

Public Works (¹⁸⁹⁴190~~0~~) Department.

RAILWAY BRANCH.

G.O., No. 563 R

DATED 20-10-1894

[Despatch Abstract.]

Results of the working of Continuous automatic
brakes in use on railways in India during
the 6 months ended 31-12-93. Com-
municating to the Agents, Madras,
South Indian, Nilgiri and Mysore
Railways and the Engineer in Chief
Nilgiri Rly by G.O. No. 371 R Stat
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G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

To The Joint Secretary to The Government of Madras,
Public Works Department, Railway Branch.

TABLE No. I.

Statement showing, for the half-year ended the 31st December 1893, the railways on which continuous automatic brakes were in use, the mileage run by trains fitted with the brakes, the number and proportion of rolling stock fitted, and the progress made in fitting stock since the previous half-year.

Railways (including branch lines worked).	Period.	LOCOMOTIVES.		VEHICLES.			Number of miles run by trains fitted.	Total number of instances in which the brakes failed to act or caused delay in the working of trains.	PROPORTION PER CENT		Number of failures as compared with mileage run by trains fitted.
		Fitted.	Not fitted.	Braked.	Piped.	Not fitted.			Of vehicles piped or fitted on total.	Of mileage run by trains fitted on total train-mileage.	
1	2	3	4	5	6	7	8	9	10	11	12
STANDARD GAUGE.											
State line worked by company.											
East Indian	1st-half, 1893			Returns	not received.						
	2nd-half, 1893	42	534	188	141	10,186	271,764	12	3 13	5'52	1 in 22,647
State lines worked by the State.											
North Western (state)	1st-half, 1893	243	(a) 343	(b) 1,354	87	(a) 10,690	(c) 591,716	13	11'88	12'64	1 in 45,517
	2nd-half, 1893	289	(d) 297	(b) 1,394	107	(a) 10,646	652,130	44	12'36	15'08	1 in 14,821
Oudh and Rohilkhand (state)	1st-half, 1893	15	141	110	12	4,843	179,652	3	2'46	13'91	1 in 59,884
	2nd-half, 1893	15	142	111	12	4,842	200,928	1	2'48	16 62	1 in 200,928
Eastern Bengal (state)	1st-half, 1893	15	82	104	13	2,257	154,158	...	4'93	17'25	...
	2nd-half, 1893	15	82	104	13	2,457	209,160	...	4'55	20 42	...
Lines worked by guaranteed companies.											
Great Indian Peninsula	1st-half, 1893	74	531	259	55	9,318	275,618	11	3 26	4'90	1 in 25,055
	2nd-half, 1893	86	519	260	105	9,270	399,632	6	3'79	9'36	1 in 66,605
Bombay, Baroda and Central India	1st-half, 1893			Returns	not received.						
	2nd-half, 1893	57	77	167	55	3,940	57,178	2	5'33	5'41	1 in 28,589
METRE GAUGE.											
State line worked by company.											
South Indian	1st-half, 1893	16	184	...	...	4,079	(e)	...	...	...	...
	2nd-half, 1893	20	184	22	8	4,167	(e)	...	0'71	...	...

(a) Excludes stock belonging to the late salt branch and the Ferozepore tramway.
 (b) Excludes 47 vehicles made over to the Mushkaf-Bolán railway.
 (c) Approximate.
 (d) Excludes 4 locomotives made over to the Mushkaf-Bolán railway.
 (e) Brakes not yet brought into use.

Ans: 9.10.94

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TABLE No. II.

Statement showing, for the six months ending 31st December 1893, all cases in which the continuous automatic brakes failed to act when required to be brought into action, or caused delay in the working of trains.

1	2	3	4	5
Railway.	Name or description of brakes which failed or caused delay in the instances specified in column 4.	Date of failure.	Instances under the three following heads separately, of— (i) Failure or partial failure to act when required in case of an accident to a train, or a collision between trains being imminent. (ii) Failure or partial failure to act under ordinary circumstances to stop a train when required. (iii) Delay in the working of trains in consequence of defects in, or improper action of, the brakes, distinguishing whether they arose from neglect or inexperience of servants, or failure of machinery or material.	Number of miles run by trains fitted with each description of continuous automatic brake.
STANDARD GAUGE. State line worked by company. East Indian	Vacuum Automatic.	13th July 1893. 21st July 1893. 22nd July 1893. 14th August 1893. 31st October 1893. 8th November 1893. 18th November 1893. 23rd November 1893. 11th December 1893. 11th December 1893. 15th December 1893. 31st December 1893.	(iii) Failure of machinery.—No. 9 up loop mail detained 5 minutes at Jamálpur, 7 minutes at Dharwara and 5 minutes at Kajra to release brake, blocks, owing to the ball valves not working freely. (iii) Neglect of servants.—No. 32 down local passenger started 4 minutes late from Hooghly, owing to the pipes between two of the carriages not having been properly coupled. (iii) Neglect of servants.—No. 9 up loop mail started 5 minutes late from Jamálpur in order to release brake. The delay was due to the station staff having neglected to take the hose pipe off the dummy before pulling the releasing wires. (iii) Failure of machinery.—No. 10 down mail delayed 15 minutes between Jamálpur and Sultangunge and 5 minutes between Sultangunge and Bhágalpur, owing to the vacuum ejector having got out of order. (iii) Failure of material.—No. 9 up loop mail delayed 6 minutes at Colgong to release brakes, owing to engine vacuum pressure gauge pipe having broken. (iii) Inexperience of servants.—No. 1 up mail delayed 10 minutes outside Raneegunge. The delay was due to gear in brake-van having, it is supposed, been tampered with. (iii) Inexperience of servants.—No. 1 up mail delayed 20 minutes between Sitarámpur and Jámárá and 40 minutes at Jámárá in releasing brakes. The accident was due partly to the vacuum ejector drawing air and partly to the driver's mismanagement. (iii) Inexperience of servants.—No. 9 up loop mail started 5 minutes late from Howrah owing to insufficient vacuum. (iii) Failure of machinery.—No. 2 down mail started 4 minutes late from Tundla owing to difficulty in releasing the brakes, the vacuum ejector having got out of order. (iii) Neglect of servants.—No. 2 down mail lost 7 minutes between Manapur and Jumooee, owing to the front engine hose train pipe having fallen off dummy. (iii) Failure of material.—No. 1 up mail lost 10 minutes between Howrah and Hooghly through the jamming of the brake blocks. (iii) Failure of machinery.—No. 9 up mail started 13 minutes late from Sahebgunge, owing to the train pipe of a carriage having been out of order and part of the rubber ring found missing.	271,754

TABLE No. II—contd.

Statement showing, for the six months ending 31st December 1893, all cases in which the continuous automatic brakes failed to act when required to be brought into action, or caused delay in the working of trains—contd.

1 Railway.	2 Name or description of brakes which failed or caused delay in the instances specified in column 4.	3 Date of failure.	4 Instances under the three following heads separately, of— (i) Failure or partial failure to act when required in case of an accident to a train, or a collision between trains being imminent. (ii) Failure or partial failure to act under ordinary circumstances to stop a train when required. (iii) Delay in the working of trains in consequence of defects in, or improper action of, the brakes, distinguishing whether they arose from neglect or inexperience of servants, or failure of machinery or material.	5 Number of miles run by trains fitted with each description of continuous automatic brake.
STANDARD GAUGE—contd.				
State lines worked by the State.				
North Western (state)	Vacuum Automatic.	5th July 1893.	(iii) Failure of material.—No. 5 up mail started 10 minutes late from Saharanpur, owing to the rubber pipe of the vacuum hose pipe of a 2nd class carriage having been damaged. The carriage had to be cut off the train.	See page 5.
		21st July 1893.	(iii) Neglect and inexperience of servants.—No. 3 up mail delayed 9 minutes at Meerut cantonment to release vacuum brake on train.	
		6th August 1893.	(iii) Neglect and inexperience of servants.—No. 20 down mixed train started 8 minutes late from Phillour. Time lost in taking vacuum brake off wagons.	
		6th August 1893.	(iii) Neglect and inexperience of servants.—The train pipe on No. 27 up mail parted on starting from Harnai, breaking horn of coupling, and causing a detention of 10 minutes. The parting of the coupling was due to traffic jamadar having forgotten to tighten the screw coupling which had been slackened for shunting purposes.	
		9th September 1893.	(iii) Neglect and inexperience of servants.—No. 3 up mail delayed 5 minutes between Sirhind and Khanna owing to vacuum pipe having come off the dummy of the rear brake.	
		10th September 1893.	(iii) Neglect and inexperience of servants.—A ballast train ran past Mud Gorge slip station, owing to vacuum brake not having been connected throughout the train.	
		11th September 1893.	(iii) Failure of material.—No. 86 down goods train detained 7 minutes at Gujar Khan, owing to India-rubber rolling piston ring inside vacuum cylinder having broken.	
		3rd October 1893.	(iii) Neglect and inexperience of servants.—No. 3 up mail detained 10 minutes at Meerut cantonment in releasing the piston of the vacuum brake of the tender.	
		13th October 1893.	(iii) Neglect and inexperience of servants.—No. 6 down mail delayed 5 minutes at Umballa, owing to tender brake piston having stuck fast, and 11 minutes at Umballa city in order to fasten up a bogie carriage brake hangers which were dragging on the line and then to release the brake of the whole train.	
		14th October 1893.	(iii) Failure of material.—No. 5 up mail detained 7 minutes at Lala Musa owing to breakage in the train pipe.	
		15th October 1893.	(iii) Neglect and inexperience of servants.—No. 20 down mixed train detained 5 minutes at Sirhind in order to examine brake blocks of a horse-box fitted with the vacuum brake; 5 minutes were lost between Sirhind and Sarai Banjara for vacuum brake.	

TABLE No. II—contd.

Statement showing, for the six months ending 31st December 1893, all cases in which the continuous automatic brakes failed to act when required to be brought into action, or caused delay in the working of trains—contd.

1 Railway.	2 Name or description of brakes which failed or caused delay in the instances specified in column 4.	3 Date of failure.	4 Instances under the three following heads separately, of— (i) Failure or partial failure to act when required in case of an accident to a train, or a collision between trains being imminent. (ii) Failure or partial failure to act under ordinary circumstances to stop a train when required. (iii) Delay in the working of trains in consequence of defects in, or improper action of, the brakes, distinguishing whether they arose from neglect or inexperience of servants, or failure of machinery or material.	5 Number of miles run by trains fitted with each description of continuous automatic brake.
STANDARD GAUGE—contd.				
State lines worked by the State—contd.				
North Western (state)—contd.	Vacuum Automatic.	16th October 1893.	(iii) Neglect and inexperience of servants.—No. 5 up mail delayed 8 minutes at Sirhind and 5 minutes at Khanna in releasing vacuum brake.	See page 5.
		16th October 1893.	(iii) Neglect of servants.—No. 4 down mail detained 8 minutes at Meerut city. The brake gearing of a 2nd class carriage No. 428 having been out of order and the bolt of adjusting arm having fallen out, the driver had to disconnect the remainder of the brake gear.	
		17th October 1893.	(iii) Neglect and inexperience of servants.—No. 5 up mail delayed 5 minutes between Saharanpur and Umballa cantonment, owing to vacuum brake blocks having been jammed on the wheels.	
		29th October 1893.	(iii) Neglect of servants.—No. 6 down mail detained 7 minutes at Saharanpur, owing to the train vacuum being out of order.	
		30th October 1893.	(iii) Neglect of servants.—No. 20 down mixed train detained 24 minutes at Rawalpindi to create vacuum in the train; 10 minutes at Riwat trying to raise vacuum.	
		31st October 1893.	(iii) Neglect of servants.—No. 5 up mail detained 12 minutes at Lala Musa on account of not getting the vacuum in the train.	
		1st November 1893.	(iii) Neglect of servants.—No. 5 up mail delayed 16 minutes between Jallo and Meer East, owing to hanger gearing pin working out of carriage No. 667.	
		4th November 1893.	(iii) Inexperience of servants.—No. 5 up mail started 7 minutes late from Ghaziabad as vacuum could not be obtained. Driver worked train without vacuum to Saharanpur. The failure was due to East Indian railway third class carriages Nos. 1126 and 1145 not having been coupled up properly.	
		10th November 1893.	(iii) Neglect and inexperience of servants.—No. 3 up mail delayed 8 minutes at Meerut cantonment, owing to engine brake being on after coming back on train from water column; the failure was due to the piston on vacuum cylinder of engine sticking.	
		10th November 1893.	(iii) Failure of machinery.—No. 3 up mail worked from Rawalpindi to Peshawar without vacuum brake, owing to brake injector having been out of order. No detention.	
		13th November 1893.	(iii) Neglect and inexperience of servants.—No. 5 up mail detained 5 minutes at Meerut cantonment in releasing vacuum.	
		13th November 1893.	(iii) Failure of material.—One leg of coupling pipe vacuum brake in third class carriage No. 883 on 3 up mail was broken at Wazirabad. No detention.	
		14th November 1893.	(iii) Failure of material.—Rubber diaphragm of brake cylinder of first class carriage No. 139 on 3 up mail was broken at Rawalpindi. No detention.	

TABLE No. II—contd.

Statement showing, for the six months ending 31st December 1893, all cases in which the continuous automatic brakes failed to act when required to be brought into action, or caused delay in the working of trains—contd.

1	2	3	4	5
Railway.	Name or description of brakes which failed or caused delay in the instances specified in column 4.	Date of failure.	Instances under the three following heads separately, of— (i) Failure or partial failure to act when required in case of an accident to a train, or a collision between trains being imminent. (ii) Failure or partial failure to act under ordinary circumstances to stop a train when required. (iii) Delay in the working of trains in consequence of defects in, or improper action of, the brakes, distinguishing whether they arose from neglect or inexperience of servants, or failure of machinery or material.	Number of miles run by trains fitted with each description of continuous automatic brake.
STANDARD GAUGE—contd. State lines worked by the State—contd. North Western (state)—contd.	Vacuum Automatic.	16th November 1893	(iii) Failure of machinery.—Fourteen minutes lost between Gujar Khan and Mandra, owing to vacuum brake piston on No. 63 up goods train drawing air through breakage and brake blocks binding on wheels in consequence.	See page 5.
		17th November 1893	(iii) Neglect of servants.—No. 3 up mail detained 10 minutes at Yaru Karez owing to brake gear having been taken up too tight.	
		18th November 1893	(iii) Inexperience of servants.—No. 5 up mail lost 5 minutes at Ghaziabad and 7 minutes at Begumabad in trying to raise vacuum, owing to carriage hose pipes not having been properly coupled up. Five minutes were also lost at Moradnagar in releasing vacuum.	
		19th November 1893	(iii) Neglect and inexperience of servants.—No. 3 up mail delayed 7 minutes at Meerut cantonment, brake being out of order.	
		20th November 1893	(iii) Failure of material.—No. 76 up goods train detained 24 minutes at Rawalpindi, owing to vacuum brake piston ring of engine No. 249 having been found broken.	
		20th November 1893	(iii) Inexperience of servants.—No. 3 up mail delayed 9 minutes between Umballa city and Umballa cantonment, owing to vacuum pipe on Great Indian Peninsula railway carriage, attached at Umballa, having been out of order.	
		22nd November 1893	(iii) Inexperience of servants.—No. 12 up mixed train delayed 10 minutes at Umballa in trying to create vacuum, as some one in traffic yard had uncoupled the hose pipe.	
		23rd November 1893	(iii) Inexperience of servants.—A defect in brake block was found on bogie third class No. 1525, attached to No. 6 down mail, at Haripur bund. No detention.	
		27th November 1893	(iii) Neglect of servants.—Injector cocks of engine No. 269 on a down ballast train wanted cleaning at Rawalpindi. No detention.	
		29th November 1893	(iii) Inexperience of servants.—No. 20 down mixed train detained 10 minutes at Sirhind in taking off vacuum from carriages.	
		3rd December 1893	(iii) Inexperience of servants.—No. 5 up mail delayed 22 minutes at Meerut cantonment reducing vacuum. This was due to the cylinder not having worked properly and to the brake jamming when the train was being stopped.	
		3rd December 1893	(iii) Inexperience of servants.—No. 4 down mail delayed 10 minutes at Umballa cantonment, owing to vacuum brake being out of order. The brake had to be disconnected from train which was then worked with engine brake.	
		7th December 1893	(iii) Neglect of servants.—No. 72 down goods train started 2 hours late from Rawalpindi, owing to vacuum brake of engine No. 269 having been out of order.	

TABLE No. II—contd.

Statement showing, for the six months ending 31st December 1893, all cases in which the continuous automatic brakes failed to act when required to be brought into action, or caused delay in the working of trains—contd.

1	2	3	4	5
Railway.	Name or description of brakes which failed or caused delay in the instances specified in column 4.	Date of failure.	Instances under the three following heads separately, of— (i) Failure or partial failure to act when required in case of an accident to a train, or a collision between trains being imminent. (ii) Failure or partial failure to act under ordinary circumstances to stop a train when required. (iii) Delay in the working of trains in consequence of defects in, or improper action of, the brakes, distinguishing whether they arose from neglect or inexperience of servants, or failure of machinery or material.	Number of miles run by trains fitted with each description of continuous automatic brake.
STANDARD GAUGE—contd. State lines worked by the State—contd. North Western (state)—contd.	Vacuum Automatic.	11th December 1893	(iii) Inexperience of servants.—No. 20 down mixed train delayed 9 minutes between Umballa and Kesri in disconnecting vacuum from engine and releasing it from carriages.	652,130
		16th December 1893	(iii) Neglect of servants.—No. 6 down mail detained 25 minutes at Umballa as vacuum could not be created owing to connecting pipe of front brake-van being deficient of a rubber washer.	
		16th December 1893	(iii) Neglect of servants.—No. 5 up mail detained 3 minutes at Umballa cantonment, owing to vacuum brake pipe not having been connected after shunting.	
		16th December 1893	(iii) Neglect of servants.—No. 19 up mixed train delayed 7 minutes between Rajpura and Sarai Banjara, owing to some vacuum point having been out.	
		17th December 1893	(iii) Neglect of servants.—No. 74 down goods train started 35 minutes late from Rawalpindi, owing to delay in repairing vacuum brake train pipe of engine No. 230.	
		24th December 1893	(iii) Neglect of servants.—A troop train delayed 1 hour and 10 minutes between Sohan and Riwat, owing to vacuum of engine brake having been jammed.	
		28th December 1893	(iii) Failure of material.—No. 76 down goods train delayed 8 minutes between Tarki and Lala Musa, owing to rolling ring of engine piston having been broken.	
Oudh and Rohilkhand (state).	Vacuum Automatic.	15th September 1893	(iii) Inexperience of servants.—No. 1 up mail delayed 7 minutes at Bareilly, owing to engine having been unable to recreate vacuum in consequence of defect in flexible pipe between engine and tender.	200,928
Eastern Bengal (state) ...	Vacuum Automatic.	...	No failure or delay ...	209,160
Lines worked by guaranteed companies.				
Great Indian Peninsula.	Vacuum Automatic.	11th July 1893.	(iii) Neglect of servants.—The driver of No. 115 down train was unable to maintain vacuum, owing to a folded luggage label having been found in brake-van No. 5 under the seating of the valve. Five minutes delay in starting from Victoria terminus. The vacuum was destroyed and the train then worked non-automatically.	See page 6.

TABLE No. II—concl'd.

Statement showing, for the six months ending 31st December 1893, all cases in which the continuous automatic brakes failed to act when required to be brought into action, or caused delay in the working of trains—concl'd.

1	2	3	4	5
Railway.	Name or description of brakes which failed or caused delay in the instances specified in column 4.	Date of failure.	Instances under the three following heads separately, of— (i) Failure or partial failure to act when required in case of an accident to a train, or a collision between trains being imminent. (ii) Failure or partial failure to act under ordinary circumstances to stop a train when required. (iii) Delay in the working of trains in consequence of defects in, or improper action of, the brakes, distinguishing whether they arose from neglect or inexperience of servants, or failure of machinery or material.	Number of miles run by trains fitted with each description of continuous automatic brake.
STANDARD GAUGE—concl'd. Lines worked by guaranteed companies—concl'd. Great Indian Peninsula—concl'd.	Vacuum Auto-matic.	12th July 1893. 6th October 1893. 9th November 1893 11th November 1893 12th December 1893	(iii) Failure of machinery.—No. 89 down train started 5 minutes late from Victoria terminus owing to driver's inability to create sufficient vacuum in consequence of tappet valve in the ejector of engine No. 20 being out of order. (iii) Neglect of servants.—The ballast heaped up near mileage 8½ having struck the ball of screw coupling of brake-van No. 463 on No. 158 up train, the hose pipe was dragged off the dummy plug, the brake being thus applied automatically from the rear. Eight minutes delay in ascertaining the cause and replacing the hose pipe. (iii) Failure of material.—At Lonávla the driver of No. 149 down train being unable to create vacuum after coupling up to train, owing to a small flexible pipe leading to cylinder of engine No. 536 being broken, the train was worked non-automatically after 10 minutes' delay. (iii) Neglect of servants.—The driver of No. 47 down train was unable to create vacuum after coupling up to train at Victoria terminus, owing to defective drip valve and seating of engine No. 638. After 9 minutes delay, the train was worked non-automatically. (iii) Neglect of servants.—Wheels of composite carriage No. 1201 on No. 89 down train reported to have been skidding on journey between Lonávla and Kárla, through brake remaining on after application at Lonávla. No defect could be traced in the cylinder and it seemed probable that the adjustment of brake rigging was at fault. Eighteen minutes' delay on journey.	399,632
Bombay, Baroda and Central India.	Vacuum Auto-matic.	31st July 1893. 23rd November 1893	(iii) Inexperience of servants.—Vacuum brake on No. 81 down local train failed to release owing to converting cock having been wrongly turned. Delay 3 minutes between Colába and Parel. (iii) Failure of machinery.—The brake on No. 85 down local train was unable to release, owing to the shaft lever jamming. Delay 27 minutes at Dádar.	57,178

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following

From the Government
of India, P. W. Deptt

No. 371 R Stat, dt 26.2.94

Communicated to
the Agents Madras, South
Indian & H. A. the Nizam's
Railway & the Eng. in Chief
Nizari Railway on
information in continuation
of G.O. No 142 R, dated
8th March 1894.

1894

10.10.94

Agents Madras
South Indian
H. A. the Nizam's
Eng. in Chief Nizari

DESPATCHED

22 OCT. 94

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