána-Vadnagar Railway.
(d) Includes the Katni-Umaria Branch.
(e) Includes the Bellary-Kistna State Railway.
(f) Not a passenger, but a cart-man.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the Second Quarter of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

STATE IMPERIAL—*concluded.* | STATE PROVINCIAL.

CLASS.	INDIAN-MIDLAND (a).							NORTH WESTERN (b).							OUDH AND ROHILKHAND (c).							WARDHA COAL.							EASTERN BENGAL (e).						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		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.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...	4	...	...	...	...	...	...	2	...	1	...	1	...	2	...	...	...	...	...	...	...	2	...	1	...	...	...	1
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
4. Collisions between light engines	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	1	...	...	...	1	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	7	...	..	...	..	..	...	10	...	...	...	...	...	...	...	...	...	..	...	..	...	...	...	...	...	...	...	...	2	7	80	...	...	7	80
7. Trains or engines travelling in the wrong direction through points	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...
9. Trains running over cattle on the line	30	...	..	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Ditto over obstructions on the line	5	...	...	...	...	...	...	26	...	...	...	...	...	...	28	...	...	...	...	...	...	...	...	...	...	...	...	...	70	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	10	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	2	...	...	...	...	...	...	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	8	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...
								5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...
TOTAL ALL CLASSES	55	...	...	...	1	...	1	107	...	...	...	...	...	...	37	...	1	...	1	...	2	...	...	...	...	...	...	...	118	7	81	...	...	7	81
Number of passenger miles	20,820,568							142,547,322							64,341,722							1,112,235							64,521,460						
,, of servants employed	6,421							24,630							6,482							414(d)							9,639						
Train mileage of all descriptions	293,748							1,942,686							711,834							23,006							652,083						

(a) Includes the Sindia and Bhopal-Itársi State Railways.
(b) Includes the Amritsar-Pathánkot and Rajpura-Bhátinda State Railways.
(c) Includes the Benares Branch.
(d) Includes 21 servants employed on Colliery.
(e) Includes the Bengal Central Railway.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the Second Quarter of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

STATE PROVINCIAL—*contd.*

CLASS.	NALHA'TI.					TIRHOOT.					LUCKNOW-SITAPUR-SIHRA'MAU.					JORHA'T.					CHERRA-COMPANYGANJ.				
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...
9. Trains running over cattle on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	1	...	1	1	1	1	2	5	...	...	...	...	...	...	2	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	...	1	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	...	3	...	...	1	...	1	8	...	1	1	1	1	2	5	...	...	...	...	...	...	6	...	...	...	...	...	...
Number of passenger miles	...	785,869						22,055,277							4,313,459							129,840						20,120	
,, of servants employed	...	113						1,744							546							160						46	
Train mileage of all descriptions	...	11,009						138,999							43,583							5,606						3,080	

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the Second Quarter of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

STATE PROVINCIAL—*concluded.* | GUARANTEED COMPANIES.

CLASS.	BURMA(a).					MADRAS.					SOUTH INDIAN(b).					GREAT INDIAN PENINSULA(c).					BOMBAY, BARODA AND CENTRAL INDIA(d).				
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	2	...	...	...	...	...	...	2	...	...	...	...	...	...	3	1	3	...	...	1	3	1	...	...	...	...	...
5. Passenger trains, or parts of passenger trains leaving the rails	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	3	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	7	...	...	...	...	...	...	9	...	...	...	...	...	...	4	...	...	...	...	...	...	3	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Trains running over cattle on the line	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	...	...	...	...	...	...	29	...	...	...	...	...	...	32	...	...	...	...	...	...	23	...	...	...	...	...	...	8	...	...	...	...	...
11. Ditto through gates at level-crossings	...	2	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	5	...	...	...	...	...	...	2	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	2	...	...	...	...	...	...	1	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	1	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	2	...	...	...	...	...	...	7	...	...	...	...	...	...	2	...	...	...	...	...	...	4	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...
18. Ditto of couplings	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	6	...	...	...	...	...	...	3	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	...	...	...	...	...	...	...	2	...	...	...	...	...	...	2	...	...	...	...	...	...	4	...	...	1	...	1	...	...	...	...	...	...	...
TOTAL ALL CLASSES	9	...	...	...	...	...	...	51	...	...	...	...	...	...	72	...	...	...	...	...	...	63	2	4	1	1	3	5	40	...	...	...	...	...
Number of Passenger miles	...	48,669,826						83,794,007							79,116,399							135,969,980						67,644,650					
,, of Servants employed	...	5,267						6,512							9,964							25,179						6,235					
Train mileage of all descriptions	...	379,051						622,724							550,026							2,600,598						660,920					

(a) Includes the Toungoo-Mandalay Extension. (b) Includes the Villupuram-Dharmavaram, Nellore Branch. (c) Includes the Dhond-Manmád, Khámgaon and Amraoti State Railways. (d) Includes the Pátri Branch.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the Second Quarter of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

ASSISTED COMPANIES.

CLASS.	DARJEELING-HIMALAYAN.							DEOGHUR.							DIBRU-SADIYA.							BENGAL AND NORTH-WESTERN.							ROHILKHAND-KUMAUN(a).						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		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.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	1	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	4	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Trains running over cattle on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	13	...	...	...	...	...	...	...	4	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	10	...	...	...	...	...	...	...	...	...	...	...	...	...	33	...	...	...	...	...	...	26	...	...	...	...	...	...	6	...	...	...	...	...	...
Number of passenger miles		299,893							137,722							989,995							23,440,752							2,698,821					
„ of servants employed		527							53							745							3,355							864					
Train mileage of all descriptions		36,081							3,293							30,839							263,007							27,947					

(a) Includes the Bareilly-Pilibhit State Railway.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the Second Quarter of 1889, &c.—*continued.*

SEE ALSO TABLE NO. 4.

ASSISTED COMPANIES—*concluded.* | FOREIGN: | NATIVE STATES.

CLASS.	THATÓN-DUYINZA'IK.							PONDICHERRY.							WEST OF INDIA PORTUGUESE.							HIS HIGHNESS THE NIZAM'S GUARANTEED(a).							H. H. THE GAEKWAR'S.						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		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.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	...	...	...	...	...	...	...															2	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Trains running over cattle on the line	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	...	...	...	...	...	...															24	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	Worked by the South Indian Railway.							Information not furnished.							...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). The bursting of tubes, &c., of engines	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...															5	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...															1	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	1	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...															1	...	...	...	...	...	...	...	...	...	...	...	...	...
25 Other accidents	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	1	...	...	...	...	...	...															1	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of passenger miles		26,832							...							...							14,118,525							1,644,205					
„ of servants employed		65							...							...							2,005							220					
Train mileage of all descriptions		2,400							...							...							154,217							14,692					

(a) Includes the Bezváda Extension.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the Second Quarter of 1889, &c.—*concluded.*

SEE ALSO TABLE No. 4.

CLASS.	NATIVE STATES—*concluded.* BHAVNAGAR-GONDAL-JUNAGARH-PORBANDAR.							MORVI.							JODHPORE.							TOTAL OF ALL RAILWAYS.						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	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	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	...	2	...	3	...	5
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23	2	4	...	1	2	5
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	7	80	...	1	7	81
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	96	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...
9. Trains running over cattle on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	561	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	7	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	32	1	2	1	1	2	3
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	39	...	...	...	1	...	1
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	35	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	18	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	46	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	15	...	...	1	...	1	...
25. Other accidents	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	78	1	1	...	2	1	3
TOTAL ALL CLASSES	...	7	...	...	...	...	...	4	...	...	...	...	...	...	2	...	...	...	...	...	...	1,105	11	89	2	9	13	98

Number of passenger miles	...	11,719,858	1,533,884	3,760,046	1,214,868,979
„ of servants employed	...	929	576	376	162,093
Train mileage of all descriptions	...	135,533	26,041	31,097	14,115,595

TABLE No. 4.

TABLE No. 4.

ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., on the several RAILWAYS open for Traffic in INDIA during the Second Quarter of 1889, distinguishing the different Classes of ACCIDENTS, the Number of PASSENGERS and OTHERS, and the Number of RAILWAY SERVANTS KILLED or INJURED thereby.

Serial Number.	RAILWAYS.	1. Collisions between passenger trains, or parts of passenger trains.	2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line.	3. Collisions between goods trains, or parts of goods trains.	4. Collisions between light engines.	5. Passenger trains, or parts of passenger trains, leaving the rails.	6. Goods trains, or parts of goods trains, engines, &c., leaving the rails.	7. Trains or engines travelling in the wrong direction through points.	8. Trains running into stations or sidings at too high a speed.	9. Trains running over cattle on the line.	10. Trains running over obstructions on the line.	11. Trains running through gates at level-crossings.	12. The bursting of boilers of engines.	12(a). The bursting of tubes, &c., of engines.	13. The failure of machinery, springs, &c., of engines.	14. The failure of tyres.	15. The failure of wheels.	16. The failure of axles.	17. The failure of brake apparatus.	18. The failure of couplings.	19. The failure of tunnels, bridges, viaducts, culverts, &c.	20. Broken rails.	21. The flooding of portions of permanent-way.	22. Slips in cuttings or embankments.	23. Fire in trains.	24. Fire at stations, or involving injury to bridges or viaducts.	25. Other accidents.	Total all Classes.	Number of Passengers and others.		Number of Servants.		Total all Classes.		Mean miles of Railway open.	Number of Passengers carried.	Train mileage of all descriptions.	Passenger mileage.	Per mile open.			Total Passengers.				Serial Number.
																														Killed.	Injured.	Killed.	Injured.	Killed.	Injured.					Number of passengers carried.	Train mileage of all descriptions.	Passenger mileage.	Per million of Passengers.		Per million of Passenger Miles.		
	STATE IMPERIAL.																																												
1	East Indian (*a*)	1	...	2	...	...	7	1	1	32	2	...	...	...	5	...	1	...	...	1	1	...	...	...	...	...	1	53	(*b*)1	(*b*)1	...	...	1	1	1,605	4,080,963	2,201,122	246,045,516	2,543	1,370	153,299	...	...	...	...	1
2	Rajputana-Malwa (*c*)	...	2	...	4	...	3	...	1	94	9	1	...	...	5	1	...	...	...	...	...	...	...	...	...	1	12	185	...	1	...	3	...	4	1,691¾	2,337,142	1,968,319	123,911,704	1,382	1,163	73,245	...	0·428	...	0·008	2
3	Bengal-Nágpur (*d*)	...	...	2	1	...	2	...	...	24	1	1	...	...	...	...	...	...	...	...	1	1	...	...	...	1	3	39	...	...	...	...	...	...	203	225,774	122,031	7,656,891	771	416	26,133	...	...	...	...	3
4	Southern Mahratta (*e*)	...	...	4	2	...	2	...	...	15	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	8	...	2	112	(*m*)1	...	...	1	1	1	856½	715,566	403,548	34,348,874	835	471	40,092	...	...	...	...	4
5	Ditto, Mysore Section ...	...	...	2	...	...	1	...	...	30	5	...	...	...	1	...	...	...	...	...	2	...	...	...	...	1	...	...	19	...	...	...	...	...	...	218½	196,418	56,475	6,692,727	898	258	30,595	...	...	...	...	5
6	Indian Midland (*f*)	...	...	...	...	...	1	...	...	26	...	...	...	...	10	...	...	...	...	...	1	...	...	...	...	...	...	8	55	...	...	...	1	1	...	611	340,463	293,748	20,820,568	557	481	34,076	...	...	...	...	6
7	North Western (*g*)	...	...	...	1	1	7	1	...	83	4	...	...	...	3	17	2	...	...	...	1	...	...	...	...	18	2	5	107	...	...	...	...	...	...	2,386	2,647,045	1,942,686	142,547,322	1,109	814	59,743	...	...	...	...	7
8	Oudh and Rohilkhand(*h*)	...	...	...	...	2	10	1	...	15	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	37	...	1	...	1	...	2	692½	1,390,010	711,834	64,341,722	2,007	1,028	92,912	...	0·719	...	0·016	8
9	Wardha Coal	...	...	...	...	...	...	...	...	26	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	45	44,744	23,006	1,112,235	994	511	24,716	...	...	...	...	9
	STATE PROVINCIAL.																																												
10	Eastern Bengal (*i*)	...	2	2	...	2	12	5	..	70	2	1	...	...	5	1	...	...	1	...	2	...	5	...	...	3	5	118	7	81	...	...	7	81	798	1,998,379	652,083	64,521,460	2,504	817	80,854	3·503	40·533	0·108	1·255	10
11	Nalbáti	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	...	...	...	1	...	1	27¼	38,611	11,009	785,869	1,417	404	28,839	...	...	...	...	11
12	Tirhoot	...	1	1	...	...	...	3	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	8	...	(*j*)1	1	1	1	2	273	607,933	138,999	22,055,277	2,226	509	80,789	...	...	...	...	12
13	Lucknow-Sitapur-Sihrámau ...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	105	152,273	43,583	4,313,459	1,450	415	41,081	...	...	...	...	13
14	Jorhát	...	...	...	...	...	4	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	,,	...	...	...	...	...	30½	17,634	5,606	129,840	578	184	4,257	...	...	...	...	14
15	Cherra-Companyganj	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7½	4,152	3,080	20,120	554	411	2,683	...	...	...	...	15
16	Burma (*k*)...	...	...	...	...	...	3	...	...	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	...	...	...	...	...	553	1,368,622	379,051	48,669,826	2,475	685	88,011	...	...	...	...	16
	GUARANTEED COMPANIES.																																												
17	Madras	...	...	2	1	2	7	...	...	29	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	..	6	...	2	51	...	...	...	...	...	...	839	2,222,696	622,724	83,794,007	2,649	742	99,874	...	...	...	...	17
18	South Indian (*l*)	...	2	2	...	...	9	...	...	32	1	2	...	4	7	...	...	...	...	...	...	...	...	...	...	...	3	2	7	72	...	...	...	...	...	...	738	2,349,763	550,026	79,116,399	3,184	745	107,204	...	...	...	...	18
19	Great Indian Peninsula (*n*) ...	...	...	3	...	...	4	...	...	23	5	2	...	...	2	...	...	1	...	...	...	...	...	...	...	1	6	4	8	63	2	4	1	1	3	5	1,445½	2,552,527	2,600,598	135,969,980	1,766	1,799	94,064	0·784	1·567	0·015	0·029	19
20	Bombay, Baroda, and Central India(*o*)	...	...	1	...	1	3	...	...	8	2	1	..	1	4	...	...	...	...	...	...	...	...	...	...	...	...	19	40	...	...	...	...	...	...	461	2,623,950	660,920	67,644,650	5,692	1,434	146,735	...	...	...	...	20
	ASSISTED COMPANIES.																																												
21	Darjeeling-Himalyan	...	...	...	...	1	4	...	...	...	...	...	...	...	3	...	...	1	...	1	...	...	...	...	...	...	...	...	10	...	...	...	...	...	...	51	12,577	36,081	299,893	247	708	5,880	...	...	...	...	21
22	Deoghur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4½	28,752	30,339	989,995	223	395	12,692	...	...	...	...	23
23	Dibru-Sadiya	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	78	17,405	263,007	23,440,752	1,751	699	62,342	...	...	...	...	24
24	Bengal and North-Western ...	...	...	...	1	3	6	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	376	658,325	27,947	2,698,821	868	307	29,657	...	...	...	...	25
25	Rohilkhand-Kumaun (*p*) ...	...	...	1	...	1	6	3	...	13	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	91	79,015	2,400	26,832	419	300	3,354	...	...	...	...	26
26	Thâton-Duyinzáik	...	...	...	1	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	13	...	...	...	...	...	...	...	...	...	...	...	...	...	8	3,354										
	FOREIGN.																																												
27	Pondicherry ...																																												
28	West of India Portuguese ...																																												
		Worked by the South Indian Railway.																																												
	NATIVE STATES.																																												
29	H. H. the Nizam's Guaranteed (*q*)...	...	...	...	...	2	...	...	....	24	...	...	...	...	5	...	...	...	...	...	1	...	...	...	...	1	34	...	...	...	...	...	...	...	354	246,276	154,217	14,118,525	696	436	39,883	...	...	...	...	29
30	H. H. the Gaekwar's	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	59	77,046	14,692	1,644,205	1,306	249	27,868	...	...	...	...	30
31	Bhávnagar-Gondal-Junágarh-Porbandar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	260	310,518	135,533	11,719,858	1,194	521	45,076	...	...	...	...	31
32	Morvi	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	4	...	...	...	...	...	...	...	68	40,939	26,041	1,533,884	602	383	22,557	...	...	...	...	32
33	Jodhpore	...	...	...	...	...	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	124	83,207	31,097	3,760,046	671	251	30,323	...	...	...	...	33
	TOTAL { 1889...	1	13	23	4	16	96	15	3	561	32	11	...	24	60	2	...	39	...	35	1	11	18																							
	TOTAL { Average for 5 corresponding previous quarters (*r*)	1	14	22	2	23	80	13	3	484	26	15	...	17	55	2	9	12	..	35	...	4	9	1	46	15	78	1,105	11	89	2	9	13	98	15,151¼	27,472,079	14,115,595	1,214,868,979	1,813	932	80,183	0·328	3·167	0·007	0·072	
																								6	90	14	70	1,006	1	11	3	13	4	24	12,766	23,202,468	13,009,934	1,000,583,618	1,739	1,019	78,376	0·045	0·495	0·001	0·011	

(*a*) Includes the Patna-Gya, Dildárnagar-Gházipur and Tárakeshwar Railways.
(*b*) Not a passenger, but a trespasser.
(*c*) Includes H. H. the Gaekwar's Viramgám-Mehsána-Vadnagar Railway.
(*d*) Includes the Katni-Umaria Branch.
(*e*) Includes the Bellary-Kistna State Railway.
(*f*) Includes the Bindia and Bhopal-Itársi State Railways.
(*g*) Includes the Amritsar-Parbáukot and Kajpura-Bhatinda State Railways.
(*h*) Includes the Benares Branch.
(*i*) Includes the Bengal Central Railway.
(*j*) Not a passenger, but a trolly fitter.
(*k*) Includes the Toungoo-Mandalay Extension.
(*l*) Includes the Villupuram-Dharmavaram, Nellore Branch.
(*m*) Not a passenger, but a cartman.
(*n*) Includes the Dhond-Manmad, Khámgaon and Amráoti State Railways.
(*o*) Includes the Pátri Branch.
(*p*) Includes the Bareilly-Pilibhit State Railway.
(*q*) Includes the Bezváda Extension.
(*r*) Except where statistics for five quarters are not available for any line.

TABLE No. 5.

ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., on all RAILWAYS open for Traffic in INDIA and in ENGLAND during the year 1888, distinguishing the different Classes of ACCIDENTS, the Number of PASSENGERS and OTHERS, and the Number of RAILWAY SERVANTS KILLED or INJURED thereby.

RAILWAYS.	1. Collisions between passenger trains, or parts of passenger trains.	2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line.	3. Collisions between goods trains, or parts of goods trains.	4. Collisions between light engines.	5. Passenger trains, or parts of passenger trains, leaving the rails.	6. Goods trains, or parts of goods trains, engines, &c., leaving the rails.	7. Trains or engines travelling in the wrong direction through points.	8. Trains running into stations or sidings at too high a speed.	9. Trains running over cattle on the line.	10. Trains running over obstructions on the line.	11. Trains running through gates at level-crossings.	12. The bursting of boilers of engines.	13 (a). The bursting of tubes, &c., of engines.	13. The failure of machinery, springs, &c., of engines.	14. The failure of tyres.	15. The failure of wheels.	16. The failure of axles.	17. The failure of brake apparatus.	18. The failure of couplings.	19. The failure of tunnels, bridges, viaducts culverts, &c.	20. Broken rails.	21. The flooding of portions of permanent-way.	22. Slips in cuttings or embankments.	23. Fire in trains.	24. Fire at stations, or involving injury to bridges or viaducts.	25. Other accidents.	Total all Classes.	Number of Passengers and Others.		Number of Servants.		Total all Classes.		Mean miles of Railway open.	Number of Passengers carried.	Train mileage of all descriptions.	Passenger mileage.	Per 1,000 open miles.		Total Passengers.			
																												Killed.	Injured.	Killed.	Injured.	Killed.	Injured.					Passengers.		Per million of passengers.		Per million of Train miles.	
																																					Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
In India	7	47	75	12	105	359	50	15	1,221	122	54	5	77	231	13	1	79	2	180	2	34	79	20	167	47	248	3,252	3	28	10	39	13	67	14,378½	103,156,313	50,109,119	4,349,054,980	0·21	1·95	0·03	0·27	0·06	0·56
Per 1,000,000 train miles ...	0·14	0·94	1·50	0·24	2·10	7·16	1·00	0·30	24·37	2·43	1·08	0·10	1·53	4·61	0·26	0·02	1·58	0·04	3·59	0·04	0·68	1·57	0·40	3·33	0·94	4·95	64·90	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
In England (United Kingdom) ...	35	54	12	...	53	4	7	20	13		57	1		10	668	2	288	1	11	...	250	11	17	6	3	3	1,644	11	594	7	93	18	687	19,812	(a) 745,676,073	291,197,134	Not available	0·56	29·98	0·01	0·80	0·04	2·04
Per 1,000,000 train miles ...	0·12	0·19	0·04	...	0·18	0·01	0·02	0·07	0·45		0·20	...		0·03	2·29	0·01	0·99	...	0·04	...	0·86	0·04	0·06	0·02	0·01	0·01	5·64	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...

(a) Including holders of season or periodical tickets.

Report on the accident, which occurred on the 15th April 1889, to No. 45 Up mixed train on the Northern Section of the Eastern Bengal State Railway, near Madhnagar Station, by Mr. G. E. Moore, Deputy Consulting Engineer to the Government of India for Railways, Calcutta.

Description.

1. In this case the train, consisting of an engine and tender, 1 low-sided wagon, 18 covered goods wagons, 11 coaching vehicles, and a brake-van, 31 vehicles in all, left Madhnagar (mile 32) at 16-49, right time. While passing over a bridge at mile 32, telegraph post 22, consisting of 9 spans of 6 metre girders of standard type, it was blown off the line, with the exception of the engine and tender, which were about 8 wagons' length clear of the north end of the bridge, and the brake and one third-class carriage just clear of the south end of the bridge. The front wheels of this carriage were derailed.

2. Out of 140 passengers, 89 were emigration coolies, and the rest third class passengers. There were no first or second class passengers. Seven were killed or died from injuries received, and 80 were more or less hurt, 15 of them seriously.

The damage to rolling-stock is estimated at ₹20,000.

Neither the permanent-way nor bridge structure were damaged.

3. The accident occurred just one mile north of Madhnagar Station, where the line crosses, nearly at right angles, a long, low rice-growing jheel, bordered on either side by thick bamboo jungle. The line crosses the jheel on a bank 15 feet high, with a bridge 9 spans of 6 metres near the north end. The height of the bridge from rail level to ground is 20 feet, including about 3 feet of mud and water.

The jheel is now quite dry with the exception of a pool under the bridge, but in the rains the water stands over it from 5 to 10 feet deep.

The line here runs almost due north, and is both straight and level.

The road-way across the bridge consists of sawn teak sleepers, 6′×9″×6″, spaced 1′·6″ centre to centre, each sleeper being fixed to the girders by 4 hook-bolts. The rails were new, 50lb steel rails, only 6 months in the road, joined by clip pattern fish-plates, with 4 bolts to each joint, spiked down with 4 spikes in each sleeper.

When I examined the road it was in good order, and the gauge, though slightly tight, was very even throughout. I was informed that the only work done to the permanent-way on the bridge since the accident, was to straighten three or four sleepers which had been displaced.

The masonry of the bridge, with the exception of the ends of the cut-waters on the east side, and the coping of the east wings, where a few bricks had been displaced, was undisturbed.

I also examined the permanent-way for some distance on either side of the bridge without finding any defect.

The girders were undamaged and had not moved on their bed-plates.

Wheel marks were found on the sleepers between the rails and outside the rails on east side only, on the first two spans from the south end, and last span on the north end.

The middle of the bridge was devoid of wheel marks, except on the extreme east end of the sleepers. Most of the east ends of the bridge sleepers were crushed as if struck by the carriages in their descent.

Evidence.

P. P. Rogers, Executive Engineer.—After receiving telegram about the accident, I left Sára on the special relief train, starting from Sára at 19-55. The train arrived at Madhnagar at 22 o'clock, and left for scene of accident at 22-10. On arrival at scene of accident, mile 33, telegraph mile 22, after putting 3rd class carriage No. 73 on the road, and hand-shunting it, and the rear brake-van of the train, a short distance from the bridge, I examined the permanent-way south of the bridge, on the bridge, and north of the bridge, up to where engine was standing; south of the bridge the sleepers were practically undisturbed, only the two front wheels of 3rd class carriage No. 73 being derailed. A few sleepers on the bridge had been displaced by the wheels of the

vehicles having struck them, and some hook-bolts had been broken. There were no marks on the sleepers to show that both wheels had been on the sleepers, except in one place between the 7th and 8th piers. In most cases the sleepers had been hit in the outside of east rail, showing clearly that the vehicles were lifted up and blown clear off the rails, in a few instances hitting the sleepers outside the rail on their way down to the bed of the river. The noses of the brick piers on the east side were also cut away for a short distance. No damage was done to the girders, which were carefully examined, nor had any shifted on their bed-plates. Altogether about one dozen sleepers required to be straightened on the bridge after the accident. The road over the bridge was gauged, and found to be tight to gauge in places to the extent of from $\frac{1}{16}$ to $\frac{1}{8}$ of an inch. North of the bridge there were four wagons derailed within a distance of 50 feet of the bridge, two of them lying right across the road; from a point 50 feet from the face of north abutment up to where the engine was standing, *i.e.*, for a distance of 150 feet, the wagons had been thrown down the bank, but the road was untouched and, except on two or three sleepers close to engine where the first wagon was derailed, there were no marks of the wheels having been on the road at all. In no place, either on the bridge or in the road each side of it, were any marks found in the rails. Under the wagons derailed north of the bridge, the sleepers had been disturbed by reason of the derailment. There can be no doubt that the train was lifted off the road by the wind because of the absence of any mark in the bridge-sleepers showing that any one pair of wheels had been on them, which would have been the case had any wagon been derailed. On only a few sleepers between 7th and 8th piers were there any marks of a wheel on the west side of the bridge, and generally from the absence of marks of wheels on sleepers, and on road north of the bridge, it may fairly be inferred that the vehicles and wagons were lifted off the line bodily and thrown down.

S. W. Bowen, Permanent-way Inspector.—I have been a Permanent-way Inspector about 13 years, but have only been on this line about a week. Inspected the bridge, measured the girders on Friday, 12th, and it was then in good order. On the night of the accident I saw the ends in the east side of about 30 sleepers damaged by the vehicles falling over, and some of them knocked out of position slightly, and all the cut-walls on the east side, and wing walls of north abutment damaged; the road to the north of the abutment was slightly knocked out of place, and a few spikes bent.

When I arrived, the rear brake-van and a 3rd class carriage were on the south end five feet from the abutment; the leading wheels of the carriage were derailed. On the north end two wagons were standing across the rails, and two close to the bridge, derailed; the remainder were down the bank or in the river; beyond the wagon across the road up to the engine the road was undisturbed, and never touched by my men. There were no marks on the road to shew any derailment from defect in the road. In my opinion the train was overturned by a cyclone wind.

Joy Joyram.—I was Brakesman of 45 Up on the 15th April 1889. Have been 14 months on the Railway as signalman, gunner, and 4 months as brakesman; there were 11 vehicles behind the vehicle I was in, which was a third class carriage fitted with a brake No. 43; next to my carriage was an 18-feet empty wagon fitted for coolies, and run in case of any being taken ill on the road. When I left Madhnagar a few drops of rain were falling and it was stormy; just before coming to the bridge the wind was blowing harder, and as soon as we got on to the bridge my carriage was blown off. The carriage appeared to jump up and down by the force of the wind. I opened the brake shutter to apply my brake, heard a noise, looked out, saw the three vehicles behind me fall. My vehicle, No. 43, fell clear of the bridge into the water standing on its wheels; there were 12 passengers and myself in the carriage. No one in the carriage was hurt. We were only shaken. The water in the carriage was just over the seats. I should say it fell 30 feet.

H. S. Hutton.—I was Fireman of the engine of 45 Up of 15th; have been a fireman 16 months. After leaving Madhnagar there was a slight breeze and light rain; when I arrived at the bridge there was a stronger breeze—a regular cyclone; we went out slowly, starting from Madhnagar about 7 to 10 miles an hour. When we got to the bridge the breeze all but stopped; in going over the bridge I felt nothing wrong in the road, but after getting over it felt a sudden jerk; the engine stopped. I looked back on the west side; I saw the bridge clear and all the vehicles off; heard no crash but a howling of the wind. I first went with the driver to attend to the passengers, and then the driver sent me and the guard back to protect train and fetch assistance. I think the accident was caused by the train being blown and lifted off the bridge. There was one strong gust just as the engine stopped which lasted about 5 seconds.

Jean Louis Carreau.—I was Guard of 45 Up mixed on the 15th. I have had 3 years 9 months' Railway experience, 3 years Fireman and Driver, 9 months as Guard; left Madhnagar right time. It was then raining, cloudy and stormy; about ¾ mile out of Madhnagar close to the bridge I felt a jerk which threw me down; jumped up, looked out and saw the coaching vehicles falling over the bridge on east side, and the breeze was blowing from west to east. I had my window up on the next side as it was raining and blowing. When I looked out on the west side the breeze was so strong it nearly choked me. I applied my brake and stopped

almost instantly; while putting on the brake the brake-van rocked; went down to assist passengers; I helped a few out of the carriages and by that time Driver Read went across. I left him and Ticket Collector McDonald to help the passengers and went back to protect train, and send for assistance. I did not see the fireman, as he went to the north side to protect his train. I believe as the carriages fell they were upright, and seemed as if they had been lifted bodily off the line. I could only see the passenger vehicles. I could hear nothing but the howling of the wind.

The formation of my train was as follows:—

Engine No. 52

Low-sided truck	750	
Empty covered goods	193	
Ditto ditto	1,435	
Loaded covered goods	1,381	
Empty covered goods	31	
Ditto ditto	303	
Ditto ditto	314	
Ditto ditto	668	
Ditto ditto	1,323	
Ditto ditto	1,361	
Ditto ditto	415	
Ditto ditto	1,284	
Ditto ditto	428	
Ditto ditto	438	
Ditto ditto	247	
Ditto ditto	1,375	
Ditto ditto	1,326	
Ditto ditto	134	
3rd class brake-van	339	
Empty covered	43	
3rd class	362	for cooly hospital.
Ditto	298	coolies.
Ditto	317	ditto.
Intermediate	53	ditto.
Composite	284	passengers.
3rd class	31	ditto.
Ditto	63	ditto.
Ditto	297	ditto.
Ditto	81	ditto.
Brake-van	73	ditto.
	143	guard.

A. K. Sen, Assistant Surgeon, Sára.—On arrival at the scene of accident at about 22 hours, I found one woman injured in a carriage with a few bruises only, no external injury, and a man laying on the bank with his head cut and a few bruises. I sent them to the hospital carriage brought by the Special to be treated. Hearing there were more in the village, I found a dead child on the west side with its parents who had brought it there, and they were asleep. I saw about 10 others with bruises, and a woman complaining she had lost a child 12 months old. I made a search with the Sára Station-master and found eight passengers about a mile off, five injured, the others only now in hospital. I went to the village on the east side and found coolies injured, lying two or three together in different houses. I met two villiage chowkidars, who said there were 60 or 70 lying about in the different houses, and requested them to come for treatment, but they mostly refused to go then. By that time the Saidpur Special had arrived, and asked the Railway Police Magistrate and others to assist in getting them in. Those who came first were sent off by Spexial to hospital. Those found after were sent on later after being attended to, were sent on by another Special, and four afterwards came in who were sent on to Sára by a return Special.

Altogether there were about 70 injured. The first woman I saw died about 5 A.M.—16 at Madhnagar. A man by name Koomee, Assam Company's coolie, died at 15 hours on 17th from internal injuries received. Only four cases were serious, and two more now have become serious on account of fever having set in.

Most of the injured people say there was a heavy gust of wind like a whirlwind, lifted the carriages up and blew them over.

C. Stephen.—I was Driver of 34 Down mixed of the 15th, and crossed 45 Up at Madhnagar; 45 Up left as soon as I arrived at Madhnagar. There was a breeze blowing when I left Atrai, and a heavy storm came on at mileage 34, two miles from Madhnagar, to the north of the bridge. The storm slowed the train down to four or five miles an hour. There was nothing wrong with the bridge or permanent-way when I came over it.

Edward Read.—I was Driver of 45 Up mixed of 15th; have been a Driver on this system about four years. I arrived at and left Madhnagar, right time, 16-49. On approaching the bridge, 9 spans of 20 feet at mileage 33-22, I felt some heavy gusts of wind which only slightly affected the speed of the train. I was going about 12 miles an hour before, and on the bridge it was reduced to about 10 miles an hour by the wind. I had 31 vehicles in all on the train, 9 coaching, 1 loaded wagon, 21 empties, my engine being F class 52, and its load for a mixed train 35. After my engine had passed over the bridge a few wagons' length I felt a jerk; looked back and saw some wagons near the engine falling over on to the east side of the line; my engine was brought to a stand at once before I had time to apply my brakes. I did not know at first what had caused the accident, but when I got off the engine I at once thought the vehicles must have been blown over. I felt several gusts, and could not say which particular gust did it. I first went and gave assistance to the passengers whose vehicles had fallen into the river, and then went and examined the road. I did not cross the bridge when I went back to the Guard as it was wet and slippery and windy, and an open bridge without side protection, and waded through the water which was up to my middle, 3½ feet deep. I commenced assisting the passengers and sent the Guard back about half an hour after to give the necessary notice and send for assistance. It was dusk before I examined the road and bridge, about 18 hours. I saw a few sleepers at each end of the bridge with wheel marks on, but nothing in the middle of the bridge. I saw nothing wrong with the bridge; I did not run against or over anything to cause an accident. It was 16-55 when my engine stopped. I felt nothing wrong with the road while I was running till the time of the accident. I shut off steam and my fireman applied the tender brake after we had stopped. There were 5 wagons attached to my engine by couplings, 4 covered wagons on their sides down the bank, and one low-sided next to the engine canted over to the east.

Conclusion.

The accident must be attributed to a violent gust of wind, amounting to a tornado, which unfortunately caught the train passing over an open bridge.

The wheel and other marks on the bridge are inconsistent with a derailment caused by any obstacle on the line or defect in the rolling-stock or way and works. The position of the vehicles after the accident is shown in the accompanying sketch.

No. 43, a third class carriage, with a brake compartment, contained a brakesman and 12 passengers. No. 362, an empty covered goods, attached for use as a hospital in case of cholera. These two vehicles appear to have been lifted up clear of the bridge structure and dropped down on their wheels into about 3 feet of water which broke the shock, causing the passengers and brakesman to escape uninjured.

The other vehicles seem to have caught the ends of the sleepers or cut-waters in their descent, causing them to fall either on their sides or on their roofs. Two 3rd class carriages falling on their roofs were completely crushed by the heavy weight of their frame and wheels. These carriages must have been nearly empty, or the loss of life would have been much greater, as it would seem impossible that any one inside them could have escaped.

The witnesses all agree in the opinion that the train was blown off the bridge, but very slightly in their description of the force and duration of the storm. Fireman Hutton gives 5 seconds as the duration of the gust which caused the accident.

Lieutenant-Colonel Clarke in his note shows that to overturn an empty covered wagon, metre gauge, would require a pressure of 49·4lb.

To lift bodily, as in the case of covered wagon, No. 362, weighing 3·4 tons, a pressure of 83lb per square foot must have been exerted—

Wagon weight	3·4 tons	=	7,616lb
„ frame	14′ × 6′ 7″	„	= 92 sq. ft.
„ „	$\frac{7}{92}$		= 82·78 lb per sq. ft.

The tremendous pressure in this case may perhaps be accounted for by tornado sweeping up an open space being sudddenly deflected and obstructed by the high bank and bridge structure.

The narrow track of the storm may be demonstrated by taking the centre as having struck the train at carriage No. 43, the nineteenth vehicle, exerting a force of over 82·78lb, which at the 30th vehicle had decreased below 49·4lb, the amount calculated to overturn a 3rd class carriage.

The enormous force developed, and the suddenness and uncertain track of these tornados seem to preclude any reasonable precautions being taken to prevent future accidents from this cause.

APPENDIX

Statement of the damages to the stock in the accident at Madhnagar on 15th April 1889.

No. 1435	18′ Iron covered wagon.	—	Both buffers bent; right side under-frame angle iron bent.
„ 1381	„	„	Buffer bent; axle-guard bent; axle-boxes broken; door flashings broken.
„ 134	„	„	Coupling pin, four axle-boxes, brake thrust rod and one door frame broken, buffers and axle-guards bent.
„ 1323	,	„	Flap door boards and side angle iron broken; hook buffer and door flashings bent.

No. 1361 18′ Iron covered wagon.—Brake-gear bent, partly broken; front left side plate broken; front left side corner angle iron twisted; centre angle iron bent; three axle-boxes broken; four axle-guards bent; right end corner angle iron bent; one right end centre angle iron broken; two buffers broken; end bottom gusset plates bent; front end angle iron plate bent; door flashings broken.

" 1284 Iron covered wagon.— Buffers broken; two axle-guards bent; two axle-boxes broken; brake rod and rack broken; left side under-frame angle iron bent; one right back and angle iron bent.

" 1375 " " Two buffers bent; two axle-guards bent; three axle-boxes broken; two end buffer plates bent, and one broken at corner; six angle irons on right side bent; two angle iron gusset plates broken; one right back side plate broken; one right side under-frame angle iron bent.

" 193 18′ Covered goods wagon.—Right side sole bar loose; front buffer broken; back buffer bent; cast-iron roof plates bent.

" 303 " " One buffer broken; two cast-iron roof plates bent.

" 339 " " Right top side rail broken; right sole bars and one side broken.

" 314 " " Body completely smashed, back buffer broken; front buffer bent.

" 415 " " Two buffers broken; two axle-boxes broken; sole bar broken; axle-guards bent; end and side pillars broken; two cast-iron roof plates broken.

" 361 Covered goods wagon.— Side pillars broken; three cast-iron roof plates broken.

" 668 14′ Covered wagon.— Body badly damaged.

" 428 " " Back buffer bent; cast-iron roof plates broken; two back end uprights broken.

" 438 " " Three axle-boxes broken; one buffer hook broken; one buffer hook bent; right sole bar broken; four axle-guards bent; four axle-guard bridles broken.

" 750 Low-sided wagon.— Both sole bars broken; six floor planks broken; head stock loose; two buffers bent; two side iron brackets broken; three axle-boxes broken; two corner plates broken.

" 31 24′ Iron jute wagon.— One axle-box broken; two buffers bent slightly.

The bodies of 3rd class carriages Nos. 83, 317, 53, 68, 297 and 81 are damaged beyond repair, and will have to be rebuilt. The under-frames of these carriages are practically uninjured; the buffers are all either broken or bent.

No. 284 Intermediate.—

" 31 Composite.— One end and side pillars broken; panel plates bent; sunshades broken.

End panels and pillars broken; sunshades broken; cushions damaged; axle-boxes broken; and buffers bent; axle-guards bent.

Extract from a Report on the Accident which occurred at Lonâvla Station, Great Indian Peninsula Railway, at 12-40 A.M. on the 5th May 1889.

A shunting engine was working in the Lonávla Station-yard, having 15 wagons attached, and was well within the protection of the down station signal, which was set to danger. The shunting train was moving slowly towards the station signal when the driver saw the lights of an advancing train. On this train not coming to a stand outside the station signal, he reversed his engine, but too late, and the trains collided at a point 166 feet inside the signal. This signal, it was stated in the evidence, could be worked at night to show an imperfect or "magpie" light.

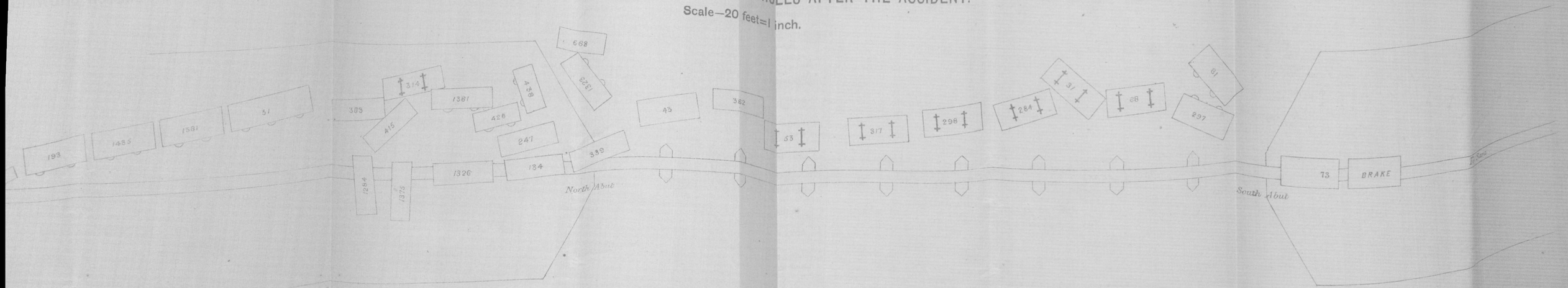
The damage done to the shunting engine and attached vehicles was trifling, none of them left the road. The driver and firemen remained on the shunting engine, and none of them were injured. The approaching train, an up goods, had four of the wagons derailed, two of them overturned, and four men travelling in these (in charge of sheep) were injured, one fatally. None of the train staff were injured.

E. B. S. R., N. SECTION.

ACCIDENT TO No. 45 UP-MIXED TRAIN AT MILE 33 T-POST 22 ON APRIL 15th, 1889.

SKETCH SHOWING POSITION OF VEHICLES AFTER THE ACCIDENT.

Scale—20 feet=1 inch.



"T... in the train-mileage. Of the increase of 63 accidents, 40 are under

No. 0210 R. T.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY TRAFFIC.

Calcutta, the 10th February 1890.

Returns of Accidents on Indian Railways for the second quarter of 1889.

Read again—

Public Works Department Resolution No. 39R.T., dated 13th January 1885.
" " " " " 1155R.T., " 15th December 1885.
" " " " " 1213R.T., " 24th November 1886.
" " " " " 1531R.T., " 30th December 1887.
" " " " " 0191R.T., " 24th January 1889.
" " " " " 496R.T., " 17th September 1889.

Read also—

Docket from the Director General of Railways No. 10 (Statistical), dated the 25th January 1890, forwarding the Abstract Returns of Accidents to Trains, &c., on the open lines of Railway in India for the quarter ended 30th June 1889.

OBSERVATIONS.—As compared with the average of the five* corresponding previous quarters, the number of accidents to trains, rolling-stock, permanent-way, &c., shows an increase of 99, or 9·84 per cent., with an increase of 2,384·75 miles, or 18·68 per cent. in the mean mileage open, and of 1,105·661 miles, or 8·50 per cent. in the train-mileage. The following are the Railways on which the more important fluctuations occurred :—

Railway.	Number of accidents.	Accidents.				Train-mileage.	
		Increase.	Decrease.	Percentage of increase.	Percentage of decrease.	Percentage of increase.	Percentage of decrease.
Rajputana-Malwa	185	32	...	20·92	...	24·96	...
Bengal-Nágpur	39	16	...	69·57	...	...	10·22
Southern Mahratta	112	63	...	128·57	...	53·48	...
Indian Midland	55	(*a*)49	...	816·67	...	462·60	...
North Western	107	...	59	...	35·54	19·84	...
Oudh and Rohilkhand	37	...	11	...	22·92	13·82	...
Eastern Bengal	118	11	...	10·28	...	23·26	...
Jorhát	6	...	(*b*)19	...	76·00	12·96	...
Great Indian Peninsula	63	...	15	...	19·23	...	14·08
Dibru-Sadiya	33	(*c*)14	...	73·68	...	22·53	...
His Highness the Nizam's	34	22	...	183·33	...	56·18	...

2. The increase in the number of accidents on the Rajputana-Malwa Railway is chiefly due to the number of "Failures of axles," having been 34 against 6.

3. The increases on the Bengal-Nágpur Railway and His Highness the Nizam's Railway, and the decrease on the Oudh and Rohilkhand Railway, have mainly occurred under "Trains running over cattle on the line," the number returned being on the first-mentioned line 24 against 9, on the second 24 against 5, and on the third 28 against 37.

4. On the Southern Mahratta Railway the number of accidents has increased by 128·57 per cent., with an increase of 108·84 per cent. in the mean mileage worked, and 53·48 per cent. in the train-mileage. Of the increase of 63 accidents, 49 are under "Trains running over cattle on the line."

* Except where statistics for five quarters are not available for any line.
(*a*) As compared with the corresponding quarter of the previous year.
(*b*) As compared with the average of 4 corresponding previous periods.
(*c*) As compared with the average of 3 corresponding previous periods.

5. With an increase from 136·25 to 611 miles, or 348·44 per cent. in the mean length worked, and from 52,213 to 293,748 miles, or 462·60 per cent. in the train-mileage, the number of accidents on the Indian Midland Railway has risen from 6 to 55, or 816·67 per cent. The principal increases are 6 under "Goods trains, or parts of goods trains, engines, &c., leaving the rails," 26 under "Trains running over cattle on the line" and 8 under "Other accidents."

6. Of the decrease of 59 accidents on the North Western Railway, 22 appear under "Trains running over cattle on the line," 8 under "Failure of couplings," 15 under "Fire in trains" and 6 under "Other accidents." The number of cases of flooding of portions of permanent-way has increased from 1 to 8.

7. The principal variations on the Eastern Bengal Railway are increases of 6 accidents under "Goods trains, or parts of goods trains, engines, &c., leaving the rails," and 5 under "Broken rails," and a decrease of 5 under "Failure of machinery, springs, &c., of engines."

8. The decrease on the Jorhát Railway is principally due to the absence of any accident from "Failure of machinery, springs, &c., of engines" and "Failure of wheels," whereas the average of the four corresponding previous quarters was 7 under the former and 9 under the latter head.

9. On the Great Indian Peninsula Railway there is a decrease of 9 accidents under "Trains running over cattle on the line" and 14 under "Fire in trains."

10. With the exception of an increase of 7 accidents under "Failure of couplings" on the Dibru-Sadiya Railway, no other heads show any noticeable fluctuation.

11. The casualties resulting from accidents to trains, &c., were, among passengers and others, 11 killed and 89 injured, against 1 killed and 11 injured, and among servants, 2 killed and 9 injured, against 3 killed and 13 injured.

12. Of the casualties to passengers, 7 were killed and 80 injured by an accident to an Up mixed train on the Northern Section of the Eastern Bengal State Railway on the 15th April 1889. This train, while crossing a bridge at mile 33, telegraph post 22, just after leaving Madhnagar Station, was blown over by a tornado, 10 passenger vehicles and 19 goods vehicles being thrown down into the bed of the river, or down the abutment. A detailed report of this accident is appended.

13. On the Great Indian Peninsula Railway a serious collision took place between an Up goods train and an engine which was shunting at Lonávla. A man who was travelling in a covered goods wagon in charge of sheep was killed, three other men, who were also in charge of the sheep, were more or less injured. An extract from the report on this accident is also appended.

14. The following table exhibits the number of accidents under the different classes, due to accidents to trains, rolling-stock, permanent-way, &c., and the number of persons killed and injured thereby, *vide* Tables Nos. 3 and 4:—

Serial No.	Causes of Accidents.	Average of corresponding quarters of five previous years.*	SECOND QUARTER, 1889.					TOTAL ALL CLASSES.	
			Number.	Number of passengers and others.		Number of servants.			
				Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1	Collisions between passenger trains or parts of passenger trains	1	1	...	...	...	...	...	...
2	Collisions between passenger trains and goods, or mineral trains, engines and vehicles standing foul of the line	14	13	...	2	...	3	...	5
3	Collisions between goods trains or parts of goods trains	22	23	2	4	...	1	2	5
	Carried over	37	37	2	6	...	4	2	10

* Except where statistics for five quarters are not available for any line.

Serial No.	Causes of Accidents.	Average of corresponding quarters of five previous years.*	SECOND QUARTER, 1889.					TOTAL ALL CLASSES.	
			Number.	Number of passengers and others.		Number of servants.			
				Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
	Brought forward	37	37	2	6	...	4	2	10
4	Collisions between light engines	2	4	...	...	...	...	...	...
5	Passenger trains or parts of passenger trains leaving the rails	23	16	7	80	...	1	7	81
6	Goods trains or parts of goods trains, engines, &c., leaving the rails	80	96	...	...	...	...	...	...
7	Trains or engines travelling in the wrong direction through points	13	15	...	...	...	...	...	...
8	Trains running into stations or sidings at too high a speed	3	3	...	...	...	...	...	...
9	Trains running over cattle on the line	484	561	...	...	...	...	...	...
10	" " over obstructions on the line	26	32	1	2	1	1	2	3
11	" " through gates at level crossings	15	11	...	...	...	...	...	...
12	The bursting of boilers of engines	...	...	...	...	...	...	...	...
12(a)	" " of tubes, &c., of engines	17	24	...	...	...	...	...	...
13	The failure of machinery, springs, &c., of engines	55	60	...	...	...	...	...	...
14	The failure of tyres	2	2	...	...	...	...	...	...
15	" wheels	9	...	...	...	...	...	...	...
16	" axles	12	39	...	...	...	1	...	1
17	" brake apparatus	...	...	...	...	...	...	...	...
18	" couplings	35	35	...	...	...	...	...	...
19	" tunnels, bridges, viaducts, culverts, &c.	...	1	...	...	...	...	...	...
20	Broken rails	4	11	...	...	...	...	...	...
21	The flooding of portions of permanent-way	9	18	...	...	...	...	...	...
22	Slips in cuttings or embankments	6	1	...	...	...	...	...	...
23	Fire in trains	90	46	...	...	...	...	...	...
24	Fire at stations, or involving injury to bridges or viaducts	14	15	...	...	1	...	1	...
25	Other accidents	70	78	1	1	...	2	1	3
	1889	...	1,105	11	89	2	9	13	98
	Total—Average of corresponding quarters of five previous years*	...	1,006	1	11	3	13	4	24

15. The principal variations occurred under "Goods trains, or parts of goods trains, engines, &c., leaving the rails," 96 against 80; "Trains running over cattle on the line," 561 against 484; "Failure of axles," 39 against 12; "Flooding of portions of permanent-way," 18 against 9; and "Fire in trains," 46 against 90.

16. The largest increase under "Goods trains, or parts of goods trains, engines, &c., leaving the rails," appears on the Indian Midland and Eastern Bengal Railways, *viz.*, 6 on each.

17. The cattle accidents were very numerous on the Rajputana-Malwa, Southern Mahratta, and Eastern Bengal Railways, being 94, 83 and 70, respectively. Next to these stand the East Indian and South Indian Railways, which have returned 32 accidents each. On the Rajputana-Malwa and Southern Mahratta Railways most of the accidents are reported to have occurred on the unfenced portions of the line.

18. Of the 39 cases of "Failure of axles," 34 are recorded on the Rajputana-Malwa Railway alone.

19. Of the 18 cases of flooding of portions of permanent-way, 8 were on the North Western Railway and 4 on the Great Indian Peninsula Railway.

20. The decrease of 44 accidents under "Fire in trains" is mainly due to the number of cases having fallen from 33 to 18 on the North Western Railway, from 15 to 6 on the Madras Railway, and from 20 to 6 on the Great Indian Peninsula Railway.

* Except where statistics for five quarters are not available for any line.

21. On the North Western Railway, there were 10 cases of "The bursting of tubes, &c., of engines" out of a total of 24, and 17 cases of "Failure of machinery, springs, &c., of engines" out of a total of 60; and on the Dibru-Sadiya Railway, 13 cases of "Failure of couplings" out of a total of 35.

22. The casualties to passengers from causes other than accidents to trains, &c., *vide* Table No. 2, were—

Causes of accidents.	Second quarter, 1889.		Average of corresponding quarters of five previous years.*	
	Killed.	Injured.	Killed.	Injured.
1. From falling between carriages and platforms	...	3	2	1
2. Falling on to the platform, ballast, &c., when getting into or out of trains	1	5	1	2
3. Whilst crossing the line at stations	2	...	...	...
4. By closing of carriage doors	...	1	...	1
5. Falling out of carriages during the travelling of trains	5	30	3	18
6. Other accidents	1	7	1	6
TOTAL	9	46	7	28

23. The accidents to servants in the employ of Railways, or of contractors, whilst performing duties connected directly with the transit of passengers and goods, from causes other than accidents to trains, &c., were as follows, *vide* Table No. 2:—

Causes of accidents.	Second quarter, 1889.		Average of corresponding quarters of five previous years.*	
	Killed.	Injured.	Killed.	Injured.
1. During shunting operations	4	14	5	12
2. Falling off engines, vans, wagons, &c.	3	13	3	14
3. Coming in contact with over-bridges, &c., during the travelling of trains	1	...	...	1
4. Coming in contact, while shunting, with vehicles, &c., standing in adjoining lines	...	...	...	...
5. Getting on or off trains, engines, &c.	5	14	3	13
6. Whilst loading, unloading or sheeting	...	15	3	16
7. Whilst breaking, spragging, or choking wheels	...	1	...	2
8. Whilst working at cranes or capstans	...	3	...	2
9. Whilst working on the permanent-way or in sidings	2	11	1	5
10. Whilst walking along the line on the way home, or to work	4	6	1	1
11. Whilst walking, crossing, or standing on the line	9	5	10	7
12. Whilst passing between vehicles	1	4	1	2
13. Whilst attending to the machinery of engines, cleaning them, &c.	1	2	...	4
14. Whilst attending to gates at level-crossings	2	1	2	1
15. Falling, or being caught between vehicles and platforms	2	2	1	2
16. Falling off ladders, scaffolds, platforms, &c.	...	5	...	4
17. By falling of lamps, wagon doors, timber, weights, &c.	...	6	...	5
18. Whilst coupling or uncoupling wagons	2	8	2	8
19. Miscellaneous	6	53	5	33
TOTAL	42	163	37	132

24. Of other persons killed and injured by running trains, &c., 5 were killed and 2 injured whilst passing over the line at level-crossings; 50 were killed and 19 injured whilst trespassing on the line; 27 committed suicide, and 3 were injured in attempting to commit suicide; and 6 were killed and 5 injured from miscellaneous causes.

* Except where statistics for five quarters are not available for any line.

25. The following table exhibits the total number of persons killed and injured from all causes over the whole Indian Railway system, as compared with the average of the corresponding quarters of five previous years, *vide* Table No. 1:—

Causes of accidents.	Second quarter, 1889.		Average of corresponding quarters of five previous years.*	
	Killed.	Injured.	Killed.	Injured.
Passengers.				
From causes beyond their own control	9	90	1	10
From misconduct or want of caution	9	44	7	26
Servants.				
From causes beyond their own control	6	22	5	22
From misconduct or want of caution	38	150	36	124
Others.				
Whilst passing at level-crossings	5	2	1	2
Trespassers, including suicides	77	22	53	12
Other persons	6	5	3	5
TOTAL	150	335	106	201
Total open mileage	15,151¼		12,766½	
Total train-mileage	14,115,595		13,009,934	

* Except where statistics for five quarters are not available for any line.

26. In addition to the above, 16 persons are reported to have been killed and 45 injured in yards, workshops, &c., and 184 persons to have died in carriages and at stations from causes unconnected with the working of trains.

27. A tabulated statement has been added to the returns, comparing the accidents on Indian Railways with those on English Railways for the year 1888. The number of accidents per 1,000,000 train-miles on the Indian Railways was 64·90 against 5·64 on the English Railways, and the number of passengers killed and injured per million of passengers 0·03 and 0·27 against 0·01 and 0·80, respectively.

RESOLUTION.—The decrease in the number of "Fires in Trains" is satisfactory, the number having fallen from a quarterly average of 90 to 46 during the quarter under review. This was chiefly due to decreases in this class of accident on the North Western Railway, the Madras Railway, and the Great Indian Peninsula Railway.

2. On the Rajputana-Malwa Railway the large number of "Failures of Axles" is again noticed, being 34 out of a total, on all Indian Railways, of 39 "Failures of Axles" during the quarter.

ORDER.—Ordered, that this Resolution be communicated, for information, to the Local Governments, Administrations, and Officers noted in the margin.

Ordered also, that copies be forwarded for the information of Her Majesty's Government.

Ordered further, that this Resolution, with the Abstract Returns, be published in the Supplement to the *Gazette of India*.

M. C. BRACKENBURY, *Major, R.E.*,
Under Secretary.

The Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab.
The Chief Commissioners of the Central Provinces, Burma, and Assam.
The Resident at Hyderabad.
The Agents to the Governor General for Central India, Rajputana, and Baluchistan.
The Director General of Railways.
The Consulting Engineers to the Government of India for Railways, Calcutta, Lucknow, and Central Division.

Document accompanying
Abstract Returns of Accidents
for the second quarter of 1889.

Government of India Central Printing Office.—No. 130 D. G. R.—13-2-90—809.

Order No. 405 R 21st March 1890.

Communicated to the Consulting Engineer for Railways for information with reference to his endorsement Nos. 294 and 330, dated 20th July and 29th August 1889.

1 Ld/ C. J. S.

R

Do.

The Cons: Engr: for Rys:

Abstract Returns of Accidents on Indian Railways for the 2nd quarter of 1889, issued with the Government of India, Public Works Department, Resolution No. 0210-R.T., dated 10th February 1890.

ERRATA.

Page 2.—Against "East Indian"—
In the 14th column, *for* 3 *read* 33.
" " 18th " *insert* 1.
" " 20th " " 1.
" " 23rd " *for* 3 *read* 31.
Also against "Eastern Bengal"—
In the 24th column, *for* 1 *read* 15.
Page 18.—Against "In England (United Kingdom)"—
In the 10th and 11th columns, *for* 13 *read* 131.

INDIAN RAILWAYS.

ABSTRACT RETURNS OF ACCIDENTS FOR THE QUARTER ENDING 30TH SEPTEMBER 1889,

TOGETHER WITH

REPORTS OF THE INSPECTING OFFICERS UPON A CERTAIN ACCIDENT WHICH WAS INQUIRED INTO.

TABLE No. 1.

GENERAL TOTAL.

NUMBER of PERSONS reported during the THIRD QUARTER of 1889 as KILLED or INJURED on the several 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 happening from causes beyond their own control, and ACCIDENTS happening otherwise.

Mean Mileage open.	RAILWAYS.		PASSENGERS.						RAILWAY SERVANTS, OR SERVANTS OF CONTRACTORS.						OTHER PERSONS.								TOTAL ALL CLASSES.	
			From causes beyond their own control.		From their own misconduct or want of caution.		TOTAL.		From causes beyond their own control.		From their own misconduct or want of caution.		TOTAL.		Whilst passing over Railways at Level-crossings.		Trespassers and Suicides.		Miscellaneous, not included in preceding columns.		TOTAL.			
			Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
		STATE IMPERIAL.																						
(a) 1,691½	East Indian	Average for 5 corresponding previous quarters	...	2	2	7	2	9	2	9	5	27	7	36	2	...	16	2	1	1	19	3	28	48
(b) 1,618		1889	4	7	1	10	5	17	2	14	6	16	8	30	1	...	18	2	1	2	20	4	33	51
(c) 1,639 / 1,694½	Rajputana-Malwa	Average for 5 corresponding previous quarters	...	...	1	4	1	4	1	1	2	8	3	9	...	...	6	3	...	...	6	3	10	16
		1889	...	1	...	3	...	4	...	1	5	8	5	9	...	...	8	3	...	...	8	3	13	16
(d) 164 / 305	Bengal-Nágpur	Average for 5 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...
		1889	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	1	...	2
(e) 462 / 856½	Southern Mahratta	Average for 5 corresponding previous quarters	...	...	...	1	...	1	1	...	1	2	2	2	...	...	1	1	...	...	1	1	3	4
		1889	...	...	...	1	...	1	2	2	...	7	2	9	...	...	2	...	...	...	2	...	4	10
132½ / 261	Do., Mysore Section	Average for 4 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...
(f) 136½ / 725	Indian Midland	Corresponding previous quarter	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...
		1889	...	...	...	4	...	4	...	...	4	1	4	1	...	...	4	1	...	...	4	1	8	6
(g) 2,072½ / 2,386	North Western	Average for 5 corresponding previous quarters	...	2	2	6	2	8	...	3	5	11	5	14	...	...	6	2	1	1	7	3	14	25
		1889	...	...	...	3	...	3	2	1	4	10	6	11	...	...	7	3	...	...	7	3	13	17
641½ / 692½	Oudh and Rohilkhand	Average for 5 corresponding previous quarters	...	...	...	1	...	1	...	1	2	4	2	5	...	...	3	2	...	...	3	2	5	8
		1889	...	...	2	...	2	...	...	...	1	1	1	1	...	...	4	...	1	...	5	...	8	1
45 / 45	Wardha Coal	Average for 5 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		STATE PROVINCIAL.																						
(h) 729½ / 872	Eastern Bengal	Average for 5 corresponding previous quarters	1	...	...	1	1	1	...	1	3	11	3	12	...	...	5	1	...	...	5	1	9	14
		1889	...	...	...	...	...	...	...	...	4	19	4	19	...	...	11	4	...	...	11	4	15	23
27½ / 27½	Nalháti	Average for 5 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
234½ / 273	Tirhoot	Average for 5 corresponding previous quarters	...	...	...	...	...	...	...	...	...	1	...	1	...	...	1	...	1	...	2	...	2	1
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	3	...	3	...
93½ / 105	Lucknow-Sitapur-Sihrámau	Average for 2 corresponding previous quarters	1	...	...	2	1	2	...	...	...	...	...	...	...	...	2	...	...	...	2	...	3	2
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...
26½ / 25½	Jorhát	Average for 4 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7½ / 7½	Ch erra-Companyganj	Average for 2 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(j) 315½ / 553	Burma	Average for 5 corresponding previous quarters	...	...	...	1	...	1	...	1	...	2	...	3	...	...	2	1	...	...	2	1	2	5
		1889	1	...	...	...	1	...	...	...	...	1	...	1	...	...	1	1	...	1	1	2	2	3
		GUARANTEED COMPANIES.																						
844½ / 839	Madras	Average for 5 corresponding previous quarters	...	1	1	1	1	2	...	1	1	3	1	4	1	...	1	...	...	...	2	...	4	6
		1889	...	...	...	2	...	2	...	...	1	10	1	10	...	...	1	1	2	...	3	1	4	13
(k) 670½ / 737	South Indian	Average for 5 corresponding previous quarters	...	...	...	2	...	2	...	...	1	7	1	7	1	1	...	...	...	...	1	1	2	10
		1889	...	...	...	3	...	3	1	1	4	7	5	8	...	...	1	2	...	...	1	2	6	13
(l) 1,487½ / (m) 1,439½	Great Indian Peninsula	Average for 5 corresponding previous quarters	...	...	1	3	1	3	...	...	7	17	7	17	...	1	5	1	...	...	5	2	13	2
		1889	...	22	2	1	2	23	1	2	8	24	9	26	...	1	3	2	...	...	3	3	14	2
461 / 461	Bombay, Baroda and Central India	Average for 5 corresponding previous quarters	...	...	1	1	1	1	...	...	1	4	1	4	...	...	1	...	...	...	1	...	3	5
		1889	...	1	...	1	...	2	...	...	3	7	3	7	...	...	...	...	...	...	...	...	3	9
		ASSISTED COMPANIES.																						
50½ / 51	Darjeeling-Himalayan	Average for 4 corresponding previous quarters	...	1	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	2
		1889	...	...	...	...	...	...	...	...	...	4	...	4	...	...	...	...	...	...	...	...	...	4
5½ / 4½	Deoghur	Average for 5 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
78 / 78	Dibru-Sadiya	Average for 3 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
285½ / 376	Bengal and North-Western	Average for 5 corresponding previous quarters	...	...	...	...	...	...	1	...	1	1	2	1	...	...	3	...	...	...	3	...	5	1
		1889	...	...	...	...	...	...	...	...	...	1	...	1	...	1	2	...	4	...	6	1	6	2
(n) 91 / 91	Rohilkhand-Kumaun	Average for 4 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8 / 8	Thatôn-Duyinzáik	Average for 4 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		FOREIGN.																						
	Pondicherry																							
	West of India Portuguese														Worked by the South Indian Railway. Information not furnished.									
		NATIVE STATES.																						
(o) 191 / 354	H. H. the Nizam's Guaranteed.	Average for 5 corresponding previous quarters	...	...	...	...	...	...	1	2	...	1	1	3	...	...	1	1	...	...	1	1	2	4
		1889	...	...	...	...	...	...	...	1	...	2	...	3	...	...	...	...	...	...	...	...	...	3
59 / 58½	H. H. the Gaekwar's	Average for 5 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
194½ / 260½	Bhávnagar-Gondal-Junágarh-Porbandar	Average for 5 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	2	1	1	1	3	...	...	1	...	...	...	1	...	2	3
53½ / 68	Morvi	Average for 3 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
83½ / 124	Jodhpore	Average for 5 corresponding previous quarters	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12,980 / 15,396½	TOTAL	Average for 5 corresponding previous quarters (p)	2	6	8	30	10	36	6	19	30	100	36	119	4	2	55	14	4	2	63	18	109	173
		1889	5	31	5	28	10	59	8	25	42	119	50	144	1	2	67	19	8	4	76	25	136	228

(a) Includes the Patna-Gya, Sindia, Dildárnagar-Gházipur, and Tárakeshwar Railways for 5 quarters and the Indian Midland Railway for 4 quarters.
(b) ,, the Patna-Gya, Dildárnagar-Gházipur and Tárakeshwar Railways.
(c) ,, H. H. the Gaekwar's Viramgam-Mehsána-Vadnagar Railway.
(d) ,, the Katni-Umaria Branch.
(e) ,, the Bellary-Kistna State Railway.
(f) ,, the Sindia and Bhopal-Itársi State Railways.
(g) ,, the Amritsar-Pathánkot and Rájpura-Bhátinda State Railways.
(h) ,, the Bengal Central Railway.
(j) Includes the Toungoo-Mandalay Extension.
(k) ,, the Villupuram Guntakal State Railway, Nellore Branch.
(l) ,, the Dhond-Manmád Amraoti, Khámgaon, and Bhopal-Itársi State Railways.
(m) ,, the Dhond Manmad, Amraoti and Khamgaon State Railways.
(n) ,, the Bareilly-Pilibhit State Railway.
(o) ,, the Bezwáda extension.
(p) Except where statistics for 5 quarters are not available for any line.

TABLE No. 2.

Number of Persons reported during the Third Quarter of 1889 as Killed or Injured on all Railways open for Traffic in India, distinguishing between Passengers, Railway Servants, and Other Persons, and classifying, as far as practicable, the nature and causes of the Accidents occasioning the Death or Injury.

| Serial Number. | Railways. | Passengers. | | |

TABLE No. 3.

ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the THIRD QUARTER of 1889 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.

SEE ALSO TABLE No. 4.

STATE IMPERIAL.

CLASS.	EAST INDIAN.(a)							RAJPUTANA-MALWA.(b)							BENGAL-NAGPUR.(c)							SOUTHERN MAHRATTA.(d)							SOUTHERN MAHRATTA, MYSORE SECTION.						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		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.	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	4	...	6	...	2	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	4	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	2	...	...	...	...	...	...	5	...	...	...	...	...	...	9	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Ditto over cattle on the line	16	...	...	...	...	...	...	28	...	...	...	...	...	...	3	...	...	...	...	...	...	23	...	...	...	...	...	...	...	2	...	...	...	...	...
10. Ditto over obstructions on the line	2	...	...	...	...	...	...	3	...	...	...	...	...	...	2	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	1	...	...	...	1	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	2	...	...	...	...	...	...	5	...	...	...	...	...	...	2	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	3	...	...	...	...	...	...	1	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	1	...	...	...	...	...
25. Other accidents	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	32	..	6	...	3	...	9	78	...	...	...	...	...	...	30	...	...	...	...	...	...	42	...	...	...	...	...	...	...	8	...	...	...	...	...	...
Number of Passenger miles	221,486,316							110,572,025							5,307,844							27,529,576							7,854,182						
„ of Servants employed	26,971							13,347							2,875							5,890							1,734						
Train mileage of all descriptions	1,991,538							1,275,450							106,300							366,182							79,742						

(a) Includes the Patna-Gya, Dildárnagar-Gházipur and Tárakeshwar Railways. (b) Includes H. H. the Gackwar's Viramgam Mehsána-Vadnagar Railway. (c) Includes Katni-Umaria Branch. (d) Includes Bellary-Kistna State Railway.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the THIRD QUARTER of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

STATE IMPERIAL—*concld.* | STATE PROVINCIAL.

CLASS.	INDIAN MIDLAND.(a)							NORTH WESTERN.(b)							OUDH AND ROHILKHAND.							WARDHA COAL.							EASTERN BENGAL.(a)						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		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.	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	...	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	1	...	...	1	..	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	4	...	...	...	...	...	...	7	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Ditto over cattle on the line	9	...	...	...	...	...	...	31	...	...	...	...	...	...	14	...	...	...	...	...	...	...	...	...	...	...	...	...	31	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	...	...	...	...	...	...	2	...	* 1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12 (a). Ditto of tubes, &c., of engines	1	...	...	...	...	...	...	8	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	...	...	...	...	...	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...
21. The flooding of portions of permanent-way	2	...	...	...	...	...	...	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	...	...	...	...	...
22. Slips in cuttings or embankments	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	2	...	...	...	...	...	...	2	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
TOTAL ALL CLASSES	23	...	...	...	...	...	...	113	...	* 1	3	1	3	2	19	...	...	...	...	...	...	...	...	...	...	...	...	...	89	...	...	...	...	...	...
Number of Passenger miles	21,019,629							128,188,837							54,178,766							786,049							55,936,663						
„ of Servants employed	7,871							25,118							6,179							408(b)							10,276						
Train mileage of all descriptions	271,558							1,983,097							579,166							18,760							727,147						

* Not a passenger, but a cart man.

(a) Includes the Sindia and Bhopal-Itársi State Railways.
(b) Includes Amritsar-Pathánkot and Rájpura-Bhatinda State Railways.
(c) Includes 20 servants employed on colliery.
(d) Includes the Bengal Central Railway.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the THIRD QUARTER of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

STATE PROVINCIAL—*contd.*

CLASS.	NALHATI.			TIERHOOT.			LUCKNOW SITAPUR-SIHRAMAU.			JORHAT.			CHERRA-COMPANYGANJ.		
	No.	Number of Passengers and others.	Number of Servants.	No.	Number of Passengers and others.	Number of Servants.	No.	Number of Passengers and others.	Number of Servants.	No.	Number of Passengers and others.	Number of Servants.	No.	Number of Passengers and others.	Number of Servants.
		Killed. Injured.	Killed. Injured.		Killed. Injured.	Killed. Injured.		Killed. Injured.	Killed. Injured.		Killed. Injured.	Killed. Injured.		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	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
3. Collisions between goods trains, or parts of goods trains	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
4. Collisions between light engines	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
7. Trains or engines travelling in the wrong direction through points	...	... ...	... ...	3	... ...	... ...	...	... ...	... ...	7	... ...	... ...	...	... ...	... ...
8. Trains running into stations or sidings at too high a speed	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
9. Ditto over cattle on the line	1	... ...	... ...	1	... ...	... ...	1	... ...	... ...	...	... ...	... ...	...	... ...	... ...
10. Ditto over obstructions on the line	1	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
11. Ditto through gates at level-crossings	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
12. The bursting of boilers of engines	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
12 (a). Ditto of tubes, &c., of engines	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
13. The failure of machinery, Springs, &c., of engines	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	1	... ...	... ...	...	... ...	... ...
14. Ditto of tyres	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
15. Ditto of wheels	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
16. Ditto of axles	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
17. Ditto of brake apparatus	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
18. Ditto of couplings	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
20. Broken rails	...	... ...	... ...	...	... ...	... ...	1	... ...	... ...	...	... ...	... ...	...	... ...	... ...
21. The flooding of portions of permanent-way	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
22. Slips in cuttings or embankments	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
23. Fire in trains	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
24. Fire at stations, or involving injury to bridges or viaducts	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
25. Other accidents	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
TOTAL ALL CLASSES	2	... ...	... ...	5	... ...	... ...	2	... ...	... ...	8	... ...	... ...	...	... ...	... ...
Number of Passenger miles	824,259			15,968,866			3,163,376			97,959			15,036		
„ of Servants employed	124			1,740			644			159			50		
Train mileage of all descriptions	12,590			132,955			41,882			4,768			4,867		

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the THIRD QUARTER of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

STATE PROVINCIAL—*concld.* | GUARANTEED COMPANIES.

CLASS.	BURMA. (a)			MADRAS.			SOUTH INDIAN. (b)			GREAT INDIAN PENINSULA. (c)			BOMBAY, BARODA AND CENTRAL INDIA.		
	No.	Number of Passengers and others.	Number of Servants.	No.	Number of Passengers and others.	Number of Servants.	No.	Number of Passengers and others.	Number of Servants.	No.	Number of Passengers and others.	Number of Servants.	No.	Number of Passengers and others.	Number of Servants.
		Killed. Injured.	Killed. Injured.		Killed. Injured.	Killed. Injured.		Killed. Injured.	Killed. Injured.		Killed. Injured.	Killed. Injured.		Killed. Injured.	Killed. Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	... ...	... ...	1	... ...	... ...	1	... ...	... ...	1	... ...	... ...	...	... ...	... ...
3. Collisions between goods trains, or parts of goods trains	...	... ...	... ...	1	... ...	... ...	2	... ...	... ...	...	... ...	... ...	1	... ...	... ...
4. Collisions between light engines	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	1	... 22	... ...	...	... ...	... ...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	2	... ...	... ...	16	... ...	... ...	2	... ...	... ...	2	... ...	... 1	3	... ...	... ...
7. Trains or engines travelling in the wrong direction through points	1	... ...	... ...	...	... ...	... ...	1	... ...	... ...	...	... ...	... ...	...	... ...	... ...
8. Trains running into stations or sidings at too high a speed	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
9. Ditto over cattle on the line	4	... ...	... ...	19	... ...	... ...	41	... ...	... ...	9	... ...	... ...	4	... ...	... ...
10. Ditto over obstructions on the line	3	... ...	... ...	2	... ...	... ...	...	... ...	... ...	3	... ...	... ...	2	... ...	... ...
11. Ditto through gates at level-crossings	3	... ...	... ...	1	... ...	... ...	3	... 1*	... 1	1	... ...	... ...	...	... ...	... ...
12. The bursting of boilers of engines	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
12(a). Ditto of tubes, &c., of engines	...	... ...	... ...	1	... ...	... ...	5	... ...	... ...	...	... ...	... ...	...	... ...	... ...
13. The failure of machinery, springs, &c., of engines	6	... ...	... ...	2	... ...	... ...	6	... ...	... ...	3	... ...	... ...	...	... ...	... ...
14. Ditto of tyres	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
15. Ditto of wheels	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
16. Ditto of axles	1	... ...	... ...	...	... ...	... ...	1	... ...	... ...	...	... ...	... ...	...	... ...	... ...
17. Ditto of brake apparatus	...	... ...	... ...	...	... ...	... ...	3	... ...	... ...	...	... ...	... ...	...	... ...	... ...
18. Ditto of couplings	1	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
20. Broken rails	...	... ...	... ...	...	... ...	... ...	1	... ...	... ...	1	... ...	... ...	...	... ...	... ...
21. The flooding of portions of permanent-way	1	... ...	... ...	...	... ...	... ...	3	... ...	... ...	12	... ...	... ...	1	... ...	... ...
22. Slips in cuttings or embankments	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	5	... ...	... ...	1	... ...	... ...
23. Fire in trains	...	... ...	... ...	...	... ...	... ...	2	... ...	... ...	...	... ...	... ...	...	... ...	... ...
24. Fire at stations, or involving injury to bridges or viaducts	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...	...	... ...	... ...
25. Other accidents	...	... ...	... ...	5	... ...	... ...	5	... ...	... ...	...	... ...	... ...	18	... 1	... ...
TOTAL ALL CLASSES	22	... ...	... ...	48	... ...	... ...	76	... 1*	... 1	38	... 22	... 1	30	... 1	... 1
Number of Passenger miles	37,790,724			82,830,634			71,986,178			106,995,780			52,285,190		
„ of Servants employed	5,444			6,604			9,954			25,017			6,206		
Train mileage of all descriptions	331,753			582,026			552,991			1,769,512			482,020		

* Not passenger. (a) Includes the Toungoo-Mandalay extension. (b) Includes the Villupuram-Guntakal State Railway Nellore Branch. (c) Includes the Dhond-Manmad, Amraoti and Khamgaon State Railways.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the THIRD QUARTER of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

ASSISTED COMPANIES.

CLASS.	DARJEELING-HIMALAYAN. No.	DARJEELING-HIMALAYAN. Number of Passengers and others. Killed.	DARJEELING-HIMALAYAN. Number of Passengers and others. Injured.	DARJEELING-HIMALAYAN. Number of Servants. Killed.	DARJEELING-HIMALAYAN. Number of Servants. Injured.	DARJEELING-HIMALAYAN. Total all Classes. Killed.	DARJEELING-HIMALAYAN. Total all Classes. Injured.	DEOGHUR. No.	DEOGHUR. Number of Passengers and others. Killed.	DEOGHUR. Number of Passengers and others. Injured.	DEOGHUR. Number of Servants. Killed.	DEOGHUR. Number of Servants. Injured.	DEOGHUR. Total all Classes. Killed.	DEOGHUR. Total all Classes. Injured.	DIBRU-SADIYA. No.	DIBRU-SADIYA. Number of Passengers and others. Killed.	DIBRU-SADIYA. Number of Passengers and others. Injured.	DIBRU-SADIYA. Number of Servants. Killed.	DIBRU-SADIYA. Number of Servants. Injured.	DIBRU-SADIYA. Total all Classes. Killed.	DIBRU-SADIYA. Total all Classes. Injured.	BENGAL AND NORTH-WESTERN. No.	BENGAL AND NORTH-WESTERN. Number of Passengers and others. Killed.	BENGAL AND NORTH-WESTERN. Number of Passengers and others. Injured.	BENGAL AND NORTH-WESTERN. Number of Servants. Killed.	BENGAL AND NORTH-WESTERN. Number of Servants. Injured.	BENGAL AND NORTH-WESTERN. Total all Classes. Killed.	BENGAL AND NORTH-WESTERN. Total all Classes. Injured.	ROHILKHAND-KUMAUN. (a) No.	ROHILKHAND-KUMAUN. (a) Number of Passengers and others. Killed.	ROHILKHAND-KUMAUN. (a) Number of Passengers and others. Injured.	ROHILKHAND-KUMAUN. (a) Number of Servants. Killed.	ROHILKHAND-KUMAUN. (a) Number of Servants. Injured.	ROHILKHAND-KUMAUN. (a) Total all Classes. Killed.	ROHILKHAND-KUMAUN. (a) Total all Classes. Injured.
1. Collisions between passenger trains or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	...	...	...	...	...	5	...	...	...	...	...	...	1	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Ditto over cattle on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	13	...	...	...	...	...	...	2	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	44	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	12	...	...	...	1	...	1	...	...	...	...	...	...	...	...	76	...	...	...	...	...	...	22	...	...	...	...	...	...	3	...	...	...	...	...	...
Number of Passenger miles				296,949							257,740								406,563							16,909,619							2,250,216			
„ of Servants employed				525							52								799							3,268							988			
Train mileage of all descriptions				29,592							3,294								30,703							196,298							21,981			

(a) Includes the Bareilly-Pilibhit State Railway.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the THIRD QUARTER of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

ASSISTED COMPANIES—*concld.* / FOREIGN. / NATIVE STATES.

CLASS.	THATÓN-DUYINZAIK. No.	THATÓN-DUYINZAIK. Number of Passengers and others. Killed.	THATÓN-DUYINZAIK. Number of Passengers and others. Injured.	THATÓN-DUYINZAIK. Number of Servants. Killed.	THATÓN-DUYINZAIK. Number of Servants. Injured.	THATÓN-DUYINZAIK. Total all Classes. Killed.	THATÓN-DUYINZAIK. Total all Classes. Injured.	PONDICHERRY. No.	PONDICHERRY. Number of Passengers and others. Killed.	PONDICHERRY. Number of Passengers and others. Injured.	PONDICHERRY. Number of Servants. Killed.	PONDICHERRY. Number of Servants. Injured.	PONDICHERRY. Total all Classes. Killed.	PONDICHERRY. Total all Classes. Injured.	WEST OF INDIA PORTUGUESE. No.	WEST OF INDIA PORTUGUESE. Number of Passengers and others. Killed.	WEST OF INDIA PORTUGUESE. Number of Passengers and others. Injured.	WEST OF INDIA PORTUGUESE. Number of Servants. Killed.	WEST OF INDIA PORTUGUESE. Number of Servants. Injured.	WEST OF INDIA PORTUGUESE. Total all Classes. Killed.	WEST OF INDIA PORTUGUESE. Total all Classes. Injured.	H. H. THE NIZAMS' GUARANTEED (a). No.	H. H. THE NIZAMS' GUARANTEED (a). Number of Passengers and others. Killed.	H. H. THE NIZAMS' GUARANTEED (a). Number of Passengers and others. Injured.	H. H. THE NIZAMS' GUARANTEED (a). Number of Servants. Killed.	H. H. THE NIZAMS' GUARANTEED (a). Number of Servants. Injured.	H. H. THE NIZAMS' GUARANTEED (a). Total all Classes. Killed.	H. H. THE NIZAMS' GUARANTEED (a). Total all Classes. Injured.	H. H. THE GAEKWAR'S No.	H. H. THE GAEKWAR'S Number of Passengers and others. Killed.	H. H. THE GAEKWAR'S Number of Passengers and others. Injured.	H. H. THE GAEKWAR'S Number of Servants. Killed.	H. H. THE GAEKWAR'S Number of Servants. Injured.	H. H. THE GAEKWAR'S Total all Classes. Killed.	H. H. THE GAEKWAR'S Total all Classes. Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	Worked by the South Indian Railway.	...	...	...	...	...	...	...	Information not furnished.	...	...	...	...	...	...	20	...	...	...	...	...	...	...	...	...	...	...	...
9. Ditto over cattle on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	34	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of Passenger miles				24,232																			12,744,082							1,112,258					
„ of Servants employed				46																			2,296							211					
Train mileage of all descriptions				2,256																			157,353							13,686					

(a) Includes the Bezvada Extension.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the THIRD QUARTER of 1889, &c.—*concluded*.

SEE ALSO TABLE No. 4.

CLASS.	NATIVE STATES—*concld.*																		TOTAL OF ALL RAILWAYS.						
	BHÁVNAGAR-GONDAL-JUNÁGARH-PORBANDAR.							MORVI.							JODHPORE.										
	No.	Number of Passengers and others.		Number of Servants.		TOTAL ALL CLASSES.		No.	Number of Passengers and others.		Number of Servants.		TOTAL ALL CLASSES.		No.	Number of Passengers and others.		Number of Servants.		TOTAL ALL CLASSES.		No.	Number of Passengers and others.		Number of Servants.		TOTAL ALL CLASSES.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	6	...	2	...	8
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21	...	...	2	1	2	1
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	1	...	1	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	18	...	22	...	...	...	22
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	99	...	...	...	2	...	2
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...
9. Ditto over cattle on the line	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	285	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23	...	1	...	...	...	1
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	1	...	1	...	2
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23	...	...	...	1	...	1
13. The failure of machinery, springs, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	58	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	62	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	...	...	...	...	...
21. The flooding of portions of permanent-way	15	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	102	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
25. Other accidents	1	...	...	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	46	...	1	...	2	...	3
TOTAL ALL CLASSES	24	...	...		2	...	2	1	...	...	...	...	...	...	1	...	...	...	...	...	...	838	...	31	3	9	3	40
Number of Passenger miles	9,147,764							1,389,842							3,073,300							1,052,430,454						
„ of Servants employed	860							576							426							166,658						
Train mileage of all descriptions	97,797							15,258							24,196							11,906,718						

TABLE No. 4.

ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., on the several RAILWAYS open for traffic in INDIA during the THIRD QUARTER of 1889, distinguishing the different Classes of ACCIDENTS, the Number of PASSENGERS and OTHERS, and the Number of RAILWAY SERVANTS KILLED or INJURED thereby.

Serial Number.	RAILWAYS.	1.—Collisions between passenger trains, or parts of passenger trains.	2.—Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line.	3.—Collisions between goods trains, or parts of goods trains.	4.—Collisions between light engines.	5.—Passenger trains, or parts of passenger trains, leaving the rails.	6.—Goods trains, or parts of goods trains engines, &c., leaving the rails.	7.—Trains or engines travelling in the wrong direction through points.	8.—Trains running into stations or sidings at too high a speed.	9.—Trains running over cattle on the line.	10.—Trains running over obstructions on the line.	11.—Trains running through gates at level-crossings.	12.—The bursting of boilers of engines.	12(a).—The bursting of tubes, &c., of engines.	13.—The failure of machinery, springs, &c., of engines.	14.—The failure of tyres.	15.—The failure of wheels.	16.—The failure of axles.	17.—The failure of brake apparatus.	18.—The failure of couplings.	19.—The failure of tunnels, bridges, viaducts, culverts, &c.	20.—Broken rails.	21.—The flooding of portions of permanent-way.	22.—Slips in cuttings or embankments.	23.—Fire in trains.	24.—Fire at stations, or involving injury to bridges or viaducts.	25.—Other accidents.	TOTAL ALL CLASSES.	NUMBER OF PASSENGERS AND OTHERS. Killed.	NUMBER OF PASSENGERS AND OTHERS. Injured.	NUMBER OF SERVANTS. Killed.	NUMBER OF SERVANTS. Injured.	TOTAL ALL CLASSES. Killed.	TOTAL ALL CLASSES. Injured.	Mean miles of Railway open.	Number of Passengers carried.	Train mileage of all descriptions.	Passenger mileage.	PER MILE OPEN. Number of Passengers carried.	PER MILE OPEN. Train mileage of all descriptions.	PER MILE OPEN. Passenger mileage.	TOTAL PASSENGERS. PER MILLION OF PASSENGERS. Killed.	TOTAL PASSENGERS. PER MILLION OF PASSENGERS. Injured.	TOTAL PASSENGERS. PER MILLION OF PASSENGER MILES. Killed.	TOTAL PASSENGERS. PER MILLION OF PASSENGER MILES. Injured.	Serial Number.
	STATE IMPERIAL.																																													
1	East Indian (*a*)	...		4	4	...	...	2	...	...	16	2	...	...	1	2	...	...	...	...	1	...	...	...	...	...	...	32	...	6	...	3	...	9	1,618	3,599,378	1,991,538	221,486,316	2,225	1,231	136,889	...	1·667	...	0·027	1
2	Rajputana-Malwa (*b*)	...	...	...	2	2	1	5	...	3	28	3	1	...	2	5	...	...	12	...	7	...	...	3	...	...	...	4	78	...	...	...	...	...	...	1,694½	2,091,349	1,275,450	110,572,025	1,234	753	65,253	...	...	...	...	2
3	Bengal-Nágpur (*c*)	...	...	...	...	...	...	9	...	...	3	2	...	...	...	2	...	...	...	...	...	...	...	1	12	...	...	1	30	...	...	...	...	...	...	305	188,489	106,300	5,307,844	618	349	17,403	...	...	...	...	3
4	Southern Mahratta (*g*)	1	...	1	...	...	2	...	...	23	1	...	...	2	3	...	...	1	...	1	...	...	...	3	1	3	...	...	42	...	...	...	...	...	...	856¼	601,472	366,182	27,529,576	702	428	32,151	...	...	...	...	4
5	Ditto Mysore Section.	...	...	...	...	...	...	...	...	2	...	...	...	...	2	...	...	...	...	1	...	...	...	2	1	...	...	...	8	...	...	...	...	...	...	261	186,789	79,742	7,854,182	716	305	30,093	...	...	...	...	5
6	Indian Midland (*e*)	...	...	...	...	...	4	...	...	9	...	...	...	1	...	...	...	...	...	...	1	...	...	2	4	...	...	2	23	...	...	...	...	...	...	725	357,852	271,558	21,019,629	494	375	28,992	...	...	...	...	6
7	North Western (*f*)	...	...	3	1	2	7	1	...	31	2	...	...	8	11	...	...	...	...	...	...	...	...	40	...	4	1	2	113	...	1*	3	1	3	2	2,386	2,541,798	1,983,097	128,188,837	1,065	831	53,725	...	...	...	...	7
8	Oudh and Rohilkhand	...	...	...	...	...	1	...	...	14	...	...	...	2	...	...	...	...	...	...	...	...	1	...	...	...	...	1	19	...	...	...	...	...	...	692½	1,299,709	579,166	54,178,766	1,877	836	78,236	...	...	...	...	8
9	Wardha Coal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	45	35,363	18,760	786,049	786	417	17,468	...	...	...	...	9
	STATE PROVINCIAL.																																													
10	Eastern Bengal (*g*)	1		2	6	1	1	12	1	...	31	2	1	...	...	7	...	...	1	...	6	...	4	12	...	...	...	1	89	...	...	...	...	...	...	872	1,907,500	727,147	55,936,663	2,187	834	64,148	...	...	...	...	10
11	Nalháti	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	27¼	40,112	12,590	824,259	1,472	462	30,248	...	...	...	...	11
12	Tirhoot	1	...	...	...	...	...	...	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	273	496,925	132,955	15,968,866	1,820	487	58,494	...	...	...	...	12
13	Lucknow-Sitapur-Sihrámau	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	...	...	...	...	...	105	122,229	41,882	3,163,376	1,164	399	30,127	...	...	...	...	13
14	Jorhát	...	...	...	...	...	7	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	25½	15,467	4,768	97,959	613	189	3,880	...	...	...	...	14
15	Cherra-Companyganj	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7½	3,263	4,867	15,036	435	649	2,005	...	...	...	...	15
16	Burma (*h*)	...	...	...	...	...	2	1	...	4	3	3	...	...	6	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16
	GUARANTEED COMPANIES.																																													
17	Madras	...	1	1	...	...	16	...	...	19	2	1	...	1	2	...	...	...	...	...	...	...	...	1	...	...	...	...	22	...	...	...	...	...	...	553	1,108,484	331,753	37,790,724	2,004	600	68,338	...	...	...	...	17
18	South Indian (*f*)	...	1	2	...	...	2	1	...	41	...	3	...	5	6	...	...	1	3	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	839	2,180,119	582,026	82,830,634	2,598	694	98,725	...	...	...	...	18
19	Great Indian Peninsula (*k*)	...	1	...	...	1	2	...	...	9	3	1	...	...	3	...	...	...	...	...	...	1	...	3	...	2	...	...	5	76	...	14	...	1	...	2	737	2,187,817	552,991	71,986,178	2,969	750	97,674	...	...	...	...	19
20	Bombay, Baroda and Central India	...	...	1	...	...	3	...	...	4	2	...	...	...	...	...	...	...	...	...	...	...	...	12	5	...	...	5	38	...	22	...	1	...	23	1,439½	2,147,992	1,769,512	106,995,780	1,492	1,229	74,328	...	10·242	...	0·206	19
	ASSISTED COMPANIES.																																													
21	Darjeeling-Himalayan	...	1	1	...	2	5	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1	...	...	18	30	...	1	...	...	...	1	461	2,295,824	482,020	52,285,190	4,980	1,046	113,417	...	0·436	...	0·019	20
22	Deoghur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																								
23	Dibru-Sadiya	...	...	...	...	10	12	...	...	5	...	...	...	...	3	...	...	...	...	44	1	...	...	...	...	...	...	1	12	...	...	...	...	...	...	51	11,128	29,592	296,94	218	580	5,823	...	...	...	...	21
24	Bengal and North-Western	...	...	...	...	...	5	1	...	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4½	53,808	3,294	257,740	11,328	693	54,261	...	...	...	...	22
25	Rohilkhand-Kumaun (*l*)	...	...	...	...	...	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30,708	406,563	204	394	5,212	...	...	...	...	23
26	Thatôn-Duyinzáik	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	76	...	...	...	...	...	...	78	15,904	196,298	16,909,619	1,397	522	44,972	...	...	...	...	24
	FOREIGN.																																													
27	Pondicherry	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	22	...	...	...	...	...	...	376	525,130	21,981	2,250,216	711	242	24,728	...	...	...	...	25
28	West of India Portuguese	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	91	64,712	2,256	24,232	379	282	3,029	...	...	...	...	26
	NATIVE STATES.																																													
29	H. H. the Nizam's Guaranteed (*m*)	...	...	...	...	...	2	...	...	20	...	...	...	...	4	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	3,029									27
30	H. H. the Gaekwár's	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	ian Railway.	...	...	...	...	...	...	...	...	...	...	28
31	Bhávnagar-Gondal-Junágarh-Porbandar	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	furnished.	...	...	...	...	...	...	...	...	...	...	29
32	Morvi	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30
33	Jodhpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	3	34	...	...	...	...	...	...	354	224,809	157,353	12,744,082	635	445	36,000	...	...	...	...	31
	TOTAL 1889	3	10	21	4	18	99	8	3	285	23	10	...	23	58	...	...	16	3	62	1	9	...	...	...	...	...	...	58½	60,568	13,686	1,112,258	1,031	233	18,982	...	...	...	...	32
	Average for 5 corresponding previous quarters (*n*)	...	8	13	2	28	84	13	1	280	17	12	18		54	2	...	10	1	68	...	8	...	...	...	...	...	...	260½	247,631	97,797	9,147,764	951	375	35,116	...	...	...	...	33
																													68	44,551	15,258	1,389,842	655	224	20,439	...	...	...	...	
																													124	69,842	24,196	3,073,300	563	195	24,785	...	...	...	...	
																													15,396½	24,729,043	11,906,718	1,052,430,454	1,606	773	68,354	...	1·173	...	0·028	
																													838	...	31½	3	9	3	40	12,990	20,219,730	10,433,585	878,144,936	1,558	808	67,654	0·049	0·346	0·001	0·008	

(*a*) Includes the Patna-Gya, Dildárnagár-Gházipur and Tárakeshwar Railways.
(*b*) ,, H. H. the Gaekwar's Mehsána-Vadnagar State Railway.
(*c*) ,, the Katni-Umaria Branch.
(*d*) ,, Bellary-Kistna State Railway.
(*e*) ,, the Sindia and Bhopal-Itárai State Railways.
(*f*) ,, ,, Amritsar-Pathánkot and Rájpura-Bhatinda State Railways.
(*g*) ,, ,, Bengal-Central Railways.
(*h*) Includes the Toungoo-Mandalay Extension.
(*j*) ,, ,, Villupuram-Guntakal State Railway Nellore Branch.
(*k*) ,, Dhond-Manmad, Amraoti and Khamgaon State Railways.
(*l*) ,, ,, Bareilly-Pilibhit State Railway.
(*m*) ,, ,, Berváda Extension.
(*n*) Except where statistics for 5 quarters are not available for any line.
(*o*) Not a passenger, but a cartman.
† Not passenger.
‡ Of these two were not passengers.

Report on the Derailment of a Passenger Train which occurred at mile 327¾ on the Nágpur Branch of the Great Indian Peninsula Railway at 2 A.M. on the 18th July 1889.

1. The accident, of which the following is a report, was of a very serious character: though happily unattended by loss of life, it caused injury, more or less severe, to twenty-one native passengers, and the destruction of rolling-stock and permanent-way, estimated at about R9,000.

2. The derailment took place about half-way between Nándúra and Jalamb Junction Stations, that is, at about mile 327¾, on the diversion which forms the east approach to a girder bridge.

3. The circumstances of the accident are briefly as follows. The Down Nágpur Passenger Train (No. 197) which was wrecked, consisting of twenty vehicles, left Nándúra (miles 324½) at 1-56 A.M., or four minutes late, on the 18th July. She had passed over the bridge at mile 327½ and proceeded safely to the diversion forming the east approach, but at the middle of the eastern half of the same the train became partly derailed.

The engine, brake and four 3rd class carriages next in rear remained on the rails; behind these came three 3rd and one 2nd class; the latter four were derailed but did not leave formation.

All the above had apparently passed over the diversion in safety and were derailed on the straight.

The condition of the remainder on examination turned out to be as follows:—In rear of the coaches named above came a 1st class and postal van; they were tilted over but went only partly down the embankment, which at this place is 6 or 8 feet high; then came six 3rds: four of these lay at the bottom of the embankment lying on their sides; another 3rd was partly down the embankment, and a 3rd class, the road van and rear brake were derailed on the top of the bank.

The four 3rd class carriages which fared worst contained about 120 passengers, chiefly pilgrims returning from Pandharpur fair, and many of them aged and decrepit.

They were extricated through the exertions of Mr. Wright, Traffic Inspector, who happened to be a passenger in the train, assisted by two European 3rd class passengers, a native policeman, and the guards. The engine was detached, sent on to Jalamb for aid, and eventually all the passengers were transhipped, and resumed their journey at 8-20 A.M. Those too severely injured to proceed (three in number) were cared for in the Shegaon hospital; the remainder went to their respective destinations.

A portion of the damaged stock was taken on to Jalamb; the four 3rds at the bottom of the bank will be broken up and their materials removed; the remaining vehicles were hauled to Nándúra. Communication was restored by linking in the up line to a point beyond the scene of the accident, and then crossing over to the down.

4. This derailment must be ascribed to either defective rolling-stock or defective permanent-way.

With regard to the former, I do not find that the stock was in fault. I personally gauged, at Jalamb, the wheels of the first five of the derailed coaches, and carefully examined them: none were even badly worn, and all might be brought into use with safety.

With regard to the condition of the permanent-way at the time of the accident, nothing could be ascertained with any certainty on account of the destruction caused to it by the derailment.

The reverse curves, however, must have had a length over all of at least 530 feet. The Permanent-way Inspector stated in evidence that he had tested the cant two days before the accident and found it 2½″, and where the spread of the gauge was greatest ¾″ was still remaining after the coaches had dropped between the rails. I accordingly am of opinion that the curve had sufficient cant. The sleepers (creosoted pine, where the spread was greatest) appeared firm and solid; they were thoroughly examined, and I consider were in a fit condition to be on the road, and this opinion was borne out on the sleepers being sawn through for inspection.

I can, however, find no other explanation for the spread of the gauge which caused the derailment than that the fibres of the sleepers cannot have been so good as in each case they appeared, and that they might have "perished" to such a degree that they were incapable of resisting the centrifugal pressure of the wheel flanges of the wrecked train.

(Signed) R. SIVEWRIGHT,

Officiating Deputy Consulting Engineer.

Bombay, 10th August 1889.

Note by the Consulting Engineer for Railways.

The causes which might have led to this accident have been most carefully enquired into, but the result is not satisfactory. The details are described in Mr. Sivewright's report, and are further minutely gone into in the reports by the Chief Engineer, Locomotive Superintendent, and General Traffic Manager of the G. I. P. Railway (also attached); so they need not be further described.

2. The stock on the train does not appear to have been in any way defective. The flanges of the wheels of the first five vehicles were in good order, and the gauge of the wheels was correct; and the same is to be said of the wheels of the first two carriages which left the rails and were overturned. Nor does there seem to have been anything wrong with the wheels of the engine, so it is difficult to ascribe any fault to the condition of the stock.

3. The permanent-way was also in very fair order. The pine sleepers were not new, but they were sound, although possibly slightly gone at the spike holes. The chairs were, however, spiked to the sleepers through ordinary bearing plates, so the whole of the spikes would resist any tendency of the rails to spread. The reverse curve was laid with very easy curves of about 2,500 feet radius, and the cant originally given was sufficient for a high speed. It is very probable that the heavy rains at the time had made the road a little uneven, and possibly the cant had been lessened somewhat. But the indications are sufficient to show that there was at least half an inch of cant left in the road after the accident had occurred, and this should have been sufficient for the moderate speed at which the passenger train should have been running. And I know, from actual experience in the inspection train which passed over the place at probably thirty-five miles an hour only eight hours previously to the accident, that the want of sufficient cant was not felt in the least. I passed slowly over this reverse curve on the morning of the 16th July, and being in the verandah of the end carriage, I had a full view of the road. And I passed the same spot on the afternoon of the 17th at high speed and was observing the road from the verandah of the same carriage, which had been reversed at Nágpur. I am quite certain that even if there had been a gradual spreading out of the rails

to any serious extent, I must have noticed it. Indeed, had such been the case, the engines would have been the first to find it out. So it is difficult to say that there was anything seriously wrong with the road eight hours before the accident.

4. As regards the speed of the passenger train accounts vary. The slight inaccuracy in the Engineering Department notice as to where the speed was to be reduced need not be noticed, as the driver was aware that the speed had to be reduced over the bridge close by where the accident happened; and although the time was 2-0 A.M., the evidence is quite clear that the speed of the train was reduced before passing the bridge. But in passing through stations the practice of drivers is to put on steam before the trailing points are passed, and so in this case the driver acknowledged to having put on steam on the bridge and before he was clear of the diversion. What speed he attained before getting near the end of the diversion cannot be said as he felt his train jerk before he got there and shut off steam, but even if he had been steadily increasing up to twenty miles an hour, there seems to be no reason why any carriages should have left the road.

5. It may be held that the Engineering notice to reduce speed at mile 327¼ to 10 miles an hour was too vague, and that the points between which a reduced speed was desired should have been specified. In theory this is doubtless true, but in practice the method of imposing a certain speed at a certain point—say, at the centre of the diversion—is generally sufficient. The diversions are always capable of bearing a much severer test than that imposed, and the main point to be gained by restricting the speed is to be certain that no really high speed can be attained while passing near to that point.

6. The suggestion that the high speed of the special inspection train when passing this point strained the road must be noticed. If I am making an inspection by special train, as in this case, I desire to travel at a speed from five to ten miles higher than that at which the ordinary passenger trains run, as then the defects of the road are rendered more apparent. On the day in question we would, under ordinary circumstances, have changed our Badnera engine at Shegaon, but the new engine was of too heavy a type to go down the Khámgaon branch, so we took on our Badnera engine to Bhusáwal. The driver had not been working for months on the Shegaon-Bhusáwal Section, so was new to the road, and unfortunately overshot mile 327¼, where the speed should have been sensibly reduced. We certainly hit the tangent point of the curve rather hard, but that was all, as no further effects of any sort were felt during the passage of the train over the reverse curve. The point of the curve hit by our train was from 120 to 150 feet from the spot where the passenger train went through, and as we went smoothly on beyond that, I cannot think that our train created any disturbance of a serious nature to the road. I certainly noticed nothing, and I was carefully watching the road from the verandáh of the rear carriage. On entering from the straight we had hit the tangent point of some other curves during the day, and I attributed the cause to the method of giving super-elevation which is apparently in force on this section of the G. I. P. Railway. No super-elevation is given at the commencement of the curve, but it is gradually given until the required maximum is attained. But the maximum super-elevation is as much wanted at the commencement as at the centre, and should therefore be commenced on the straight; consequently at high speed we felt the want of the super-elevation at the tangent point.

7. I am inclined to ascribe the cause of the accident to the driver of the train putting on steam too suddenly. Travellers by the G. I. P. Railway trains know only too well the severe jerks which are experienced not only at starting, but also often in the course of a run between stations; and as the buffing and draw-

gear under some of the older carriages is weak, the carriages cannot always be properly coupled up. I think, therefore, that the driver must have put on steam too suddenly, and sent such a severe jerk through the front carriages as to cause the leading wheels of the sixth carriage to mount the rail. This would make the carriage turn slightly round, and the trailing wheels then probably fell through, the couplings still holding, the trailing wheels would burst the road, and the following carriages would naturally fall through. I don't think the speed could have been at all excessive, probably not twenty miles an hour, or else the carriages would have telescoped into each other, and the damage to life and stock would have been much greater. The Locomotive Superintendent has, I am aware, been doing his best to make the drivers be more careful when putting on steam, but unless the buffing and draw-gear is sufficiently strong to admit of fairly tight coupling, it is most difficult to avoid the jerks caused by putting on steam too suddenly.

* * * * * *

(Signed) F. FIREBRACE, *Lieut-Colonel,*
Consulting Engineer for Railways.

Poona, 24th August 1889.

APPENDIX A.

GREAT INDIAN PENINSULA RAILWAY COMPANY.

General Traffic Manager's Office,
Bombay, 23rd July 1889.

No. 4070.

THE AGENT,
G. I. P. Railway, Bombay.

DEAR SIR,

With reference to my report No. 4019 of the 19th instant, as to the accident near Nándúra early in the morning of the 18th idem, I beg to say that the accident happened at a diverson which was being temporarily used in connection with the new doubling works.

The single line over the bridge at the place referred to (which will be the down line) has been used for a considerable time, and, in connection with the doubling works, the new up line has been laid over the bridge, and the traffic has been turned from the present single road (which is to be the down road) on to the road which will be the new up line, and over the bridge, and for some short distance beyond it the trains are running on the to be new up road. The accident occurred at about the spot where trains are brought back from this up line, thus temporarily used, on to the existing single line at the east or Jalamb end of the diversion.

This diversion has been used for some months on, as I understand, the authority of the Consulting Engineer, who sent a representive to inspect it before it was brought into use for traffic.

2. I find that the engine and brake and four third class carriages in front of the train kept on the rails.

Four 3rd class carriages and a 2nd class were derailed only, then a 1st class and a post office van were lying half-way down the bank almost on their sides, the following four 3rd class carriages were lying at the bottom of the bank also on their sides, another 3rd class carriage was half-way down the bank, while one 3rd class carriage, a road van and the rear brake van were simply derailed.

3. The train was a heavy one, being very full of passengers, who were returning from the Pandharpur fair.

We carried a considerable number to the fair, though not so many as in previous years owing to the prevalence and the fear of cholera.

4. You have been already advised that twenty native and one European 3rd class passengers were injured; but the statement, signed jointly by the Government Apothecary of the Civil Dispensary at Shegaon and the Company's Apothecary at Badnéra, shows twenty-one natives and one woman (with a European name). Six of these are marked as having received serious injuries; all the rest are marked as slight injuries.

In addition to these, a European named William Staines, also complained of a bruise on his neck and another on his hip; but they were only slight, as he was able to help in getting out the passengers, which he did with great kindness.

I enclose a copy of the list* of all who complained and who were treated by the medical staff. Staines' name is not entered on this list. Nine of the injured passengers were women; they were all 3rd class passengers.

* Not printed.

After being attended to, they all insisted upon going to their homes.

5. The steps taken to put the road right and get the passengers through were promptly carried out, and by three or four o'clock in the afternoon trains were allowed to pass slowly over the spot, and in the course of a few hours afterwards the road was stated to be all right and trains resumed their ordinary running.

* * * * * *

7. I do not propose to delay this report for my final report about the accident, the papers now before me not being complete. I will make the final report as quickly as possible.

8. But with regard to the remark that some previous train must have strained the road, I may say that I understand that the Permanent-way Inspector's statement is to the effect that the road at this point had been specially examined by him and gauged three days before the accident; also that he had lorried over it about nine hours before the accident (that is, about four o'clock in the afternoon of the 17th) and had found it right; for, he says, if it had not been right to gauge, the wheels of his lorry would have dropped between the rails.

After the Inspector had lorried over the spot *three* trains passed before the accident occurred, namely, *first*, the Up Special Inspection Train in which yourself, the Consulting Engineer, the Chief Engineer, the Locomotive Superintendent, and myself travelled; *second*, the No. 92 Up Goods Train due at the spot at about half-past six, but which was delayed for the special to precede it; and *third*, the No. 51 Down Goods Train due at the place at about ten o'clock.

The special train ran tolerably fast. The two goods trains ran at ordinary speed.

9. The train to which the mishap occurred was running at just about right time. The driver said he left Nándúra four minutes late, and that he

passed on to the diversion at ten miles an hour, but that, upon getting on to the straight line on the diversion, he was going at from twelve to fifteen miles an hour.

Yours truly,

(Signed) HENRY CONDER,

General Traffic Manager

APPENDIX B.

GREAT INDIAN PENINSULA RAILWAY COMPANY.

General Traffic Manager's Office,

Bombay, 10th August 1889.

No. 4431.

THE AGENT,

G. I. P. Railway.

DEAR SIR,

With reference to my letter No. 4070 of the 23rd ultimo, as to the accident to the No. 197 Down Passenger Train between Jalamb and Nándúra on the 18th idem, I beg to say that I have now received the further information as to the occurrence which enables me, so far, to complete the report of the case.

I enclose a copy of the summary and of the evidence taken at the joint enquiry held at Nándúra Station on Saturday, the 20th July, and also of the joint finding then arrived at.

2. The Chief Engineer and the Locomotive Superintendent and myself met on Wednesday, the 7th instant, and discussed the matter very fully, and we then saw and questioned some of the members of the staff of the three departments who could throw light upon, or give further information about, the case.

3. I have little to add to what was said in my letter No. 4070 of the 23rd ultimo and previous reports as to what may be called the circumstances and details of the accident. They appear to have been correctly stated therein, except that, from the position of the first marks on the rails which show derailment, it seems to be clear that it must have occurred at from 120 to 150 feet before the train reached the spot where the diversion comes back on to the down road, and not at that spot, as was at one time supposed, and as was stated in the first paragraph of my report No. 4070.

4. I find that the damage to the permanent-way is estimated at about ₹ 1,460 and to the rolling-stock at about ₹ 7,735. I enclose copies of the statements* giving the details of these damages.

* Not printed.

5. In addition to these damages, the telegraph wires were broken in the accident, but the cost of repairs would be hardly more than nominal.

The most serious part of the telegraph breakages was the interruption in the communication, causing delay to messages, and in getting information. The first telegrams about the accident had to be sent by the Government wires.

6. In regard to the injury to the passengers I find that Mr. Wright, the Traffic Inspector, who was in the train, and was riding in the carriage, part of

which is used by the Post Office, which was one of those that were overturned, received some bruises, but fortunately they were only slight. Mr. Wright did his best to re-assure the passengers, and organised and superintended and helped in the steps taken to extricate and relieve them.

7. You may possibly have seen a reference to the accident in the *Times of India* of the 25th ultimo, in which mention is made of a rumour that three or four of the passengers had since died from the injuries they had received. It is added that the rumour required confirmation.

I only refer to it in order to say that, so far as we know, there has been no such result of the injuries, and I hope that we may not have to report any fatal termination in any case.

We have made, with some caution, some enquiry as to the several cases of injury, and I find that there are none that are likely to prove very serious; in fact, that except in two or three cases the passengers are well again.

8. I think I have thus advised you of all the matters so far connected with the occurrence to which I need refer.

I shall be glad if you will let me see a copy of the report of the Deputy Consulting Engineer, Mr. Sivewright, who was present at the enquiry on the 20th ultimo.

9. You are aware of the position of matters before the mishap when you passed the place with the Consulting Engineer and other of the Company's officers in the Up Special Inspection Train between six and seven o'clock in the evening on the 17th ultimo, only a few hours before the accident.

It should be borne in mind that the jerk which was felt in that train when it passed, as an Up Train over the curve on to the diversion, at the Nágpur end of it, was at a spot which was from 120 to 150 feet from the place where the carriages first left the rails with the Down Train which had not passed over the curve where the jerk was felt in the inspection train, and further, that the engine and some of the carriages of the train that met with the accident passed safely over the curve where the jerk was felt in the inspection train.

10. The speed of the inspection train at this place has been variously estimated to have been thirty, thirty-five, forty and even more than forty miles an hour. I find from the records, which are apparently quite reliable, that it took twenty-five minutes to run that train, the distance (eight miles) from Jalamb to Nándúra (between which places the diversion is situated); and as that is not quite twenty miles an hour, the speed is not likely to have been at any part of that distance more than about twenty-five miles an hour.

But twenty-five or even thirty or thirty-five miles an hour cannot be said to have been excessive speed for such a light train as that.

11. Two causes have been considered as likely to have contributed to the accident.

One is the condition of the road.

The other is an impression that the train which met with the accident was going too fast.

12. As to the speed, the driver states that when he got on the straight part of the diversion he gave steam to the engine, and he thinks that the speed was increased from twelve to fifteen miles an hour. I should think it likely that the fifteen miles was somewhat exceeded, but not to any great extent, for there was neither time nor distance for the train to get up any high speed. The driver states that he considers that he was justified, under the instructions he had, in the course he took.

I am of opinion, also, that the damages, though considerable, show that there cannot have been any great speed; for if there had been, both the passengers and the stock would have suffered much more seriously than they did. A sum of less than eight thousand rupees for the repair of fifteen carriages that have passed through such an experience as these did can hardly be considered as a very large amount, and the injuries to the passengers are far less serious than might have been expected, or than would almost certainly have occurred, if there had been any great speed.

The speed, therefore, does not appear to account for the mishap, and I am inclined to think that it had but little to do with it.

13. As to the other possible cause, namely, the condition of the road, it is difficult to say how much of its state after the accident was caused by the accident rather than led to it.

I cannot help thinking that the heavy rain, of which we had experience for some hours before we passed the place, and which, we hear, was renewed after we had passed, must have had some effect on the road. The diversion is on a comparatively new road, which has not had the test of a monsoon over it.

It is right also to say that at the spot where the carriages first left the line, those who were in the inspection train, some seven or eight hours earlier than the accident, did not notice anything the matter, although they were tolerably certain to have done so if there had been any glaring defect, seeing that the jerk at the curve had arrested attention, and some of them were actually watching the road.

14. There are no fixed signals at the diversion, and therefore, in accordance with usual rule in such cases, the hand signal referred to in the Chief Engineer's report was shown by signalmen appointed and controlled by the Engineer's Department. The evidence of the two signalmen was so contradictory, caused apparently by their not being able to understand clearly the questions put to them, that it was quite unreliable.

15. The Chief Engineer had shown me his report No. 7534 of the 9th instant, to your address, about this matter, and I agree generally with what he has said in it.

16. I am of opinion that none of the train or traffic staff can be held to be, in any way, responsible for the accident, or to have contributed to it.

Yours truly,

(Signed) HENRY CONDER,
General Traffic Manager.

APPENDIX C.

Particulars of a joint enquiry held at Nándúra Station on Saturday, the 20th July 1889, in reference to derailment of 197 Down Passenger leaving Bhusáwal on Wednesday night, the 17th instant, at 11-30 P.M., at mileage 372½.

PRESENT:

MESSRS. R. SIVEWRIGHT, Offg. Deputy Consulting Engineer to Government.
C. WEST, District Resident Engineer.
J. GARRATT, District Traffic Superintendent.
T. C. BONNER, Assistant Locomotive Superintendent

The following witnesses were examined:—

1. William Glover, Driver of 197 Down Passenger.
2. E. Green, Head Guard, 197 Down Passenger.
3. J. Wright, Traffic Inspector.
4. H. Hart, P. W. Inspector.
5. Essoo Pandoba, Signalman, mileage 327½.

Summary.

It would appear that 197 Down Passenger left Bhusáwal right time on night of 17th instant, made up of 20 vehicles, in following order:—One brake van, eight 3rd class carriages, one 2nd class, one 1st class, one post office van, six 3rd class carriages, one road van, and one brake yan.

The train was in charge of Guard E. Green with C. Oliver as second guard. The train proceeded all right to Nándúra and left that station at 1-56 A.M. for Jalamb. That on arrival at mileage 327½ the train became derailed owing to the bursting of the road on the diversion curve at east of Jalamb end of girder bridge, leaving it in the following position:—The engine, front brake and four 3rd class carriages following kept the road. Third class Nos. 258, 324, 1252, 2019, and 2nd class 1008 were derailed.

The above were all coupled together and standing between telegraph posts 327-14½ and 327-15½. The space between 327-14½ and 327-13 was clear, but between 327-13 and 12 1st class 27 and post office carriage 494 were lying half-way down the bank almost on their sides, and 3rd class 747, 1249, 159, and 576 were lying at bottom of embankment on their sides, third class 347 half down the bank and 3rd class 2021, road van 2824 and brake van 1303 derailed but on the top. That the train became derailed at telegraph post 327-11½, and for a couple of rail lengths the road appears to have opened out, and from this point the road was badly broken up for about three telegraph posts. The evidence of the Permanent-way Inspector shows that this road had been specially examined and gauged three days previously, and also that he had lorried over it the same evening about nine hours before the accident, and found it all correct. The members of the Committee carefully examined the road and found at the point of derailment the gauge was 2½ inches wide. Had the road been in this condition at the time the Inspector passed over, it must have been detected as his lorry would have dropped between the rails. The marks made by the shifting of chairs and bearing plates were very plain, evidently very recent and could not have escaped the Inspector's attention. After the Inspector lorried over the diversion, three trains passed before the accident, namely, the Inspection Up Special, No. 92 Up Goods, and No. 51 Down Goods, and the widening of the gauge must have occurred during this time. The special train appears to have run on to the diversion very fast and may have strained the road, as the curves were not laid with sufficient cant for high speed.

Finding.

We find on examination of the road at the point of derailment that the gauge was gradually opened from zero to 2½ inches on outer curve of diversion at east end of bridge at 327-11½ mileage, at which point the train became derailed. There is absolutely no evidence to account for the widening of this gauge. We find that the speed was in excess of the cautious driving notice for this point, but we also consider that this speed alone was not sufficient to account for this derailment, except on the supposition that some previous train had passed over this point at an excessive speed and strained the road.

(Signed) T. W. BONNER,
Assistant Locomotive Superintendent.

(„) J. GARRATT,
District Traffic Superintendent.

(„) C. WEST,
District Engineer.

1st Witness, William Glover.

I was the driver in charge of 197 Down Passenger from Bhusáwal to Badnera. On Wednesday night, the 17th instant, I left Bhusáwal right time, and came on all right to Nándúra, which station I left at 1-56 A.M. or four minutes late. About ½ or ¾ of a mile from mileage 327¼ I whistled for a signal and a green light was shown. I passed this mileage at about ten miles an hour. When at the bridge I exchanged signals with my guards and put on steam. Before getting on to the straight over the diversion I was going from twelve to fifteen miles an hour. Just before coming off the diversion I felt my engine oscillate, and I shut off steam and looked back and immediately felt a jerk and saw the train was derailed. I then put on steam in order to tighten the couplings, and in a few seconds I shut off gradually and brought the train to a stand. I pulled the train up at mileage 327·15. I put on steam for the purpose of keeping the train from going down the embankment. On coming to a stand I found that the brake and four succeeding vehicles remained on the road. After waiting about twenty minutes I received orders from Mr. Wright, the Traffic Inspector, to proceed at once to Jalamb with the front brake and three 3rds. I have been a driver for 8 or 9 years, and in the service of the Company 13 years.

Questioned.—I did not understand that I was to retain the speed of ten miles an hour after passing mileage 327¼, and my line clear ticket was endorsed "Speed ten miles an hour at 327¼." I came over this diversion with the 82 Up Passenger on the night or early morning of 13th, when I did not notice any oscillation or anything unusual at this point.

Guard E. Green.

I am a Head Passenger Guard on the G. I. P. Railway. I was in charge of 197 Down Passenger on night of 17th instant from Bhusáwal to Badnera. I left Bhusáwal right time. My train consisted of 21 vehicles on leaving Bhusáwal, one of which was detached at Nádgaon. I came on all right to Nándúra, and left that station at 1-56 A.M. or four minutes late. We proceeded all right to mileage 327½. After passing the level-crossing gate the driver whistled and shut off steam. We passed mileage 327½ about ten or twelve miles an hour. On passing the bridge I gave all right signal to the driver on getting same from my second guard. On leaving diversion I felt a severe jerk and was knocked forward against the brake handle. The train shortly came to a stand. I was looking out when the driver came up and said he thought something was off the road, and on getting out I found the train derailed in the following position:—

The engine, brake and four 3rds were on the rails; three 3rd class and one 2nd were derailed but on the bank. The couplings of these carriages remained intact. The 1st class and postal van were lying half-way down the bank on their sides, four 3rds were lying at the bottom of the bank on their sides, another 3rd partly down the embankment, and one third road van and rear brake were derailed on the top of embankment. I assisted in getting out the passengers and then worked under orders of Mr. Wright.

Mr. Wright.

I am Traffic Inspector on the Nágpur District. I was travelling in 197 Down on night of Wednesday the 17th instant. I was travelling in the Post Office van and was awakened by a severe jerk. The carriage oscillated very much and then fell over on its side, partly down the embankment. I forced the upper-door open and got out. The guard at this time came up and I took his lamp and went to the top of the 3rd class carriages which were down the embankment to ascertain if any one was killed and to reassure the passengers. I examined all the derailed carriages, the 3rds contained from 30 to 40 passengers each. Then with the assistance of Guard Green, two 3rd class European passengers and a police sepoy, I extricated all the passengers, which was completed about 3-45 P.M. I found about 20 passengers more or less injured; as soon as daylight came the whole of the passengers were transferred to the carriages of 82 Up and left the scene of accident at 8-20 A.M. There was a distance of about 350 feet between the 1st class and the rear of the front portion of the train remaining on embankment. I last passed over this point in the inspection special train on the up journey the evening of 17th about 7 P.M. The signalman was then standing on the west side of bridge, about mileage 327-9. The driver appeared to reduce speed on coming on to the diversion at east end. I did not then notice anything unusual at this point.

H. Hart, P. W. Inspector.

I laid the diversion at 327·33 on 7th April. I examined the diversion by gauging it and testing the cant of the curves with a level three days before the accident and found it all right, the cant being 2½ inches in the centre of the curve. During the time the diversion has been worked, I have not found the gauge wider at all, and I have not had to respike any of the sleepers. I lorried over the diversion on the afternoon of 17th about two hours before the Special Inspection Train. I saw nothing wrong with the road, the rails where the accident occurred have not been moved since the accident. There is one signalman on duty at this bridge. He has orders to show his signal at the end of the diversion to which a train is approaching, and I have noticed that he generally does this.

Essoo Pandoba, Signalman on duty at 327·33 on nights of 17th and 18th July, says that the train that met with the accident passed him at high speed and did not reduce speed as usual.

APPENDIX D.

GREAT INDIAN PENINSULA RAILWAY.

Chief Engineer's Office,
Bombay, 20th July 1889.

No. 6816.

THE AGENT.

DEAR SIR,

Accident to 197 Down Passenger Train at mileage 327·33, Nágpur Branch, on the 18th instant.

This occurred at the Nágpur end of a diversion of the main line from the Down (old) to the Up (newly made for double line) side over a bridge, the mileage of which is given above. The diversion was inspected and passed by a representative of the Consulting Engineer, Mr. Sivewright, on the 8th April, so that it has worked safely for a period of over three months.

On the 16th instant Colonel Firebrace inspected the bridge, which has, in connection with the doubling of the line, been converted from a single line bridge of six 30-feet girder openings carried by masonry piers into a double line bridge of two 52-feet and three 30-feet girders carried by new screw pile piers and the old abutments. He on that day arranged for his Deputy to be present three days later to test the bridge and sanction the re-diversion of traffic over the down line side. My inspection carriage in which Colonel Firebrace travelled was at the rear of the train, so that after we left the bridge we continued for some distance to obtain a good view of the diversion of the line over it, but neither of us observed any defect. Late on the following evening when returning from Nágpur we passed over the diversion at a speed exceeding, I think, forty miles an hour, and as we did so, our carraige, still at the rear of the train, received a violent jolt, which we attributed to excessive sharpness of the curve at its junction with the straight portion of the line. Neither the jolt nor the apparent defect was so bad as to suggest that they were calculated to produce an accident to trains travelling at ordinary speed, and at the time I considered that the jolt we experienced had been accentuated by our very rapid passage over the place. I nevertheless realized that the place required attention, and at the next station I despatched a telegram to the Resident Engineer and Permanent-way Inspector, instructing them to ease the curve early next morning.

Our Inspection Special was followed by an Up Goods Train, and the next to pass over the diversion was that to which the accident occurred.

The engine, front brake and three 3rd class carriages passed the defective spot safely and remained on the rails; but the remaining vehicles—one 2nd, one 1st, one post office, nine 3rd class, and the rear brake van—all left the metals, seven of the carriages being precipitated down the bank 9 feet in height, where they lay on their sides.

Providentially no one was killed, though some twenty passengers were more or less injured.

Mr. Mallet, Consulting Engineer to the Government of India for Railways, Central Division, who was travelling from Nágpur to be present at our meeting with the Indian Midland Railway officials at Itársi, was on the spot soon after the accident occurred, and he tells me that in his opinion the accident was caused by pine sleepers so defective as to permit of the gauge spreading. He considers too that the train must have been going at an excessive rate of speed.

I must, however, defer reporting to you more definitely on these points until I obtain further information from the District Engineer and know the result of the joint enquiry which is to be held to-day.

Yours truly,
(Signed) J. G. H. COLLISTER,
for Chief Engineer.

APPENDIX E.

GREAT INDIAN PENINSULA RAILWAY COMPANY,
Bombay, 9th August, 1889.

No. 7534.

THE AGENT,
G. I. P. Railway.

DEAR SIR,

In continuation of my No. 6816 of 20th ultimo, *re* accident to 197 Down Nágpur Passenger Train on the morning of 18th idem, I have to report further. My above was incorrect in two respects.

1. I stated the height of the bank where the accident occurred as being about 9 feet, whereas it is about 6 feet only.

2. I stated that our inspection special was followed by an Up Goods Train, and that the next to pass over the diversion was the passenger train to which the accident occurred. But two goods trains passed the place, one which followed soon after the inspection train on its upward journey, another down at about 10 P.M., and then the ill-fated passenger train.

3. The accident occurred on a diversion, from the old down line side over the up line side of a bridge which was being reconstructed in connection with the doubling. The gradient of the main line and of the diversion is 1 in 1,000 falling towards Nágpur. The line on either side of the diversion is straight for a long distance.

4. The accompanying diagram* will more clearly than words explain its position and those of the several points that will be referred to by me.

* Not printed.

5. The diversion was formed partly (*a* to *x* and *x* to *h*) of the old material in the down line, iron rails laid in 1864, and pine sleepers with iron bearing plates laid in 1884; and (*x* to *x'*) 30 feet steel rails and right and left pot sleepers, never until the diversion was opened, run over.

6. The diversion from (*a*) to (*h*) is 1,466 feet long. The sharpest curve between (*a*) and the bridge is about 3,000 feet radius, and such parts of the curves between the bridge and (*h*) as were not disturbed by the accident were found to be of not less than 2,500 feet radius.

7. The super-elevation of the outer rail is said to have been maintained at $2\frac{1}{2}''$ at the middles of the curves, decreasing of course towards their ends.

8. The road was fairly but not fully boxed up with excellent ballast.

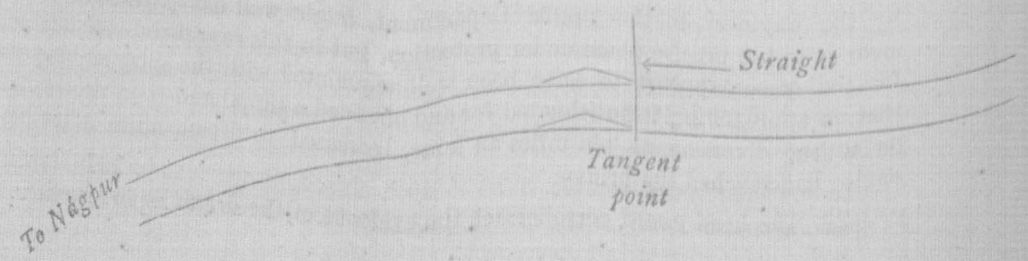
9. The diversion was inspected and passed by Mr. Sivewright, Deputy Consulting Engineer to Government, on the 8th April last.

10. From the 8th April to the 2nd June there was a caution notice ordering speed of ten miles an hour between $327\frac{1}{4}$ and $328\frac{1}{2}$ mileage, which included this as well as another diversion. From the 2nd June the foregoing was cancelled and in its place was issued a caution notice ordering reduced speed to ten miles an hour at $327\frac{1}{4}$ mileage. A caution hand-signal was exhibited day and night.

11. On the 16th ultimo proceeding from Bhusáwal to Nágpur our inspection train ran slowly over the diversion and stopped, when Colonel Firebrace and I examined the newly finished bridgework, and he arranged for it to be tested three days later. Upon getting into my carriage at the rear of the train again and drawing slowly off the diversion, we continued for some little distance to hold a good view of it, and I certainly noticed nothing wrong with the curves.

12. Next evening on our return journey we ran over the diversion at a speed estimated by various members of our party as from thirty to forty miles an hour.

13. Colonel Firebrace, Mr. Jackson, and I were sitting in the rear verandah of my carriage which was at the tail of the train, and at the moment we left the straight and entered the curve we felt a severe jolt and at once discovered that



it had been produced by a most apparent "kink" at the tangent point (*h*) on accompaying diagram.

14. The above sketch in which the red lines indicate the "kink" does not greatly exaggerate what we, or to be more reserved, what I saw. In my own mind there is not the slightest doubt that the one single jolt which we felt occurred at the tangent point.

15. Excepting it there was no remarkable jolting, swaying, grinding or uneasy running over any other part of the diversion, and what little rocking there was I put down to the necessarily frequent changes of cant, emphasized by the speed at which we were travelling. I considered, too, that a train travelling at ordinary speed would only in a reduced degree feel the effect of the kink at the tangent point. Had I observed anything really seriously wrong, my telegram from the Nándúra Station would have been of a far more peremptory and urgent nature.

16. No. 197 Down Nágpur Passenger left Nándúra at 1-56 A.M. or four minutes late on 18th ultimo. According to the driver's evidence on approaching the diversion he whistled for a signal, and a green light was shown, whereupon he reduced speed to ten miles an hour on entering the diversion, and when his engine reached the straight of the diversion over the bridge and he had exchanged signals with the guards, he gave her steam again. When nearing the Nágpur end of the diversion running, he says, at about twelve or fifteen miles an hour, he felt the engine oscillate and then a severe jerk. He then shut off steam, but seeing that some carriages had left the road he put it on again, to keep the train straight, and then, as soon as he could, pulled up. The engine stopped at a point 936 feet beyond the spot where the first marks of derailment were found.

17. The engine, front brake van, four 3rd class carriages remained on the rails, then, attached to them with unbroken couplings, came four 3rd and one 2nd class carriages off the rails, then, after a gap of 355 feet, came one 1st class and one postal carriage half-way down the bank and almost on their sides, four 3rd class quite on their sides at bottom of bank, one 3rd class half-way down the bank, and one 3rd class, one road van and brake van derailed, but on the formation.

18. A joint enquiry into the accident was held, at which were present the District Engineer, the Assistant Locomotive Suprintendent, the District Traffic Superintendent, and Mr. Sivewright, Deputy Consulting Engineer to Government.

19. Copies of the evidence taken and of the finding are herewith sent.

20. The exact mileage of the bridge is 327 miles 38 chains. The driver in evidence states that his line clear ticket bore the endorsement "*speed 10 miles an hour at* $327\frac{1}{4}$" (which is equivalent to 327 miles 20 chains), and that he did not understand that he was to retain the speed of ten miles an hour after passing $327\frac{1}{4}$.

21. The inaccurate and insufficient wording of the caution notice, as given by the Engineer to the Traffic Department, might well have led drivers into error as to the precise place under protection, but in this case it did not do so, for the driver appears to have been well acquainted with the spot, as he says that on approaching it he whistled for and obtained a signal and then proceeded on to the diversion at ten miles an hour, increased to fifteen miles after his engine had reached the bridge.

22. The head guard corroborates the evidence of the driver as to speed.

23. Mr. Wright, the Traffic Inspector, was asleep, and can say nothing on this point.

24. Essoo Pandoba, signalman, says the train passed him at high speed and did not reduce speed as usual. This evidence is not of much value.

25. Judging by the positions of the engine and the rear brake after the accident, and the place of first derailment, I consider the train must have been running at a greater speed than stipulated in the caution notice, but to what extent we shall probably never be able to ascertain.

26. The Permanent-way Inspector who laid the diversion gives evidence that he examined the road testing its gauge, and the cant on curves three days before the accident, finding it all right. That during the time the diversion has been run over he has not found the gauge widen. That he has not found it necessary to re-spike any of the chairs, that he lorried over the place on the 17th about two hours before the special inspection train passed, and saw nothing wrong with the road.

27. This is all the oral evidence we have.

28. The condition of the road after the accident produced indisputable evidence that the first marks of wheels off the rails were found at a spot 464 feet from east abutment of bridge, *i.e.*, on a curve, the radius and cant of which are said to have been not less than 2,500 feet and $2\frac{1}{2}''$ respectively.

29. This fixes the spot as being between 120 and 150 feet on the Bhusáwal side of the spot [(*h*) on diagram], where I in the inspection train felt the jolt or jerk on the evening of the 17th.

30. The road being destroyed for some distance on either side of (*h*) it was impossible to fix the exact position of the tangent point, hence the want of precise definition in regard to its distance from the point of derailment.

31. The first sign of a vehicle having got off was discovered by the middle of a rail on the left or outer side of the curve where the gauge was found $2\frac{1}{2}''$ wide.

From this point backwards the widening of gauge gradually decreased, until at a distance from it of *about* 30 feet (*i.e.*, up to 437 from abutment of bridge, see diagram) the gauge was found correct.

Forward from the first marks the chairs under the right hand or inner rail, were broken after passing three or four sleepers, and the rail was forced out, making the gauge 6 or 7 inches wide; but under the left or outer rail no chairs were broken, and the movement of the bearing plates on the sleepers plainly showed the widening as being $2\frac{1}{2}''$ at point of derailment, lessening to nothing at the 10th and 12th sleeper forward.

32. This gives the widening of gauge as extending for about a length of 60 feet, that is, 30 feet on either side of point of first marks of derailment, and leaving a length of at least 100′ or 120′ (according to whether the tangent point (*h*) was 120′ or 150′ from point of derailment) of the diversion true to gauge, and over which the foremost part of the train travelled safely. The five vehicles at the rear of the foremost portion were probably derailed when the rear portion was running down the bank and before the severance of the couplings.

33. At the enquiry the chairs were removed from those sleepers where the chairs under the left hand rail had moved more than an inch, and it was found that the spikes were bent, some of them to an angle of 45°, and the spike holes were elongated. Every spike was in its place, none were broken, only two were in any degree reduced in thickness by rust, yet all were bent, adducing an

incontestable fact that the wood of the sleepers had been hard enough to very strongly resist the action which caused the spreading of the road.

34. Several sleepers, including those under the rails where the carriages first left the road, were sawn in two and showed perfect soundness, so did those which had been crushed and split by the passage over them of derailed wheels. I have seen several of them.

35. At the enquiry the cant of the curve at the point where the first marks of derailment appeared was found to be less than 1″.

36. There are not, I think, further details in connection with the construction of the diversion, description of the accident, on the conduct of those servants of the Company who are directly associated with it, that I need give you, and after quoting the finding of the joint enquiry, I will proceed to analyse such information as we have, and offer my opinion upon what I cannot but feel is a question of extreme complexity.

37. The District Engineer, Assistant Locomotive Superintendent, and District Traffic Superintendent, record as follows:—

"We find on examination of the road at the point of derailment that the gauge was gradually opened from zero to $2\frac{1}{2}$ inches on outer curve of diversion at east end of bridge at 327 miles 11½ telegraph posts, at which point the train became derailed. There is absolutely no evidence to account for the widening of this gauge.

"We find that the speed was in excess of the cautious driving notice for this point; but we consider that this speed alone was not sufficient to account for this derailment, except on the supposition that some previous train had passed over this point at an excessive speed and strained the road."

38. There can be no doubt that the immediate cause of the accident was the widening of gauge due to the comparatively weak pine sleepers yielding to the pressure exerted by passing trains against the outer rail of the curve and to the bending of the spikes securing the chairs to them, and probably, but I will not say undoubtedly, to insufficiency of super-elevation of outer rail.

39. I believe the accident would not have occurred had a stronger class of sleeper been in the road.

40. I hope I may not be understood to cast any reflection upon the officers who are responsible for having used pine sleepers for this particular work.

41. Mr. Mallet, Consulting Engineer to Government, Central Provinces, who was on the spot soon after the accident occurred, said he would never have rejected the sleepers for such a work. We have satisfactory evidence that they were perfectly sound. The resistance that they offered to the bending spikes is of itself a great testimony of their soundness.

42. We have used, and I believe there are now in the road, pine sleepers which are subjected to strains even more severe than it was contemplated those in this diversion, under the cautious running notice, would have to endure.

43. Although in the light of recent events—a light which will hereafter guide me in the construction of diversions—I say that stronger sleepers would probably have prevented the accident, I cannot attribute to the officers, who in this case used pine, any blame. I think no Engineer would, under the circumstances, have rejected them.

44. Regarding the cant on the curves of the diversion, although I attach no great credence to the Inspector's assertion that he tested and found it

accurate, I may express opinion that our very fast special having traversed them safely justifies the impression that there could have been nothing seriously defective in either the alignment or cant of the curves, but that insufficiency of cant for trains running at very high speed may have accelerated the tendency of such to force the gauge.

45. In the finding the members of the enquiry insinuate that the special inspection train had initiated the defect which caused the accident.

46. The District Engineer has in most unqualified terms expressed such belief. He argues that the elongation of the spike holes and the cutting of the bearing plates along the surface of the sleepers had the appearance of having been affected by one action, or, as it were, one blow, and that there were no signs to show that the widening of gauge had been gradual and caused by successive blows imparted by many trains.

47. I cannot endorse this theory.

48. I, at the extreme rear of the train, felt but one jerk at a place 120 or 150 feet before reaching the spot where the derailment occurred, and I detected no defect on any other part of the diversion.

49. The Traffic Inspector, who was in one of the carriages of the special, has recorded that he noticed nothing unusual in passing over the diversion.

50. But, supposing the special had burst the road, would it not be more reasonable to suppose that one of the engines of the three trains that passed over the diversion would have dropped in where the gauge was wide instead of a light carriage?

51. Is it credible that a special conveying the Consulting Engineer to Government and the chief officials of the Railway, and the ill-fated passenger train, were the only one that traversed the diversion at high speed? I think not.

52. I am of opinion that the gauge had been gradually forced by many trains running at speed in excess of the limited ten miles an hour; that the increasing defect had not been detected by the Inspector; and because we have no evidence to prove that at the first point of derailment the gauge, though widened, was sufficiently so to allow a wheel to simply drop in between the rails, I think there is ground for suspicion that there may have been an accessory cause—perhaps a strong jerk or blow imparted by bad driving.

53. The damage to permanent-way was:—

11 Iron 24-feet rails bent.
279 Pine sleepers broken and split.
480 Ordinary chairs broken.
480 Bearing plates broken and split.
900 Spikes.
110 Fish-plates broken.
228 Fish-bolts broken.
480 Wooden keys broken.

Estimated value—R 1,460.

Yours truly,

(Signed) H. WENDEN
Chief Engineer.

No. 194 R. T.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY TRAFFIC.

Simla, the 30th May 1890.

Returns of Accidents on Indian Railways for the third quarter of 1889.

Read again—

Public Works Department Resolution No. 200 R. T., dated 10th March 1885.
" " " " " 282 " " " 18th " 1886.
" " " " " 270 " " " 15th " 1887.
" " " " " 379 " " " 23rd " 1888.
" " " " " 0400 " " " 28th " 1889.
" " " " " 0210 " " " 10th Feb. 1890.

Read also—

Docket from the Director General of Railways, No. 83 Statistical, dated 8th May 1890, forwarding the Abstract Returns of Accidents to trains, &c., on the open lines of Railway in India, for the quarter ended 30th September 1889.

OBSERVATIONS.—As compared with the average of the five* corresponding previous quarters, the number of accidents to trains, rolling-stock, permanent-way, &c., shows an increase of 86, or 11·44 per cent., with an increase of 2,416·75 miles, or 18·62 per cent. in the mean mileage open, and of 1,423,133 miles, or 13·57 per cent. in the train mileage. The following are the railways on which the more important fluctuations occurred:—

Railway.	Number of accidents.	Accidents.				Train-mileage.	
		Increase.	Decrease.	Percentage of increase.	Percentage of decrease.	Percentage of increase.	Percentage of decrease.
Rajputana-Malwa	78	...	16	...	17·02	1·83	...
Bengal-Nágpur	30	21	...	233·33	...	57·53	...
Southern Mahratta	42	16	...	61·54	...	70·38	...
Indian Midland	23	(a) 17	...	283·33	...	671·89	...
North Western	113	...	22	...	16·30	29·57	...
Oudh and Rohilkhand ...	19	...	11	...	36·67	20·36	...
Eastern Bengal	89	21	...	30·88	...	26·99	...
Burma	22	14	...	175·00	...	71·09	...
Madras	48	14	...	41·18	...	3·02	...
Bengal and North Western ...	22	11	...	100·00	...	33·15	...
His Highness the Nizam's Guaranteed.	34	22	...	183·33	...	60·29	...
Bhávnagar-Gondal-Junágarh-Porbandar.	24	20	...	500·00	...	62·11	...

2. The decreases on the Rajputana-Malwa and Oudh and Rohilkhand Railways, and the increases on the Southern Mahratta, Bengal and North Western and His Highness the Nizam's Guaranteed State Railways have mainly occurred under "Trains running over cattle on the line."

3. Of the increase of 21 accidents on the Bengal-Nágpur Railway, 8 appear under "Goods trains or parts of goods trains, engines, &c., leaving the rails," and 11 under "Slips in cuttings or embankments."

4. On the Indian Midland Railway the number of accidents has increased by 17, or 283·33 per cent., with an increase of 432·11 per cent. in the mean mileage worked and 671·89 per cent. in the train mileage. There is no noticeable variation under any particular head.

5. On the North Western Railway the number of accidents recorded under "Flooding of portions of permanent-way" has increased from 10 to 40, but some of the other heads showed decreases; the total number is less by 22. The

* Except where statistics for five quarters are not available.
(a) As compared with the corresponding quarter of the previous year.

principal decreases are 7 under "Goods trains or parts of goods trains, engines, &c., leaving the rails," 9 under "Trains running over cattle on the line" and 10 under "Failure of machinery, springs, &c., of engines."

6. On the Eastern Bengal State Railway the number of cases of "Goods trains or parts of goods trains, engines, &c., leaving the rails" has risen from 4 to 12, and that of "Flooding of portions of permanent-way" from *nil* to 12.

7. The Madras Railway shows an increase of 8 accidents under "Goods trains or parts of goods trains, engines, &c., leaving the rails," and of 6 under "Trains running over cattle on the line."

8. The increase on the Bhávnagar-Gondal-Junágarh-Porbandar Railway is mainly due to there being 15 cases of "Flooding of portions of permanent-way" against *nil*.

9. The casualties resulting from "Accidents to trains, &c.," were, among passengers and others, 31 injured, against 1 killed and 7 injured; and among servants, 3 killed and 9 injured, against 2 killed and 7 injured.

10. Of the casualties to passengers, 22 were injured, 6 seriously and the rest slightly, by the derailment of a passenger train at mileage 327¾ on the Nágpur Branch of the Great Indian Peninsula Railway on the 18th July. Detailed reports of this accident are attached to the returns under review.

11. On the East Indian Railway, on the 6th July, 4 passengers were injured by a collision between a down passenger train and an up goods train at Barharwa, owing to the former, while proceeding to the station, having been allowed by the Jemadar to go on to the wrong line.

12. The following table exhibits the number of accidents under the different classes, due to "Accidents to trains, rolling-stock, permanent-way, &c.," and the number of persons killed and injured thereby, *vide* Tables Nos. 3 and 4:—

Serial No.	Causes of accidents.	Average of corresponding quarters of five previous years.*	Third Quarter, 1889.					Total all classes.	
			Number	Number of Passengers and others.		Number of Servants.			
				Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1	Collisions between passenger trains or parts of passenger trains	...	3	...	...	...	...	...	...
2	Collisions between passenger trains and goods, or mineral trains, engines and vehicles standing foul of the line	8	10	...	6	...	2	...	8
3	Collisions between goods trains or parts of goods trains	13	21	...	...	2	1	2	1
4	Collisions between light engines	2	4	...	...	1	...	1	...
5	Passenger trains or parts of passenger trains leaving the rails	28	18	...	22	...	...	...	22
6	Goods trains or parts of goods trains, engines, &c., leaving the rails	84	99	...	...	...	2	...	2
7	Trains or engines travelling in the wrong direction through points	13	8	...	...	...	...	...	...
8	Trains running into stations or sidings at too high a speed	1	3	...	...	...	...	...	...
9	Trains running over cattle on the line ...	280	285	...	...	...	...	...	...
10	" " over obstructions on the line ...	17	23	...	1	...	...	...	1
11	" " through gates at level crossings	12	10	...	1	...	1	...	2
12	The bursting of boilers of engines ...	18	23	...	...	...	1	...	1
12(a)	" " of tubes, &c., of engines ...								
13	The failure of machinery, springs, &c., of engines	54	58	...	...	...	...	...	...
14	The failure of tyres	2	...	...	...	...	...	...	...
15	" wheels	...	...	...	...	...	...	...	...
16	" axles	10	16	...	...	...	...	...	...
17	" brake apparatus	1	3	...	...	...	...	...	...
18	" couplings	68	62	...	...	...	...	...	...
19	" tunnels, bridges, viaducts, culverts, &c.	...	1	...	...	...	...	...	...
20	Broken rails	8	9	...	...	...	...	...	...
21	The flooding of portions of permanent-way ...	42	102	...	...	...	...	...	...
22	Slips in cuttings or embankments ...	16	24	...	...	...	...	...	...
23	Fire in trains	23	9	...	...	...	...	...	...
24	Fire at stations, or involving injury to bridges or viaducts	2	1	...	...	...	...	...	...
25	Other accidents	50	46	...	1	...	2	...	3
	Total for 1889 ...	...	858	...	31	3	9	3	40
	Total—Average of corresponding quarters of five previous years*	...	752	1	7	2	7	3	14

* Except where statistics for five quarters are not available for any line.

13. The principal variations occurred under "Passenger trains or parts of passenger trains leaving the rails," 18 against 28; "Goods trains or parts of goods trains, engines, &c., leaving the rails," 99 against 84; "The flooding of portions of permanent-way," 102 against 42; and "Fire in trains," 9 against 23.

14. The number of "Passenger trains or parts of passenger trains leaving the rails" was the largest on the Dibru-Sadiya Railway, being 10 out of a total of 18.

15. Under "Goods trains or parts of goods trains, engines, &c., leaving the rails" the number has increased from 1 to 9 on the Bengal-Nágpur Railway, 4 to 12 on the Eastern Bengal State Railway and 8 to 16 on the Madras Railway, and decreased from 14 to 7 on the North Western Railway, 8 to 2 on the South Indian Railway and 18 to 12 on the Dibru-Sadiya Railway.

16. The cattle accidents were most numerous on the South Indian Railway, the number reported being 41. The North Western and the Eastern Bengal State Railways come next with 31 accidents each. On the Rajputana-Malwa Railway there were 28 accidents of this class, but as compared with the average of the five corresponding previous periods there is a decrease on that Railway of 21.

17. Twelve cases of "Failure of axles," are recorded on the Rajputana-Malwa Railway.

18. The number of "Failures of couplings," *viz.*, 44, is very large on the Dibru-Sadiya Railway.

19. The increase of 60 accidents under "Flooding of portions of permanent-way" is principally due to the number having risen from 10 to 40 on the North Western Railway and from *nil* to 12 and 15 on the Eastern Bengal and Bhávnagar-Gondal-Junágarh-Porbandar Railways, respectively.

20. Of the 46 accidents classified as "Other accidents," 18 have been returned by the Bombay, Baroda and Central India Railway.

21. The casualties to passengers from causes other than accidents to trains, &c., *vide* Table No. 2, were—

Causes of accidents.	Third quarter, 1889.		Average of corresponding quarters of five previous years.*	
	Killed.	Injured.	Killed.	Injured.
1. From falling between carriages and platforms ...	...	2	1	1
2. Falling on to the platform, ballast, &c., when getting into or out of trains ...	...	1	1	2
3. Whilst crossing the line at stations... ...	...	...	1	...
4. By closing of carriage doors	...	...	...	1
5. Falling out of carriages during the travelling of trains	7	26	4	19
6. Other accidents	3	1	2	6
Total ...	10	30	9	29

22. The accidents to servants in the employ of railways, or of contractors, whilst performing duties connected directly with the transit of passengers

* Except where statistics for five quarters are not available for any line.

and goods, from causes other than accidents to trains, &c., were as follows, *vide* Table No. 2 :—

Causes of accidents.	Third quarter, 1889.		Average of corresponding quarters of five previous years.*	
	Killed.	Injured.	Killed	Injured.
1. During shunting operations	1	10	4	12
2. Falling off engines, vans, wagons, &c. ...	2	11	3	12
3. Coming in contact with over-bridges, &c., during the travelling of trains	1	3	...	...
4. Coming in contact, while shunting, with vehicles, &c., standing in adjoining lines ...	...	1	...	1
5. Getting on or off trains, engines, &c. ...	6	9	2	8
6. Whilst loading, unloading or sheeting ...	...	8	3	10
7. Whilst breaking, spragging, or choking wheels...	...	1	...	...
8. Whilst working at cranes or capstans ...	...	1	...	1
9. Whilst working on the permanent-way or in sidings	1	6	2	3
10. Whilst walking along the line on the way home, or to work	...	3	1	2
11. Whilst walking, crossing, or standing on the line	14	17	9	7
12. Whilst passing between vehicles	1	1	...	1
13. Whilst attending to the machinery of engines, cleaning them, &c.	...	8	...	4
14. Whilst attending to gates at level-crossings ...	1	1	1	1
15. Falling, or being caught between vehicles and platforms	...	1	1	1
16. Falling off ladders, scaffolds, platforms, &c. ...	1	3	1	5
17. By falling of lamps, wagon doors, timber, weights, &c.	2	6	1	7
18. Whilst coupling or uncoupling wagons ...	1	13	1	6
19. Miscellaneous	16	32	5	31
Total ...	47	135	34	112

23. Of other persons killed and injured by running trains, &c., 1 was killed and 2 were injured whilst passing over the line at level crossings; 55 were killed and 17 injured whilst trespassing on the line; 12 committed suicide and 2 were injured in attempting to commit suicide; 8 were killed and 4 injured from miscellaneous causes.

* Except where statistics for five quarters are not available for any line.

24. The following table exhibits the total number of persons killed and injured from all causes over the whole Indian Railway system, as compared with the average of the corresponding quarters of five previous years, *vide* Table No. 1 :—

Causes of accidents.	Third quarter, 1889.		Average of corresponding quarters of five previous years.*	
	Killed.	Injured.	Killed.	Injured.
Passengers.				
From causes beyond their own control	5	31	2	
From misconduct or want of caution	5	28	8	6
				30
Servants.				
From causes beyond their own control	8	25	6	
From misconduct or want of caution	42	119	30	100
Others.				
Whilst passing at level-crossings	1	2	4	2
Trespassers including suicides	67	19	55	14
Other persons	8	4	4	2
Total ...	136	228	109	173
Total open mileage ...	15,396·75		12,980·00	
Total train-mileage ...	11,906,718		10,483,585	

25. In addition to the above, 6 persons are reported to have been killed and 50 injured in yards, workshops, &c., and 148 persons to have died in carriages and at stations from causes unconnected with the working of trains.

Resolution.—The Government of India notices that there is a large increase on the Eastern Bengal State Railway, *viz.*, from 4 to 12, in the number of cases of "Goods trains or parts of goods trains, engines, &c., leaving the rails;" also on the Madras Railway from 8 to 16, and on the Bengal-Nagpur Railway from 1 to 9.

The "Failure of axles" on the Rajputana-Malwa Railway is also again noticeable; out of a total number of 16 accidents of this nature 12 are on this railway.

The number of cases of "Failure of couplings" on the Dibru-Sadiya Railway is also very large, being 71 per cent. of the total.

Order.—Ordered that this Resolution, with the Abstract Returns, be communicated for information to the Local Governments, Administrations and Officers noted in the margin.

Ordered also that copies be forwarded for the information of Her Majesty's Government.

Ordered further that this Resolution, with the Abstract Returns, be published in the Supplement to the *Gazette of India*.

The Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab.
The Chief Commissioners of the Central Provinces, Burma, and Assam.
The Resident at Hyderabad.
The Agents to the Governor General for Central India, Rajputana and Baluchistan.
The Director General of Railways.
The Consulting Engineers to the Government of India for Railways, Calcutta, Lucknow, and Central Division.

W. Blackmore
Major, R.E.,
Under Secretary.

Documents accompanying.
Abstract Returns of Accidents for the third quarter of 1889.

* Except where statistics for five quarters are not available for any line.

G. C. Press, Simla.—No. 104 P. W. D.—31·5·90.—800.

11/6/90

× will follow with S. C. from Calcutta Press.

To Joint
The Secretary to the Government of Madras
(Railway Branch) Public Works Department.

VR

B
No 951 R Dy 4th July 1890.
50-4-89 66-6 R 7-2-89.
1536-9 R 7-12-89.
Ft. Bus 405 R Dy 21-3-90

P.W. C No. 5493.

Jt S 31/7/90
Communicated.

to the Consulting Engineer for Railways with reference to his endorsement No. 433A dated 30th October 1889 and Memorandum No. 473 dated 22nd November 1889.-

Rd 12-6-90.
40 SC.

2. Attention is directed to so much of Para 16 of the Observations as refers to the S. I. Railway and to so much of Para 1 of the Resolution as refers to the Madras Railway.

B
No 951 R Dy 4th July 1890

Enclosure to Bx Circ: 785/90

Enclosures to P. W. D. No. 441 R. T., dated 5th August 1890.

INDIAN RAILWAYS.

ABSTRACT RETURNS OF ACCIDENTS FOR THE QUARTER ENDING THE 31ST OF DECEMBER 1889,

TOGETHER WITH A

REPORT OF THE INSPECTING OFFICER UPON AN ACCIDENT WHICH WAS INQUIRED INTO.

Government of India Central Printing Office,—No. 25 D. G. Ry.—15-3-90.—800.

Clo. 7858.

Madras Office

If enclosures* are received for the above correspondence send by return post 5 spare copies.

* Subject - Returns of accidents on Indian Rlys: for the fourth quarter of 1889.

19

* abstract Returns.

A.C.

Read

TAD

4. IX 90

No enclosures were received in the P.W. Secretariat except one for the original.

Illegible

4.9.90

Sir. This paper is lying over along time pending receipt of enclosure (Abstract Returns of accidents for 4th Qr. of 1889). I wrote demi-officially to the Registrar on 8/10/90 stating that copies of the Return were not received & asking him to send them soon but-

ub

Cls. 7858

R. K.
Sect:

Please send the enclosures connected with the above. also 5 spare copies with enclosures to enable this office to issue the order in Insp.

J.B.
1-9-90

* not received yet.

J.B.
1-9-90

ENCLOSURES.

up to date we have not received them — Please say if a telegram may be sent to India asking for them. The replies from the Secretary + E R Bros are put up. — Ekl. 3/11

Dated
Received
No.
1879.

Circ. 7858

R.K.
Sect.

Please keep the above
until D.A.R.'s arrival
at Madras.



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Registrar, Govt. of India P.W. Secy.

W 26.4

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TABLE No. 1.

GENERAL TOTAL.

NUMBER of PERSONS reported during the Fourth Quarter of 1889 as KILLED or INJURED on the several 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 happening from Causes beyond their own Control, and ACCIDENTS happening otherwise.

Mean mileage open.	RAILWAY.		PASSENGERS.						RAILWAY SERVANTS OR SERVANTS OF CONTRACTORS.						OTHER PERSONS.								TOTAL ALL CLASSES.	
			From causes beyond their own control.		From their own misconduct or want of caution.		Total.		From causes beyond their own control.		From their own misconduct or want of caution.		Total.		Whilst passing over Railways at Level-Crossings.		Trespassers and Suicides.		Miscellaneous, not included in preceding columns.		Total.			
			Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
	STATE IMPERIAL.																							
(a) 1,690½	East Indian ...	Average for 5 corresponding previous quarters.	...	2	3	7	3	9	1	10	5	25	6	35	1	1	14	2	1	...	16	3	25	47
(b) 1,631½		1889	17	34	5	6	22	40	2	3	4	12	6	15	2	1	15	1	...	1	17	3	45	58
(c) 1,660½	Rajputana-Malwa ...	Average for 5 corresponding previous quarters.	...	...	1	3	1	3	...	...	5	7	5	7	...	...	4	2	...	...	4	2	10	12
1,699		1889	...	...	1	3	1	3	...	...	2	7	2	7	...	1	7	1	...	...	7	2	10	12
173½	Bengal-Nágpur	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	2	...	2	...	...	1	...	...	...	1	...	1	2
314½		1889	...	...	...	...	...	...	...	...	1	2	1	2	...	...	...	...	2	...	2	...	3	2
515	Southern Mahratta ...	Average for 5 corresponding previous quarters.	...	2	...	...	...	2	1	1	1	2	2	3	...	...	1	...	...	...	1	...	3	5
975½		1889	...	...	1	2	1	2	...	...	1	6	1	6	...	...	2	1	...	...	2	1	4	9
137½	Ditto, Mysore section ...	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
295½		1889	...	...	...	...	...	...	...	1	3	2	3	3	...	...	...	...	...	...	...	...	3	3
136½	Indian Midland	Corresponding previous quarter.	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1
(d) 751½		1889	...	...	...	1	...	1	...	2	2	2	2	4	...	...	2	...	...	...	2	...	4	5
(e) 2,102	North Western	Average for 5 corresponding previous quarters.	...	2	3	4	3	6	1	2	5	11	6	13	...	...	5	1	...	1	5	2	14	21
2,463		1889	2	...	4	2	6	2	...	...	6	7	6	7	1	...	7	4	...	...	8	4	20	13
655½	Oudh and Rohilkhand . .	Average for 5 corresponding previous quarters.	...	...	...	1	...	1	...	...	1	4	1	4	...	...	3	1	...	...	3	1	4	6
692½		1889	...	...	1	2	1	2	...	...	1	3	1	3	1	2	3	1	...	...	4	3	6	8
45	Wardha Coal	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
45		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	STATE PROVINCIAL.																							
(f) 735	Eastern Bengal . . .	Average for 5 corresponding previous quarters.	2	4	1	1	3	5	1	1		8	4	9	...	...	7	2	...	...	7	2	14	16
872		1889	...	...	2	1	2	1	...	...		15	1	15	...	...	9	7	...	...	9	7	12	23
27½	Nalháti . . .	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27½		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
245	Tirhoot	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	1	1	...	...	1	1	...	...	2	...	...	...	2	...	3	1
273		1889	...	...	...	...	...	...	...	...	1	1	1	1	...	...	1	1	...	...	1	1	2	2
98	Lucknow-Sitapur-Seramau ...	Average for 2 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1
105		1889	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30½	Jorhát	Average for 4 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29½		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7½	Cherra-Companyganj . .	Average for 3 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7½		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
325½	Burma	Average for 5 corresponding previous quarters.	...	1	...	1	...	2	...	1	1	1	1	2	...	...	1	1	...	...	1	1	2	5
(g) 553		1889	...	...	...	1	...	1	...	1	...	2	...	3	...	...	2	2	...	...	2	2	2	6
	GUARANTEED COMPANIES.																							
852½	Madras	Average for 5 corresponding previous quarters.	...	1	...	1	...	2	...	1	2	5	2	6	1	...	1	...	...	...	2	...	4	8
839		1889	...	...	1	3	1	3	...	...	...	19	...	19	...	...	3	...	1	...	4	...	5	22
(h) 670½	South Indian . . .	Average for 5 corresponding previous quarters.	...	...	...	1	...	1	...	...	1	5	1	5	...	...	...	1	...	...	...	1	1	7
737		1889	...	...	...	1	...	1	...	...	1	14	1	14	1	2	2	...	...	...	3	2	4	17
(i) 1,497	Great Indian Peninsula .	Average for 5 corresponding previous quarters.	...	...	1	3	1	3	...	...	6	20	6	20	...	...	4	1	1	1	5	2	12	25
(j) 1,444½		1889	...	...	1	3	1	3	...	...	11	34	11	34	...	...	10	2	...	...	10	2	22	39
(k) 461	Bombay, Baroda and Central India	Average for 5 corresponding previous quarters.	...	...	1	1	1	1	...	...	1	7	1	7	...	...	1	1	1	...	2	1	4	9
461		1889	...	1	...	...	...	1	...	...	2	3	2	3	...	...	2	1	...	...	2	1	4	5
	ASSISTED COMPANIES.																							
50½	Darjeeling-Himalayan .	Average for 5 corresponding previous quarters.	...	1	...	...	...	1	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	1
51		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1
5	Deoghur, ...	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4½		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
78	Dibru-Sadiya . . .	Average for 4 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1
78		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
288½	Bengal and North-Western .	Average for 5 corresponding previous quarters.	...	...	...	1	...	1	...	...	1	1	1	1	...	...	1	1	...	...	1	1	2	3
376		1889	...	...	...	2	...	2	...	...	1	1	1	1	...	...	5	3	...	...	5	3	6	6

(a) Includes the Patna-Gya, Sindia, Dildárnagar-Ghazipur and Tárakeshwar railways for five quarters and the Indian Midland railway for four quarters.
(b) Includes the Patna-Gya, Dildárnagar-Ghazipur and Tárakeshwar railways.
(c) Includes the Gaekwar's Mehsána railway.
(d) Includes the Sindia and Bhopal-Itársi State railways.
(e) Includes the Amritsar-Pathánkot and Rajpura-Bhatinda State railways.
(f) Includes the Bengal-Central railway.
(g) Includes the Toungoo-Mandalay extension.
(h) Includes the Villupuram-Guntakal State railway.
(i) Include the Dhond-Manmád, Amráoti, Khámgaon and Bhopal-Itársi State railways.
(j) Includes the Dhond-Manmád, Amraoti and Khamgaon State railways.
(k) Includes the Patri branch.

GENERAL TOTAL.

NUMBER of PERSONS reported during the Fourth Quarter of 1889 as KILLED or INJURED on the several Railways open for Traffic in INDIA, &c.—*concluded.*

Mean mileage open.	RAILWAY.		PASSENGERS.						RAILWAY SERVANTS OR SERVANTS OF CONTRACTORS.						OTHER PERSONS.								TOTAL ALL CLASSES.	
			From causes beyond their own control.		From their own misconduct or want of caution.		Total.		From causes beyond their own control.		From their own misconduct or want of caution.		Total.		Whilst passing over Railways at Level-Crossings.		Trespassers and Suicides.		Miscellaneous, not included in preceding columns.		Total.			
			Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
	ASSISTED COMPANIES—*concld.*																							
(a) 91	Rohilkhand-Kumaun	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
91		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
8	Thatôn-Duyinzâik	Average for 4 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	FOREIGN.																							
	Pondicherry		...	...	...	...	...	...	...	Worked by the South Indian Railway.					...	...	...	...	...	...	...	...	...	...
	West of India Portuguese		...	...	...	...	...	...	...	...	Information not furnished.				...	...	..	...	...	...	...	...	...	...
	NATIVE STATES.																							
193½	The Nizam's Guaranteed State	Average for 5 corresponding previous quarters.	...	...	1	...	1	...	...	1	...	1	...	2	...	...	1	...	...	...	1	...	2	2
(b) 354		1889	...	...	...	...	...	...	...	...	1	4	1	4	...	...	...	...	...	...	...	...	1	4
59	The Gaekwar's Dabhoi	Average for 5 corresponding previous quarters.	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
58½		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
196½	Bhávnagar-Gondal-Junágarh-Porbandar.	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
329		1889	...	...	...	1	...	1	...	...	1	...	1	...	...	...	...	2	...	...	...	2	1	3
57½	Morvi	Average for 3 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
68		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
83½	Jodhpore	Average for 5 corresponding previous quarters.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
124		1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13,176	TOTAL	Average for 5 corresponding previous quarters(c).	2	13	11	24	13	37	5	18	33	102	38	120	2	1	46	13	3	2	51	16	102	173
15,759½		1889	19	35	16	29	35	64	2	7	39	134	41	141	5	6	70	26	3	2	78	34	154	239

(a) Includes the Bareilly-Pilibhit State railway.

(b) Includes the Ibrvâda extension.

(c) Except where statistics for five quarters are not available for any line.

TABLE No. 2.

TABLE

No. 2.

NUMBER of PERSONS reported during the Fourth Quarter of 1889 as KILLED or INJURED on all RAILWAYS open for Traffic in INDIA, distinguishing between PASSENGERS, RAILWAY SERVANTS, and OTHER PERSONS, and classifying, as far as practicable, the Nature and Causes of the Accidents occasioning the Death or Injury.

| Serial Number. | RAILWAY. | PASSENGERS. | | | | | | | | | | | | | | | | | | | | | | | | | | | | SER | | | | | | | | | | | | | | | | | | |

TABLE No. 3.

ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the Fourth Quarter of 1889 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.

SEE ALSO TABLE No. 4.

STATE IMPERIAL.

CLASS.	EAST INDIAN (a).							RAJPUTANA-MALWA (d).							BENGAL-NAGPUR.						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines and vehicles standing foul of the line	1	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	1	...	...	...	...	...	...	3	...	...	...	...	...	...	1	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	6	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	2	17	29	...	...	17	29	...	...	...	...	...	...	...	1	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Trains running over cattle on the line	10	...	...	...	...	...	...	20	...	...	...	...	...	...	8	...	...	...	...	...	...
10. Ditto over obstructions on the line	2	(b)1	(b)1	...	...	1	1	6	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	11	...	...	...	...	...	...	3	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	3	...	...	...	...	...	...	5	...	...	...	...	...	...	4	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	15	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	2	...	...	...	...	...	...	14	...	...	...	...	...	...	4	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	1	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	...	...	...	...	...	...	...	5	...	...	...	1	...	1	1	...	...	...	...	...	...
TOTAL ALL CLASSES	30	(c)18	(c)30	...	...	18	30	98	...	...	...	1	...	1	23	...	...	...	...	...	...
Number of passenger miles			254,207,438							122,136,731							6,898,584				
,, of servants employed			26,774							13,287							3,155				
Train-mileage of all descriptions			1,999,072							1,414,579							111,034				

(a) Includes the Patna-Gya, Dilddárnagar-Ghazipur and Tárakeshwar railways.
(b) Not passenger.
(c) One was not a passenger.
(d) Includes the Gaekwar's Mehsána railway.

SEE ALSO TABLE No. 4.

STATE IMPERIAL—*concluded.* | STATE PROVINCIAL.

CLASS.	SOUTHERN MAHRATTA.							SOUTHERN MAHRATTA, MYSORE SECTION.							INDIAN-MIDLAND (a).						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	3	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...
9. Trains running over cattle on the line	23	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Ditto over obstructions on the line	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	48	...	...	...	...	...	...	11	...	...	...	1	...	1	23	...	2	...	...	...	2
Number of passenger miles			34,140,971							10,793,600							27,540,916				
,, of servants employed			7,593							1,981							7,751				
Train-mileage of all descriptions			*392,961							118,143							340,811				

(a) Includes the Sindia and Bhopal-Itársi State railways.
(b) Includes the Amritsar-Pathánkot and Rajpura-Bhatinda State railways.
(c) Not passengers.
(d) Includes 20 servants employed on Colliery.
(e) Includes the Bengal Central railway.

STATE PROVINCIAL—*concluded.*

CLASS.	OUDH AND ROHILKHAND.							WARDHA COAL.							EASTERN BENGAL (e).						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	26	...	...	...	...	...	...
9. Trains running over cattle on the line	18	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...
10. Ditto over obstructions on the line	1	...	(c)2	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...
25. Other accidents	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	28	...	(c)2	...	...	...	2	...	...	...	...	...	...	...	68	...	...	...	...	...	...
Number of passenger miles			59,001,272							894,316							66,361,303				
,, of servants employed			6,331							(d) 404							10,020				
Train-mileage of all descriptions			723,131							21,247							834,850				

(a) Includes the Sindia and Bhopal-Itársi State railways.
(b) Includes the Amritsar-Pathánkot and Rajpura-Bhatinda State railways.
(c) Not passengers.
(d) Includes 20 servants employed on Colliery.
(e) Includes the Bengal Central railway.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the Fourth Quarter of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

STATE PROVINCIAL—*contd.*

CLASS.	NARHATI.							TIRHOOT.							LUCKNOW-SITAPUR-SERAMAU.							JORHAT.							CHERRA-COMPANYGANJ.						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		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.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Trains running over cattle on the line	...	...	...	...	...	...	...	2	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	1	...	...	...	...	...	...	5	...	...	...	...	...	...	2	...	...	...	...	...	...	7	...	...	...	...	...	...	1	...	...	...	...	...	...
Number of passenger miles	889,734							22,699,258							3,334,286							205,349							36,447						
„ of servants employed	112							1,811							543							183							50						
Train-mileage of all descriptions	11,145							151,925							42,181							5,612							5,844						

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the Fourth Quarter of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

STATE PROVINCIAL—*concluded.* | GUARANTEED COMPANIES.

CLASS.	BURMA(a).							MADRAS.							SOUTH INDIAN(b).							GREAT INDIAN PENINSULA(c).							BOMBAY, BARODA AND CENTRAL INDIA.						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		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.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	1	...	...	...	...	...	...	3	...	...	...	...	...	...	4	...	...	...	...	...	...	2	...	...	...	...	...	...	1	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	1	...	...	...	...	...	...	8	...	...	...	...	...	...	8	...	...	...	...	...	...	2	...	...	...	...	...	...	3	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Trains running over cattle on the line	1	...	...	...	...	...	...	7	...	...	...	...	...	...	21	...	...	...	...	...	...	14	...	1	...	...	...	...	1	3	...	...	...	...	...
10. Ditto over obstructions on the line	1	...	...	...	...	...	...	2	...	...	...	...	...	...	1	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	1	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	1	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24	...	...	...	...	...
TOTAL ALL CLASSES	15	...	...	...	...	...	...	30	...	...	...	...	...	...	52	...	...	...	...	...	...	47	...	1	...	...	...	...	1	33	...	...	...	...	...
Number of passenger miles	46,413,463							81,994,641							69,017,493							138,283,442							70,901,971						
„ of servants employed	5,479							6,638							10,081							25,105							6,155						
Train-mileage of all descriptions	348,443							596,129							551,560							2,427,845							523,955						

(a) Includes the Toungoo-Mandalay extension.

(b) Includes the Villupuram-Guntakal State railway.

(c) Includes the Dhond-Manmád, Khamgaon and Amraoti State railways.

Table No. 3.—Accidents to Trains, Rolling-stock, Permanent-way, &c., reported during the Fourth Quarter of 1889, &c.—*continued.*

SEE ALSO TABLE No. 4.

ASSISTED COMPANIES.

CLASS.	DARJEELING-HIMALAYAN.							DEOGHUR.							DIBRU-SADIYA.							BENGAL AND NORTH-WESTERN.							ROHILKHAND-KUMAUN(b).						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		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.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	1	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
9. Trains running over cattle on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	1	...	(a) 1	...	...	...	1	...	...	...	...	...	...	...	4	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	5	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	3	...	(a) 1	...	...	...	1	...	...	...	...	...	...	...	18	...	...	...	...	...	...	6	...	...	...	...	...	...	...	7	...	...	...	...	...	...
Number of passenger miles	301,897							269,466							559,993							18,749,607							2,295,542						
„ of servants employed	489							52							800							3,115							744						
Train-mileage of all descriptions	26,522							3,360							31,624							189,825							22,172						

(a) Not passenger.

(b) Includes the Bareilly-Pilibhit State railway.

Table No. 3.—Accidents to Trains, Rolling-stock, Permanent-way, &c., reported during the Fourth Quarter of 1889, &c.—*continued.*

SEE ALSO TABLE NO. 4.

ASSISTED COMPANIES—*concluded.* | FOREIGN. | NATIVE STATES.

CLASS.	THATÓN-DUYINZAIK.							PONDICHERRY.							WEST OF INDIA PORTUGUESE.							THE NIZAM'S GUARANTEED STATE (a).							THE GAEKWAR'S DABHOI.						
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		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.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	Worked by the South Indian railway.							Information not furnished.							...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...															1	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...															1	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...															2	...	...	...	...	...	...	...	...	...	...	...	...	...
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Trains running over cattle on the line	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Ditto over obstructions on the line	...	...	...	...	...	...	...															11	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). The bursting of tubes, &c., of engines	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...															13	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Ditto of couplings	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...															1	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...															1	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Other accidents	...	...	...	...	...	...	...															...	...	...	...	...	...	...	...	...	...	...	...	...	...
																						1	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ALL CLASSES	...	...	...	...	...	...	...															31	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of passenger miles	24,512							...							...							15,274,235							1,437,753						
„ of servants employed	47							...							...							2,450							215						
Train-mileage of all descriptions	2,224							...							...							156,625							13,095						

(a) Includes the Bozváda extension.

TABLE No. 3.—ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., reported during the Fourth Quarter of 1889, &c.—*concluded.*

SEE ALSO TABLE No. 4.

CLASS.	NATIVE STATES—*concluded.*																				TOTAL ON ALL RAILWAYS.						
	BHAVNAGAR-GONDAL-JUNAGARH-PORBANDAR.							MORVI.							JODHPORE.												
	No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.		No.	Number of Passengers and others.		Number of Servants.		Total all Classes.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1. Collisions between passenger trains, or parts of passenger trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	...	...	...	...	...	...
3. Collisions between goods trains, or parts of goods trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	27	...	...	...	...	...	...
4. Collisions between light engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...
5. Passenger trains, or parts of passenger trains, leaving the rails	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22	...	...	...	...	...	...
6. Goods trains, or parts of goods trains, engines, &c., leaving the rails	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	61	...	...	...	...	...	...
7. Trains or engines travelling in the wrong direction through points	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	17	29	...	2	17	31
8. Trains running into stations or sidings at too high a speed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	1
9. Trains running over cattle on the line	...	5	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	220	...	1	...	...	...	1
10. Ditto over obstructions on the line	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	23	(a)1	(a)4	...	...	1	4
11. Ditto through gates at level-crossings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	...	...	...	...	...	...
12. The bursting of boilers of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12(a). Ditto of tubes, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	32	...	...	...	...	...	...
13. The failure of machinery, springs, &c., of engines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	83	...	...	...	...	...	...
14. Ditto of tyres	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
15. Ditto of wheels	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
16. Ditto of axles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	...	...	...	...	...	...
17. Ditto of brake apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
18. Ditto of couplings	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	45	...	...	...	...	...	...
19. Ditto of tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Broken rails	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	...	...	...	...	...	...
21. The flooding of portions of permanent-way	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	...	...	...	...	...	...
22. Slips in cuttings or embankments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...
23. Fire in trains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29	...	...	...	...	...	...
24. Fire at stations, or involving injury to bridges or viaducts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	...	...	...	...	...
25. Other accidents	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	41	...	...	...	1	...	1
TOTAL ALL CLASSES	...	12	...	...	...	...	...	3	...	...	...	...	...	...	1	...	...	...	...	...	...	690	(b) 18	(c) 34	...	4	18	38
Number of passenger miles	...	...	...	...	...	...	...	11,927,909							1,290,707							3,176,998						1,220,909,903
„ of servants employed	...	...	...	...	...	...	...	1,077							576							419						168,492
Train-mileage of all descriptions	...	...	...	...	...	...	...	114,361							17,664							26,889						13,263,150

(a) Not passengers. (b) Of these one was not a passenger. (c) Of these four were not passengers.

TABLE No. 4.

TABLE

No. 4.

ACCIDENTS to TRAINS, ROLLING-STOCK, PERMANENT-WAY, &c., on the several RAILWAYS open for Traffic in INDIA during the Number of RAILWAY SERVANTS

Fourth Quarter of 1889, distinguishing the different Classes of ACCIDENTS, the Number of PASSENGERS and OTHERS, and the KILLED or INJURED thereby.

Serial Number.	RAILWAY.	1. Collisions between passenger trains, or parts of passenger trains.	2. Collisions between passenger trains and goods or mineral trains, engines, and vehicles standing foul of the line.	3. Collisions between goods trains, or parts of goods trains.	4. Collisions between light engines.	5. Passenger trains, or parts of passenger trains, leaving the rails.	6. Goods trains, or parts of goods trains, engines, &c., leaving the rails.	7. Trains or engines travelling in the wrong direction through points.	8. Trains running into stations or sidings at too high a speed.	9. Trains running over cattle on the line.	10. Trains running over obstructions on the line.	11. Trains running through gates at level-crossings.	12. The bursting of boilers of engines.	12(a). The bursting of tubes, &c., of engines.	13. The failure of machinery, springs, &c., of engines.	14. The failure of tyres.	15. The failure of wheels.	16. The failure of axles.	17. The failure of brake apparatus.	18. The failure of couplings.	19. The failure of tunnels, bridges, viaducts, culverts, &c.	20. Broken rails.	21. The flooding of portions of permanent-way.	22. Slips in cuttings or embankments.	23. Fire in trains.	24. Fire at stations, or involving injury to bridges or viaducts.	25. Other accidents.	Total all Classes.	NUMBER OF PASSENGERS AND OTHERS. Killed.	NUMBER OF PASSENGERS AND OTHERS. Injured.	NUMBER OF SERVANTS. Killed.	NUMBER OF SERVANTS. Injured.	TOTAL ALL CLASSES. Killed.	TOTAL ALL CLASSES. Injured.	Mean miles of Railway open.	Number of Passengers carried.	Train-mileage of all descriptions.	Passenger-mileage.	PER MILE OPEN. Number of passengers carried.	PER MILE OPEN. Train mileage of all descriptions.	PER MILE OPEN. Passenger-mileage.	TOTAL PASSENGERS. PER MILLION OF PASSENGERS. Killed.	TOTAL PASSENGERS. PER MILLION OF PASSENGERS. Injured.	TOTAL PASSENGERS. PER MILLION OF PASSENGER MILES. Killed.	TOTAL PASSENGERS. PER MILLION OF PASSENGER MILES. Injured.	Serial Number.
	STATE IMPERIAL.																																														
1	East Indian (*a*)	...	1	...	1	1	6	2	...	10	2	...	...	...	3	...	...	...	...	2	...	1	...	...	1	...	30	(*b*) 18	(*b*) 30	...	...	18	30	1,631½	3,524,262	1,999,072	254,207,438	2,160	1,225	155,836	4·824	8·229	0·067	0·114	1
2	Rajputana-Malwa (*c*)	1	3	3	...	3	4	...	1	20	6	...	...	11	5	...	...	15	...	14	...	6	...	...	...	1	5	98	...	...	1	...	1	...	1,699	2,154,625	1,414,579	122,136,731	1,268	833	71,887	...	...	...	...	2
3	Bengal-Nágpur	1	...	...	...	1	...	...	...	8	...	...	...	3	4	...	...	...	...	4	...	...	...	...	...	1	23	...	...	...	...	...	...	314½	215,580	111,034	6,898,584	685	353	21,918	...	...	...	...	3
4	Southern Mahratta	...	1	2	...	1	...	...	...	23	...	...	2	...	4	...	...	...	...	2	...	...	...	...	1	48	...	...	...	...	...	...	975½	690,757	392,961	34,140,971	708	403	34,998	...	...	...	...	4
5	Ditto, Mysore section	...	...	...	...	3	...	...	...	10	2	...	...	3	1	...	...	...	...	1	...	1	...	...	3	23	...	...	...	...	...	...	295½	230,261	118,143	10,793,600	779	399	36,496	...	...	...	...	5
6	Indian Midland (*d*)	...	...	...	1	1	1	1	...	3	...	...	...	10	3	...	...	...	...	...	...	...	...	...	...	11	...	...	...	...	1	...	1	371,494	340,811	27,540,916	494	454	36,648	...	...	...	...	6
7	North Western (*e*)	3	6	1	3	7	...	...	...	24	...	2	...	10	15	...	...	...	...	1	...	1	...	...	...	23	...	...	...	...	2	...	2	751½	2,391,937	2,038,322	149,850,069	971	828	60,840	...	...	...	...	7
8	Oudh and Rohilkhand	1	2	...	...	...	...	...	...	18	1	...	...	...	...	1	...	...	...	...	...	...	...	5	...	87	...	...	...	...	...	...	...	2,463	1,188,415	723,131	59,001,272	1,716	1,044	85,200	...	...	...	...	8
9	Wardha Coal	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	28	...	(*f*)2	...	...	...	2	692½	35,770	21,247	894,316	795	472	19,874	...	...	...	...	9
																																	45											
	STATE PROVINCIAL.																																													
10	Eastern Bengal (*g*)	...	1	1	1	1	8	2	..	26	5	1	...	...	10	...	...	2	...	5	...	...	...	...	...	68	...	...	...	...	...	...	872	2,067,474	834,850	66,361,303	2,371	957	76,102	...	...	...	...	10
11	Nalhátí	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	274	44,022	11,145	889,734	1,615	409	32,651	...	...	...	...	11
12	Tirhoot	...	...	...	...	...	...	...	...	2	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	273	582,699	151,925	22,699,258	2,134	556	83,147	...	...	...	...	12
13	Lucknow-Sitapur-Seramau	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	105	125,556	42,181	3,334,286	1,196	402	31,755	...	...	...	...	13
14	Jorhát	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	29½	19,128	5,612	205,349	648	190	6,961	...	...	...	...	14
15	Cherra-Companyganj	...	...	...	...	...	4	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	7½	7,739	5,843	36,447	1,032	779	4,860	...	...	...	...	15
16	Burma (*h*)	...	...	1	...	...	1	...	...	1	1	1	...	1	5	...	...	...	...	3	...	...	1	...	7	1	...	...	...	...	...	...	55½	1,238,361	348,443	46,413,463	2,239	630	83,930	...	...	...	...	16
	GUARANTEED COMPANIES.																																													
17	Madras	...	...	3	..	1	8	...	...	7	2	2	...	...	...	...	...	...	...	...	...	...	...	3	...	15	...	...	...	...	...	...	83½	2,087,547	596,129	81,994,641	2,488	711	97,729	..	...	...	...	17
18	South Indian (*i*)	...	...	4	...	...	8	...	...	21	...	1	...	3	3	...	...	...	2	3	...	3	1	...	...	30	...	...	...	...	...	...	737	2,017,951	551,560	69,017,493	2,738	747	93,646	...	...	...	...	18
19	Great Indian Peninsula (*j*)	...	...	2	...	1	2	...	...	14	...	3	...	3	10	...	...	...	...	...	...	...	...	...	1	52	...	...	...	...	...	...	1,444½	2,463,691	2,427,845	138,283,442	1,706	1,681	95,747	...	...	...	...	19
20	Bombay, Baroda, and Central India (*k*)	...	...	1	...	...	3	...	...	3	...	...	...	...	...	...	...	...	...	2	...	...	...	...	47	...	1	...	...	...	1	461	2,771,495	523,955	70,901,971	6,012	1,137	153,800	...	...	...	...	20
																									24	33	...	...	...	...	...	...												
	ASSISTED COMPANIES.																																													
21	Darjeeling-Himalayan	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	(*f*)1	...	...	...	1	51	13,068	26,522	301,897	256	520	5,920	...	...	...	...	21
22	Deoghur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	...	...	...	...	...	...	4½	56,256	31,624	559,993	11,843	707	56,730	...	...	...	...	22
23	Dibru-Sadiya	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	78	536,648	189,825	18,749,607	1,427	505	49,866	...	...	...	...	23
24	Bengal and North-Western	...	...	1	...	4	1	...	...	4	...	1	...	...	4	...	...	...	...	2	...	...	...	...	1	18	...	...	...	...	...	...	376	68,855	22,172	2,295,542	757	244	25,226	...	...	...	...	24
25	Rohilkhand-Kumaun (*l*)	...	...	...	...	...	2	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	91	2,224	24,512	383	278	3,054	...	...	...	...	25
26	Thâton-Duyinzáik	...	...	...	...	...	1	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	8	3,064											26
																									1	7	...	...	...	...	...	...												
																									...	...	...	...	...	...	...	...												
	FOREIGN.																																													
27	Pondicherry	...																																												27
28	West of India Portuguese	...																																												28
	NATIVE STATES.																																													
29	The Nizam's Guaranteed State (*m*)	...	1	1	...	...	2	...	...	11	...	...	...	...	13	...	...	...	...	...	...	1	1	...	...	31	...	...	...	...	...	...	354	280,005	156,625	15,274,235	791	442	43,148	...	...	...	...	29
30	The Gaekwar's Dabhoi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	31	...	...	...	...	...	...	58½	72,260	13,095	1,437,753	1,230	223	24,472	...	...	...	...	30
31	Bhávnagar-Gondal-Junágarh-Porbandar	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	5	...	1	...	...	...	12	...	...	...	...	...	...	329	295,092	114,361	11,927,909	897	348	36,255	...	..	...	...	31
32	Morvi	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	68	37,092	17,664	1,290,707	545	260	18,981	...	...	...	...	32
33	Jodhpore	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	124	71,409	26,889	3,176,998	576	217	25,621	...	...	...	...	33
	TOTAL 1888...	2	11	27	4	22	61	8	2	220	23	13	...	32	83	2	1	18	2	45	...	18	13	4	29	9	41	690	(*b*) 18	(*n*) 34	...	4	18	38	15,759½	25,684,073	13,263,150	1,220,909,903	1,630	842	77,473	0·662	1·168	0·014	0·025	
	TOTAL Average for 5 corresponding previous quarters (*o*)	2	11	19	3	20	82	12	2	190	22	14	23		57	4		11	...	35	...	8	10	3	34	8	54	624	2	11	3	10	5	21	13,176	20,734,208	11,511,133	983,719,348	1,574	874	74,660	0·096	0·530	0·002	0·011	

(*a*) Includes the Patna-Gya, Dildárnagar-Gházipur and Tárakeshwar railways.
(*b*) Of these, one was not a passenger.
(*c*) Includes the Gaekwar's Mehesana railway.
(*d*) Includes the Sindia and Bhopal-Itárai State railways.
(*e*) Includes the Amritsar-Pathánkot and Rájpura-Bhátinda State railways.
(*f*) Not passengers.
(*g*) Includes the Bengal Central railway.
(*h*) Includes the Toungoo-Mandalay extension.
(*i*) Includes the Villupuram-Guntakal State railway.
(*j*) Includes the Dhond-Manmad, Khámgaon and Amráoti State railways.
(*k*) Includes the Pátri branch.
(*l*) Includes the Bareilly-Pilibhit State railway.
(*m*) Includes the Beravda extension.
(*n*) Of these four were not passengers.
(*o*) Except where statistics for five quarters are not available for any line.

Indian not furnished. Railway furnished.

Letter from the Consulting Engineer to the Government of India for Railways, Calcutta, to the Government of India, dated the 13th of November 1889.

I have the honour to forward the accompanying report of the enquiry into a fatal accident at Hathras Station on the East Indian Railway, 857 miles from Calcutta, which occurred on October 27th last.

2. The enquiry was made as soon as possible on the spot by Lieutenant-Colonel J. A. Little, Officiating Deputy Consulting Engineer.

3. I entirely agree with his conclusion as to the cause of the accident, *viz.*, "that it was a break-down of the human machine, which had for years worked correctly, and for once went astray, and it shows how absolutely essential it is that, as far as possible, there should be always some independent check, for without it safety for a prolonged period is improbable, if not impossible."

4. I also strongly support his recommendation that automatic disc signals should be erected at points at stations.

5. But I go further than he does. I think these signals should be erected not only at points at some stations, but generally at all main line points at all or almost all stations; and that at large stations disc signals should be erected at other points where they may be deemed necessary. Disc signals at points should, in short, be the rule, not the exception.

6. The superiority of the Eastern Bengal State Railway over the East Indian Railway in respect of disc signals at points is, I may add, marked.

7. From page 2 of Colonel Little's descriptions it seems that pointsmen are on duty twice for periods of 6 hours each out of every 24 hours and off duty twice for similar periods out of every 24 hours. In other words, 6 hours is the longest period that any man has to himself for the purposes of cooking meals, other domestic affairs and sleep.

8. And though, as Colonel Little thinks, the fatal accident that occurred may not have been due to the above system, it is obvious that an arrangement which divides the 24 hours into watches that give every man 12 hours' work, and no man sufficient time for sound sleep, is calculated to keep him in the "confused" state that Colonel Little mentions, and is consequently fraught with danger to the public.

9. I therefore think that this arrangement of watches should no longer continue.

Enquiry into the circumstances connected with an accident at Hathras Junction to the Down Mail of 27th October 1889.

REPORT OF ACCIDENT.

On the morning of Monday, the 28th October, I received a telegram from the Station Master at Hathras Junction, East Indian Railway, stating that a serious accident had occurred at his station to the Down Mail of the 27th October, through the fault of a jemadar, by which 15† passengers were killed and 39† injured.

The same day I started by mail train for the site to hold enquiry into the cause of the accident.

Description of locality.

The Hathras Junction Station is on the East Indian Railway, 857 miles from Calcutta.

It is the junction for the Cawnpore-Achnera metre-gauge railway, but is unconnected with it by a mixed gauge line.

This metre-gauge line crosses the lines of the East Indian Railway by an overbridge and returns by a back shunt to tranship platforms running parallel to and west of the East Indian lines.

Those lines of the East Indian Railway which are in any way connected with the accident consist, * * * of the main line, the station platform siding east of it, and two parallel dead sidings east and west of the main line and south of the station platform.

* * * * * * *

† In the quarterly return subsequently received the number of casualties is shown as 17 killed and 29 injured.

Evidence.

Station Master.—Daniel Radford, Station Master, Hathras, stated his duty was to warn the jemadar at the points when a train is to leave the station, and on this occasion he went past the water column and told the jemadar to have the points set as the train had left Páli (the preceding station).

Before the train starts it is his practice to exchange green signals with the jemadar to ascertain if the points are properly set.

When notice is received that a train has left the preceding station, all the points are set for the main line in case the train should overrun.

He, on this occasion, exchanged green signals with the jemadar, showing that the points were right for the mail; then gave the guard the line-clear message and showed another green signal to the driver to start.

He stated that it was not his practice to receive from the pointsman or jemadar the key of the points, nor was it in accordance with the orders he had received to see personally that the points were locked, but that it was the duty of the jemadar to lock the points, and that the meaning of the exchange of green signals was that the showing of the light by the jemadar was tantamount to an acknowledgment on the jemadar's part that the points were properly locked.

There are 4 jemadars for the whole yard, each is on duty 12 hours per diem in periods of 6 hours on and 6 hours off duty, excepting on every other Sunday when, in order to change the working hours of the men, 2 jemadars have to do 12 hours' consecutive duty with 6 hours off. On the following Sunday their duty amounts to only 6 hours and 12 hours off.

In addition to their duty on the East Indian Railway yard, 3 of them have to attend to the high level trains of the Cawnpore-Achnera Railway during the hours they are nominally off duty, which gives them, on an average, somewhat less than 2 hours a day more, or 14 hours in all. The jemadar on the points connected with the accident is not put on duty on the high level line, but simply attends to those points.

On this Sunday he was actually on duty from midnight Saturday-Sunday, to noon on Sunday, was then off duty for 6 hours, and came on again at 6 P.M., the collision occurring at or about 8-34 P.M., so that he had been on duty about 2½ hours after a rest of 6 hours.

Guard.—Mr. Jardine was the guard of the rear brake. He stated that his duty was to exchange signals with the driver within station limits, that is, between distant signals. Both driver and brakesman exchange signals with him.

On his getting on to the beginning of the curve he exchanged white signals with the driver, but immediately after he noticed that the front part of the train was on the siding. He also heard the jemadar shouting and saw him showing his red light.

On this he at once showed his own red light, but failed to attract the driver's attention. He then applied his brake and pulled the cord of communication with the engine brake whistle.

The cord, which was an old one, broke, but it had done its work in sounding the whistle.

The engine, leading brake-van and 2 front vehicles were the only ones which were damaged, the remainder of the train entirely escaping injury.

The engine passed on through the buffer and stopped in the berm below the bank. The rear of the brake-van was standing up over the leading 3rd class carriage, and the carriage behind had the leading wheels off the road, and was telescoped over the floor of the leading carriage.

There was no communication between the guard and the brakesman in the front brake.

Sub-Assistant Station Master Ananda Chander Chatterjee—Stated it was not part of his duty to go personally to see that the points were locked.

Driver John William Parsons—Stated he had been a driver for 22 years. When he had passed the points some distance he received, as usual, a white light signal from the guard from the left hand side of his engine, and after this, as he had work to do on his engine, did not look further.

Very shortly after, his brake whistle sounded and he at once shut off steam and put on the steam-brake and the fireman put on his hand-brake, when the collision occurred. The first signal of alarm was the whistle. He was going from 8 to 10 miles an hour, and he had taken 2 minutes to do the 1,520 feet from the starting point to the buffer.

The night was very dark; he knew he had to go over a curve, and as the cross-over went on to the dead siding as well, he did not find any thing to notice in travelling on the curve; the length of the straight portion between the curves is so short that he could not tell whether he was on main line or siding. Considers it his duty only to see that the signal of "all right" is given by the guard, and then to go on as fast as possible.

He did not again look out after receiving the signal from the guard, as he was attending to his engine, but he occasionally does. When he heard the whistle, he was only a few yards from the buffer.

Fireman W. J. Hedges.—Heard the alarm whistle and attempted to put on the hand-brake, but just as he was doing so the collision occurred.

The driver shut off steam and stepped across to put on steam-brake, but there was no time for it to take effect. No one looked out behind after the "all right" signal had been received.

Jemadar Jaganath.—Worked for 4 or 5 years as pointsman and 2 years as jemadar; he had only cleared the shunting which had been previously going on, when the mail had left the previous station. He thought he had put the

lever right, but was confused and did not know for which line the points were right.

It is usual for him to lock the points, but did not do so on this occasion. When 3 carriages had passed he became aware the train was on the siding, and he then ran forward and showed the red light and saw the guard show his red light also.

Conclusion.

It appears from the evidence perfectly clear that the Jemadar Jaganath is solely to blame for the accident; he undoubtedly set the points for the siding by mistake, thinking they were set for the main line, and so believing he signalled to the Station Master that the points were correct.

The enquiries made by me, and also independently at my request by the Assistant Inspector General of Railway Police, as to the hours of working of the several employés concerned, do not, in my opinion, point to the accident being due to too long hours.

It was a break-down of the human machine which had for years worked correctly, and for once went astray, and it shows how absolutely essential it is that, as far as possible, there should be always some independent check, for without it safety for a prolonged period is improbable, if not impossible.

The mail train of 19 vehicles was made up, besides engine and tender, of 2 brakes, 3 first class carriages, 4 second class carriages, 1 intermediate, 7 third class, 1 luggage van, and 1 Post Office van.

It arrived at the station in correct time at 20-22, and started to correct time at 20-32 on the 27th October.

The pointsman who was at the lever * * * * * exchanged signals with the Station Master, who was standing at the west end of the platform near the water column, where the engine was, informing him by showing his green light that the main line points were closed and "all right" for the passage of the train, and the guard was given the line-clear message, and another green signal was shown the driver to start.

Instead, however, of the points of the main line being closed and locked for the train to pass on to it they were open, and the points to the dead siding closed, so that the mail went on to the siding instead of the main line.

On the guard's brake passing on to the curve leading to the main line he showed a white signal to the driver, who at once passed from the left-hand side of his engine to attend to work on it.

Immediately after the guard had showed this white signal he found he was on the wrong line, and also noticed that the jemadar was showing a red light; he then also showed his red light on the left side, then applied his brake and pulled the cord communicating with the whistle on the engine.

The driver failed to see either guard's or jemadar's red signal, but immediately on hearing the whistle shut off steam, and was on the point of applying the steam brake when he ran into the dead buffer.

The buffer was made of rails, without any solid ramp of earth behind.

The engine passed on and ran down the slope about 4 feet in height and stopped at the measured distance of 69 feet from the dead buffer to the engine front buffer. The brake-van immediately behind the tender followed, and its rear portion projected above the rails, the women's carriage immediately behind the brake ran into it, and the brake entirely swept away the upper wood work to nearly the middle of the carriage.

The next third class carriage, occupied by males, crashed through and mounted on to the rear part of the females' carriage, thus adding to the work of destruction.

The numbers killed were 18,† and removed to hospital injured 28,† besides a few slightly injured who continued their journey.

All the killed and injured were in this leading third class females' carriage. There were no injured in the next carriage, nor was the guard or any other passenger even slightly wounded.

The distance * * * from the water column or point of departure of the engine to the dead buffer, the site of the accident, was 1,520 feet, and the time taken in doing the distance was about 2 minutes, so that the speed at the moment of collision was probably about 12 miles an hour.

This 2 minutes' time was arrived at by timing a subsequent mail train in doing the same distance.

† In the quarterly return subsequently received the number of casualties is shown as 17 killed and 29 injured.

No. 441 R. T.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY TRAFFIC.

Simla, the 5th August 1890.

Returns of Accidents on Indian Railways for the fourth quarter of 1889.

Read again—

Public Works Department Resolution No. 559 R. T., dated 20th June 1885.
" " " " " 570 R. T., dated 10th June 1886.
" " " " " 764 R. T., dated 29th June 1887.
" " " " " 866 R. T., dated 20th August 1888.
" " " " " 298 R. T., dated 3rd July 1889.
" " " " " 194 R. T., dated 30th May 1890.

Read also—

Docket from the Director General of Railways, No. 134 Statistical, dated the 24th July 1890, forwarding the Abstract Returns of Accidents to Trains, &c., on the open lines of Railway in India for the quarter ended the 31st December 1889.

OBSERVATIONS—As compared with the average of the five* corresponding previous quarters, the number of accidents to trains, rolling-stock, permanent-way, &c., show an increase of 66, or 10·58 per cent., with an increase of 2,583·25 miles, or 19·61 per cent. in the mean mileage open, and of 1,752,017 miles, or 15·22 per cent., in the train-mileage. The following are the railways on which the more important fluctuations occurred:—

Railway.	Number of accidents.	Accidents.				Train-mileage.	
		Increase.	Decrease.	Percentage of increase.	Percentage of decrease.	Percentage of increase.	Percentage of decrease.
Rajputana Malwa	98	19	...	24·05	...	...	2·42
Southern Mahratta	48	30	...	166·66	...	68·70	...
Indian Midland	23	(a)20	...	666·66	...	855·29	...
North Western	87	...	29	...	25·00	26·38	...
Great Indian Peninsula	47	14	...	42·42	...	6·75	...
Dibru-Sadiya	18	...	(b)14	...	43·75	26·01	...
The Nizam's Guaranteed State	31	19	...	158·33	...	56·81	...

2. The principal variations on the Rajputana-Malwa Railway were an increase of 9 accidents under "The bursting of tubes, &c., of engines," 11 under "The failure of axles" and 5 under each of the heads, "The failure of couplings" and "Broken rails," and a decrease of 14 under "Trains running over cattle on the line."

3. Of the increase of 30 accidents on the Southern Mahratta Railway, 16 occurred under "Trains running over cattle on the line" and 5 under "The flooding of portions of permanent-way," due, it appears, to some extent, to the increased mileage worked.

* Except where statistics for five quarters are not available.
(a) As compared with the corresponding quarter of the previous year.
(b) As compared with the average of the four corresponding previous quarters.

4. On the Indian Midland Railway, with an increase of 615·25 miles in the mean length worked, and of 305,135 miles in the train-mileage, the number of accidents rose from 3 to 23.

5. On the North Western Railway the only noticeable difference was a decrease of 7 under "Other accidents" and of 5 under "The failure of couplings."

6. The increases on the Great Indian Peninsula Railway mainly occurred under "The failure of machinery, springs, &c., of engines" and "Fire in trains," the number recorded under these heads being 10 against 1, and 11 against 4, respectively.

7. On the Dibru-Sadiya Railway the number of accidents classed under "Goods trains or parts of goods trains, engines, &c., leaving the rails" fell from 9 to 1 and those classed as "Other accidents" from 7 to 1.

8. On the Nizam's Guaranteed State Railway there was an increase of 7 accidents under "Trains running over cattle on the line" and of 11 under "The failure of machinery, springs, &c., of engines."

9. The following table exhibits the number of accidents under the different classes, due to "Accidents to trains, rolling-stock, permanent-way, &c.," and the number of persons killed and injured thereby, *vide* Tables Nos. 3 and 4:—

Serial No.	Causes of accidents.	Average of corresponding quarters of five previous years.*	FOURTH QUARTER, 1889.					TOTAL ALL CLASSES.	
			Number.	Number of passengers and others.		Number of servants.		Killed.	Injured.
				Killed.	Injured.	Killed.	Injured.		
1	Collisions between passenger trains or parts of passenger trains	2	2	...	...	...	...	...	...
2	Collisions between passenger trains and goods, or mineral trains, engines and vehicles standing foul of the line ...	11	11	...	...	...	...	...	...
3	Collisions between goods trains or parts of goods trains	19	27	...	...	...	...	...	...
4	Collisions between light engines ...	3	4	...	...	...	...	...	...
5	Passenger trains or parts of passenger trains leaving the rails	20	22	...	...	...	...	...	...
6	Goods trains or parts of goods trains, engines, &c., leaving the rails ...	82	61	...	...	...	...	...	...
7	Trains or engines travelling in the wrong direction through points	12	8	17	29	...	2	17	31
8	Trains running into stations or sidings at too high a speed	2	2	...	...	...	1	...	1
9	Trains running over cattle on the line ...	190	220	...	1	...	...	...	1
10	" " over obstructions on the line	22	23	1	4	...	...	1	4
11	Train running through gates at level crossings	14	13	...	...	...	...	...	...
12	The bursting of boilers of engines ...	23	...	...	...	...	...	...	...
12(a)	" " of tubes, &c., of engines ...		32	...	...	...	...	...	...
13	The failure of machinery, springs, &c., of engines	57	83	...	...	...	...	...	...
14	The failure of tyres	4	2	...	...	...	...	...	...
15	" wheels	...	1	...	...	...	...	...	...
16	" axles	11	18	...	...	...	...	...	...
17	" brake apparatus ...	...	2	...	...	...	...	...	...
18	" couplings	35	45	...	...	...	...	...	...
19	" tunnels, bridges, viaducts, culverts, &c.	...	...	...	...	...	...	...	...
20	Broken rails	8	18	...	...	...	...	...	...
21	The flooding of portions of permanent-way	10	13	...	...	...	...	...	...
22	Slips in cuttings or embankments ...	3	4	...	...	...	...	...	...
23	Fire in trains	34	29	...	...	...	...	...	...
24	Fire at stations, or involving injury to bridges or viaducts	8	9	...	...	...	...	...	...
25	Other accidents	54	41	...	...	...	1	...	1
	Total for 1889 ...	...	690	18	34	...	4	18	38
	Total—Average of corresponding quarters of five previous years* ...	...	624	2	11	3	10	5	21

* Except where statistics for five quarters are not available for any line.

10. The principal variations occurred under "Goods trains or parts of goods trains, engines, &c., leaving the rails," 61 against 82; "Trains running over cattle on the line," 220 against 190; "The failure of machinery, springs, &c., of engines," 83 against 57; "The failure of couplings," 45 against 35; "Broken rails," 18 against 8; and "Other accidents," 41 against 54.

11. Of the 61 cases of "Goods trains or parts of goods trains, engines, &c., leaving the rails," 8 occurred on each of the following railways, the Eastern Bengal, Madras, and South Indian Railways, and 7 on the North Western Railway. As already stated there was a decrease of 8 accidents of this class on the Dibru-Sadiya Railway.

12. The number of cattle accidents was largest on the Eastern Bengal State Railway, *viz.*, 26; next to it comes the North Western Railway with 24 accidents; then the Southern Mahratta with 23 and the South Indian with 21.

13. The increase under "The failure of machinery, springs, &c., of engines" was mainly due to the number of accidents returned by the Great Indian Peninsula Railway, which returned 10 against 1, and by the Nizam's Guaranteed State Railway which returned 13 against 2.

14. Axles failed in 18 instances, of which 15 were on the Rajputana-Malwa Railway alone. The number of failures of couplings on this railway was also large, being 14 or about one-third of the total reported.

15. There were 13 cases of "Fire in trains" recorded on the North Western Railway and 11 on the Great Indian Peninsula Railway out of a total of 29.

16. The accidents classed as "Other accidents" numbered 41, of which 24 were returned by the Bombay, Baroda and Central India Railway.

17. The casualties resulting from accidents to trains, &c., were, among passengers and others, 18 killed and 34 injured against 2 killed and 11 injured; and among servants, 4 injured against 3 killed and 10 injured.

18. Of the casualties to passengers, 17 were killed and 29 injured on the East Indian Railway on the 27th of October 1889, in consequence of the down mail having been turned into a dead siding at the Hathras station. A special report of this accident is attached to the returns under review.

19. The casualties to passengers from causes other than accidents to trains, &c., *vide* Table No. 2, were—

Causes of accidents.	Fourth Quarter, 1889.		Average of corresponding quarters of five previous years.*	
	Killed.	Injured.	Killed.	Injured.
1. From falling between carriages and platforms ...	4	4	2	3
2. Falling on to the platform, ballast, &c, when getting into or out of trains	2	2	2	4
3. Whilst crossing the line at stations ...	1	...	1	1
4. By closing of carriage doors	...	1	...	1
5. Falling out of carriages during the travelling of trains	7	18	4	12
6. Other accidents	4	9	2	5
Total ...	18	34	11	26

* Except where statistics for five quarters are not available for any line.

20. The accidents to servants in the employ of railways, or of contractors, whilst performing duties connected directly with the transit of passengers and goods, from causes other than accidents to trains, &c., were as follows, *vide* Table No. 2 :—

Causes of accidents.	Fourth quarter, 1889.		Average of corresponding quarters of five previous years.*	
	Killed.	Injured.	Killed.	Injured.
1. During shunting operations	6	18	5	9
2. Falling off engines, vans, wagons, &c. ...	3	11	4	11
3. Coming in contact with over-bridges, &c., during the travelling of trains	...	3	...	1
4. Coming in contact, while shunting, with vehicles, &c., standing in adjoining lines ...	...	...	...	1
5. Getting on or off trains, engines, &c. ...	5	16	2	7
6. Whilst loading, unloading or sheeting ...	2	16	1	14
7. Whilst breaking, spragging, or chocking wheels	...	1	...	1
8. Whilst working at cranes or capstans ...	...	1	...	1
9. Whilst working on the permanent-way or in sidings	2	6	2	4
10. Whilst walking along the line on the way home, or to work	2	2	2	2
11. Whilst walking, crossing, or standing on the line	9	8	7	9
12. Whilst passing between vehicles	1	4	1	1
13. Whilst attending to the machinery of engines, cleaning them, &c.	...	1	1	4
14. Whilst attending to gates at level-crossings ...	1	...	1	...
15. Falling, or being caught between vehicles and platforms	...	...	1	2
16. Falling off ladders, scaffolds, platforms, &c. ...	1	1	...	5
17. By falling of lamps, wagon-doors, timber, weights, &c.	1	9	...	7
18. Whilst coupling or uncoupling wagons ...	3	7	3	8
19. Miscellaneous	5	33	5	23
Total ...	41	137	35	110

21. Of other persons killed and injured by running trains, &c., 5 were killed and 6 injured whilst passing over railways at level crossings; 55 were killed and 25 injured whilst trespassing on the line; 15 committed suicide and 1 was injured in attempting to commit suicide; 3 were killed and 2 injured from miscellaneous causes.

* Except where statistics for five quarters are not available for any line.

22. The following table exhibits the total number of persons killed and injured from all causes over the whole Indian Railway system, as compared with the average of the corresponding quarters of five previous years, *vide* Table No. 1:—

Causes of accidents.	Fourth quarter, 1889.		Average of corresponding quarters of five previous years.*	
	Killed.	Injured.	Killed.	Injured.
Passengers.				
From causes beyond their own control	19	35	2	13
From misconduct or want of caution	16	29	11	24
Servants.				
From causes beyond their own control	2	7	5	18
From misconduct or want of caution	39	134	33	102
Others.				
Whilst passing over railways at level-crossings ...	5	6	2	1
Trespassers, including suicides	70	26	46	13
Other persons	3	2	3	2
Total ...	154	239	102	173
Total open mileage ...	15,759½		13,176	
Total train-mileage ...	13,263,150		11,511,133	

23. In addition to the above, 16 persons are reported to have been killed and 34 injured in yards, workshops, &c., and 166 persons to have died in and 34 injured in carriages and at stations from causes unconnected with the working of trains.

* Except where statistics for five quarters are not available for any line.

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... 405 R & 21.3.90
... 1320 R & 6.12.89
... 1205-6 R & 2.11.89

PW. Cdn. 7858.

RESOLUTION.—The Government of India notices that, with an increase of 2583·25 miles, or 19·61 per cent., in the mean-mileage open, and of 1,752,017 miles, or 15·22 per cent., in the train-mileage, the number of accidents to trains, rolling-stock, permanent-way, &c., show an increase of 66 or 10·58 per cent., as compared with the average of the five corresponding previous quarters.

The number of passengers and others killed and injured by accidents to trains, &c., is 0·662 and 1·168 respectively per million of passengers carried.

The casualties to passengers from causes other than accidents to trains, &c., increased from 11 killed and 26 injured to 18 killed and 24 injured.

The accidents to servants in the employ of railways, or of contractors, whilst performing duties connected directly with the transit of passengers and goods, from causes other than accidents to trains, &c., have also increased from 35 killed and 110 injured to 41 killed and 137 injured.

The total number of persons killed and injured from all causes over the whole of the Indian Railway system, as compared with the average of the corresponding quarters of five previous years, also show increases from 102 killed and 173 injured to 154 killed and 239 injured, or 50·98 and 38·15 per cent., respectively, against increases of 19·61 and 15·22 per cent. in the open and train mileages.

ORDER.—Ordered, that this Resolution, with the Abstract Returns be communicated for information to the Local Governments, Administrations, and Officers noted in the margin.

The Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab.
The Chief Commissioners of the Central Provinces, Burma and Assam.
The Resident at Hyderabad.
The Agents to the Governor General for Central India, Rajputana and Baluchistan.
The Director General of Railways.
The Consulting Engineers to the Government of India for Railways, Calcutta, Lucknow and Central Division.

Ordered also that copies be forwarded for the information of Her Majesty's Government.

Ordered, further that this Resolution, with the Abstract Returns, be published in the Supplement to the *Gazette of India*.

F. S. Hobart 40. SC.

Offg. Under Secretary.

To,
The Joint Secretary to the Government
of Madras (Railway Branch)
Public Works Department

Rd. 21-8-90. Encl. noted.

× *Documents accompanying.*
Abstract Returns of Accidents for the fourth quarter of 1889.
× Will follow from Calcutta Press.

G. C. Press, Simla.—No. 630 P. W. D.—7.8.90—800.

40. SC.

D/22/8.

D/No. 859 R.T. GOVERNMENT OF INDIA.

Public Works Department.

Simla, 29th Oct 1890.

Dear Sir,

With reference to your D.O. dated the 8th October 1890 asking for the early supply of 40 copies of the Accident Returns for the 4th Quarter of 1889, which formed an Enclosure to the S. of I. P. W. D. Resn No. 441 R.T. dated the 5th August 90, I find on enquiry that the

Bric 951 R 4.7.90

TELEGRAM ~~URGENT~~ ~~ORDINARY~~, DEFERRED

FROM R.

To Works Simla

Accompaniment to Government of India Resolution 441 R.T. fifth August last not yet received - please forward usual number of copies. -

SS/ 31/11/90

D.R

Telegram despd 3-11-90

No. Rec. 9512 4-7-90
... 4050

B. No. 1818 R d/15th hour/90.

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the

READ again the following

Progs: of the Madras Govt. P.W.Dept.to — } H.G. No. 1205-6 Rly 2d hour 89

Do. — do. — " — " — 1338-39 Rly 5 Decr 89

Read also the following.

Resolution by the Govt. of India P.W.Dept. — } H.G. No. 441 R.T dy 5 Augt 90

Telegram to — do — . — dy 3d hour 90

Telegram from — do — . — No T 217 dy 5 — do —

H.S. 12/11/90 Communicated to the Consulting Engineer for Railways for information with reference to his endorsement No 433 R and 473 dated 30 Octr: & 22nd November 1889.

12/11

To the Consg Engr for Rys

13/11

W.R.

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