

Railway Company.	Date.	Site.	Working pressures above that of atmospheric.	Original Bursting Pressure.	Total Age.	Age after retabing.	Mileage total.	Mileage since retubed.
London and North Western (Southern Division).	4 July 1861	Near Rugby	120	520	yrs. mo. 9 9	3 8	336,368	139,483*
North Eastern	23 October 1861.	Stella Gill	100	800	7 9	2 5	149,518	44,928†
London and North Western (Southern Division).	5 July 1862.	Harrow	120	490	9 2	1 8	182,114	66,272‡
Great Western (present case).	8 Nov. 1862.	Paddington	115	447	12 5	7 5	304,000	175,000§

\* Running with the Irish mail train.

† About to start on its last trip for the night with a mineral train.

‡ Standing, whilst shunting at Harrow, after arriving with a coal train from Camden.

§ Getting up steam in locomotive shed.

The present explosion is a further proof that additional care and attention are much required in the maintenance of the steam boilers of locomotive engines. The common practice, of allowing them to run from four to seven years without any internal examination, and without applying to them any test which would discover weakness arising from hidden defects, is a most dangerous one. The locomotive superintendents on some railways are in the habit of employing the simple, safe, and economical test of hydraulic pressure, up to about 180 lbs. to the square inch, and they do so judiciously; but the greater number of locomotive superintendents, and those of some of the principal railways, object to such a test, as being unnecessary and undesirable. If such a test had been applied to the present boiler a few months before it exploded, its weakness would no doubt have been discovered.

But more frequent examinations are also necessary, at intervals of, say every three years or every 75,000 miles; and during those examinations any plate in which indications of furrow are observed ought to be at once replaced by a new one, instead of being left in its place for a further period of uncertain length. It is in any case, in my opinion, most unsafe to allow an engine to run on without any examination of the interior of the boiler, as the Perseus has done, at full pressure, for 7 years and 5 months, and for a duty of 175,000 miles.

I have, &c.

*The Secretary,  
Board of Trade,  
Whitehall.*

H. W. TYLER,  
*Capt. Royal Engineers.*

## LANCASHIRE AND YORKSHIRE RAILWAY.

*Railway Department, Board of Trade,  
Whitehall, 26th November 1862.*

SIR,  
I AM directed, by the Lords of the Committee of Privy Council for Trade, to transmit to you, to be laid before the Directors of the Lancashire and Yorkshire Railway Company, the enclosed copy of the Report made by Colonel Yolland, R.E., the officer appointed by my Lords to inquire into the circumstances connected with the collision which occurred on the 7th instant near Bury on the Lancashire and Yorkshire Railway.

I am, &c.

JAMES BOOTH.

*The Secretary of the  
Lancashire and Yorkshire  
Railway Company.*

*Railway Department, Board of Trade,  
Whitehall, 24th November 1862.*

SIR,  
I HAVE the honor to report, for the information of the Lords of the Committee of Privy Council for Trade, the result of my inquiry into the circumstances which attended the collision that occurred on the 7th inst. between two passenger trains belonging to the Lancashire and Yorkshire Railway Company, three-fourths of a mile east of Bury old station, when ten persons were slightly injured.

The Lancashire and Yorkshire Railway Company have been engaged since last August in replacing the wooden viaduct over the river Roach on their line between Bury and Heywood by one of a more permanent nature, built in brick; and during the greater proportion of that time the traffic over the viaduct in both directions has been conducted over a single line of rails, the up-line from Bury. The length of this piece of line, worked as a single line, is about 300 yards.

In order to provide for the safety of the trains, fixed

signals for the up and down lines had been erected east and west of the viaduct, which always stood at "danger," and which could, therefore, only be regarded as caution signals intended to inform the drivers of their near proximity to the viaduct; a conductor was appointed to proceed with every train along the single line, across the viaduct; pointmen were told off to attend to the points, at each end of this piece of single line; and signalmen, in addition, were provided for the signalling of both up and down trains, the superintendent, Mr. Blackmore, having directed that every train must be brought to a stand before arriving at the points on either side.

The morning of the 7th instant was exceedingly foggy, so that at the viaduct objects could not be seen at a greater distance than 30 yards.

The 10h. 35m. a.m. up short passenger train from Bury old station, was delayed in getting away by a slight collision having previously taken place in the Bury yard in the shunting of a goods train, and by which collision some waggons were knocked off the rails. It left at 11h. 30m., and after passing the up fixed signal, 713 yards west of the commencement of the single line, it ran over a fog signal placed on the rails by the foman, and was stopped 20 or 30 yards west of the crossing of the cross-over road leading from the up to the down road, over which cross-over road all down trains that passed over the single line over the viaduct would have to proceed in order to regain the down line.

The signalman informed me, that as soon as the short passenger train had passed he placed two more fog signals on the off rail of the up road, a few yards nearer to the viaduct than the outside down distant signal worked from Bury old station, and in about five minutes the 10h. 0m. a.m. Liverpool up train arrived, and ran over the fog signals, exploded one of them, and immediately after ran into the preceding

train which was still standing clear of the crossing, waiting for the passage of a down-train then about to travel along the single line over the viaduct. The collision does not appear to have been a violent one, and no vehicles were thrown off the rails, and but little damage was done to the rolling stock. The signalman estimates the speed at which the Liverpool train passed him at fifteen miles an hour, and according to his statement the fog signal was exploded 200 yards west of the spot where the collision occurred. There is, as usual, a discrepancy in the statements of this signalman and the driver, fireman, and guard of the Liverpool train, which is stated to have left Bury old station at 11h. 35m. the stationmaster having detained the Liverpool train until the five minutes interval directed to be observed by the Company's regulations had actually elapsed.

The train consisted of engine and tender, two carriages and a break van, the three last vehicles being fitted with Fay's Patent continuous breaks, worked by one guard. An out-of-door inspector belonging to the locomotive department rode on the engine. The gradients vary between Bury old station and the viaduct over the river Roach, but from near the spot where the fixed signal was established the line is on a steep rising incline of 1 in 85.

The driver of the Liverpool train states that he shut off the steam and commenced whistling just as he passed the fixed signal, and that he was not running more than fifteen miles an hour at the outside when he shut off the steam; that he ran over one fog signal, when the out-of-door inspector reversed the engine, and he, the driver, opened the regulator, and turned on the steam, while the fireman applied the break, at which time he was not running more than five, six, or seven miles an hour; that he had not time to whistle for the guard's breaks, but he had given a long whistle at the bottom of the bank, and that he was not running more than two or three miles an hour when the collision took place.

He pointed out the places on the ground where he says the engine ran over the fog signal, and where the engine ran into the other train. These places are rather more than 100 yards apart, and if he was running at the highest speed he named, of seven miles an hour, when he ran over the fog signal, it would take a full half minute to travel over the interval of 100 yards, and yet he asserts that he had not time to whistle for the breaks. Now the fact is, that it need not actually take so much as two seconds of time to shut the regulator and to sound the whistle for the breaks. The out-of-door inspector, on the other hand, states, that he reversed the engine, and also opened the regulator. I do not know which statement is correct, both cannot be true, and it is perfectly immaterial which is correct. The guard states that he

applied his break without its having been whistled for when the fog signal was exploded; and although there is a general concurrence of testimony between the driver, fireman, and guard of the Liverpool train and the out-of-door inspector, where it is brought to bear against the assertions of the signalman, their testimony is contradicted by facts which are independent altogether of the signalman. Either this Liverpool train was travelling at a much higher rate even than that named by the signalman (fifteen miles an hour), or there was gross neglect on the part of those working the train. If the steam was shut off at the fixed signal, a train running up an incline of 1 in 85, at the speed of fifteen miles an hour at its commencement, would stop without the application of any break before it had reached the spot at which the collision occurred. There seems to have been great neglect on the part of those in charge of the Liverpool train, and the manner in which the out-of-door inspector gave his evidence did not leave a favourable impression of the value of his services while employed on duty in riding on engines.

I consider the arrangements of the company somewhat defective. Whenever it is necessary to use one line for the passage of up and down traffic, in addition to the regulations for working the traffic over the single line safely, which were appropriate in this instance, it is essential that additional precaution should be adopted for stopping all trains on each side of the piece of single line. As I have already stated, the fixed signals erected by the company could only serve to tell the drivers that they were within a certain distance of the viaduct. Each end of the single line should have been regarded as a station, and fixed and distant signals should have been erected to prevent trains from overrunning the crossing, and to cover one or more up or down trains waiting their turn to get across the piece of single line, and in foggy weather the fogman should have been placed outside of the distant signals, and have laid down or taken up the fog signals in accordance with the indications of the distant signals.

In one other respect the practice requires improvement. The explosion of one fog signal is regarded as a "danger" signal, and of two as denoting "extreme danger." Now it is the general practice to lay down two fog signals, in the event of one failing, as in this instance, and it is a proper regulation; but whenever it is thought necessary to point out imminent danger, additional fog signals should be laid down, at one rail or two rails' length from each other; not at two feet, as was done in this case.

I have, &c.

*The Secretary  
of the Board of Trade,  
&c. &c. &c.*

W. YOLLAND,  
Col. R. Engineers.

## LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.

*Railway Department, Board of Trade,  
Whitehall, 3rd September, 1862.*

SIR,  
I AM directed by the Lords of the Committee of Privy Council for Trade to transmit to you, for the consideration of the Directors of the London, Brighton, and South Coast Railway Company, the enclosed copy of the report made by Colonel Yolland, R.E., the officer appointed by their Lordships to inquire into the circumstances connected with the accident which occurred on the 12th July, at the Victoria Station.

I am, &c.  
JAMES BOOTH.

*The Secretary of the  
London, Brighton, and  
South Coast Railway Company.*

*Railway Department, Board of Trade,  
Whitehall, 30th August, 1862.*

SIR,  
I HAVE the honor to report, for the information of the Lords of the Committee of Privy Council for Trade, the result of my inquiry into the circumstances connected with the accident which occurred on the 12th ult., at the Victoria Station of the London, Brighton, and South Coast Railway, respecting which a complaint was made to their Lordships by Mr. H. F. Walker, on the 19th ult., referred to me by your minute of the 30th ult.

It appears that, on the day in question the 2.45 p.m. down-train for London Bridge, consisting of a tank-engine and 11 vehicles, left the Crystal Palace departure platform in obedience to the indications of the signal, at about its proper time, and when it had run between 30 and 40 yards from the platform, and