

The  
**VIRTUAL MUSEUM**  
of the  
**LANCASHIRE & YORKSHIRE RAILWAY**

Accident Reports.

16 December 1874

BoT Report into Accident at

Mill Hill.

(2 Pages).

1, "all right," when a train may pass the telegraph or station signal-box without stopping; 2, "caution" when the driver has to be told that the line is only clear up to the home or stop-signal, and requiring him to pull up before he reaches it; 3, "danger," when he is to be warned that there is an obstruction between the distant and home or stop-signal, that

requires that he should actually stop at the distant signal, and then slowly draw inside it.

I have, &c.,  
W. YOLLAND,  
Colonel.

*The Secretary,  
(Railway Department),  
Board of Trade.*

Printed copies of the above report were sent to the Company on the 12th February.

## LANCASHIRE AND YORKSHIRE RAILWAY.

*Board of Trade,  
(Railway Department),*

SIR, 1, Whitehall, 30th March 1875.

I HAVE the honour to report, for the information of the Board of Trade, in compliance with the instructions contained in your Order of the 7th December last, the result of my inquiry into the circumstances which attended the explosion of the boiler of a locomotive engine at Leeds station, on the Lancashire and Yorkshire Railway, while engaged in shunting, on the 28th November. No persons were hurt.

The engine in question, No. 189, was originally constructed by Bury, Curtis, and Co., in June 1847, as a four-wheeled coupled tender engine, and altered to a six-wheeled coupled tank engine in 1868. It had 15-inch cylinders, 24 inches stroke, and the diameter of the wheels was five feet.

It had run, up to the time when it was altered in 1868, 456,524 miles, and at that time it was almost entirely rebuilt, having among other things one half of the barrel of the boiler new, but leaving in the old forward or first ring of boiler plate adjoining the smoke box. The length of the boiler between the fire box and smoke box is 11 feet 4 inches, and its diameter is 4 feet. In 1870, 1871, 1872, and 1874 the engine was in the shops for extensive repairs, but in neither of those instances were the tubes taken out, and thus the interior of the boiler was not seen between the time when it was renewed in 1868, until after the explosion had occurred.

The explosion appears to have taken place in the old first ring of boiler plate next the smoke box, and which was left in when the engine was rebuilt in 1868, and the first rupture, at or near the seam of rivets in the bottom of the boiler, towards the right-hand side, and the whole of this first ring has been entirely stripped off, with a considerable length of the angle iron by which it was secured to the smoke box tube plate, which, however, maintained its position, while several of the tubes had been drawn out of the tube plate. A portion of the saddle tank was blown off with the first ring of boiler plate, and the link motion and motion bars were very much damaged,

the leading axle was bent, as well as the framing on the left side of the engine. The explosion appears to have commenced on the right-hand side underneath the boiler, and the plate and some of the fragments were thrown off at right angles to a considerable distance at the left side of the engine. The boiler was supplied with two safety valves of the usual capacity, with spring balances respectively weighted to 110 and 115 lbs. respectively. When the engine was last in the shops, in February 1874, the boiler was tested by hydraulic pressure, up to 170 lbs. per square inch, and it is said to have stood the test without showing the slightest sign of weakness, and was then sent out to work at a pressure of 120 lbs. per square inch, at which it had always been previously worked.

The boiler plate when first put in was  $\frac{7}{16}$  of an inch thick, but at the part where the explosion is supposed to have first commenced, this thickness had been reduced by corrosion or pitting to about  $\frac{3}{16}$  of an inch.

The greater portion of the fractures, as will be seen from an inspection of the plates, appear to have taken place along the line of rivets.

The engine was engaged in shunting in the Leeds goods yard. It commenced to work at noon, and the explosion happened at about 10h. 30m. p.m. while actually in motion, and while slightly blowing off steam.

There were no appearances of any deficiency of water that might account for the explosion. The engine had run 173,084 miles since it was rebuilt in 1868, at which time the greater portion of the boiler had to be renewed, making up a total length of 629,608 miles since it was first constructed.

The cause of the explosion was evidently due to the reduced thickness of the boiler plate, caused by fair wear, the engine having been permitted to be worked subsequent to 1868 without actual examination of the interior of the boiler for a longer interval of time, and over a greater mileage length, than is desirable.

I have, &c.,  
W. YOLLAND,  
Colonel.

*The Secretary,  
Railway Department,  
Board of Trade.*

Printed copies of the above report were sent to the Company on the 10th April.

## LANCASHIRE AND YORKSHIRE RAILWAY.

SIR, Blackburn, January 15th, 1875.

IN compliance with your order of the 29th ultimo, I have the honour to report, for the information of the Board of Trade, the result of my inquiry into the circumstances connected with the collision

that occurred on the 16th ultimo, at Mill Hill sidings, on the Lancashire and Yorkshire Railway. One of the company's guards was slightly injured.

Mill Hill sidings are situated about a mile to the west of Blackburn station. The junctions of the

sidings with the passenger lines are protected with signals and distant-signals which are interlocked with the points, and are worked from the signalman's cabin adjacent to the points.

On the day in question a train, which consisted of an engine and tender, five waggons of coal, and a break-van with a guard, was stopped at Mill Hill sidings, as five waggons had to be brought out of the sidings and attached to the coal train. The coal train was first put across on to the line to Blackburn. The engine and three waggons were then detached, brought across on to the line from Blackburn, in order that the engine-driver might set back into the sidings at the north side of the railway, and fetch out the empty waggons. Just as he was about to set back, the 7.0 p.m. passenger train from Blackburn was heard approaching. The passenger train was about 20 minutes late owing to the bad weather. Before the signalman at Mill Hill allowed the coal train to shunt across the passenger lines it was absolutely necessary for the passenger line signals to be placed at danger owing to the locking arrangements, and this man, when he became suddenly aware of the approach of the passenger train which had run past the distant-signals, held out a red lamp to the driver of the passenger train, and signalled to the driver of the coal train to run ahead out of the way. The driver of the coal train put on steam and was able to get his train under way, before it was run into by the passenger train. No vehicles of either train left the rails, but the last waggon of the mineral train and the engine of the passenger train were slightly damaged. The passenger train consisted of an engine

and tender, and eight coaches, two of these coaches in the centre of the train had break-compartments with a guard in each of them, and the other coaches in the train were coupled to these break-coaches with Newall's continuous patent breaks.

The engine-driver of the passenger train stated that the Mill Hill distant-signal and the repeating-signal to this distant-signal were both showing all right as he passed them, and he was not aware of his danger till he saw the Mill Hill home-signal at danger. He then whistled for the breaks, reversed, and did his best to stop his train, but he could not do so in time to prevent a slight collision.

Owing to the locking arrangements it is impossible for the distant and repeating signals to have been at "all right" while the shunting was going on at Mill Hill, unless these signals had stuck fast in their posts, but as they were found to be acting properly immediately after the collision there is no reason to suppose that they did so. Moreover, had the engine-driver of the passenger train been keeping a proper look-out he ought to have been able to stop his train when he came in sight of the home-signal, which he admitted to have been at danger. It was snowing slightly at the time, but there seems no reason to believe that either the snow or the state of the rails had anything to do with the accident, which seems to have been caused altogether by the inattention of the engine-driver of the passenger train to the signals.

I have, &c.

*The Secretary,*  
(*Railway Department,*  
*Board of Trade.*

F. H. RICH,  
*Colonel R.E.*

Printed copies of the above report were sent to the Company on the 11th February.

## LANCASHIRE AND YORKSHIRE RAILWAY.

Sir, *Blackburn, January 15th, 1875.*

In compliance with your order of the 29th ultimo, I have the honour to report, for the information of the Board of Trade, the result of my inquiry into the circumstances connected with the collision that occurred on the 23rd ultimo, at Mill Hill sidings, on the Lancashire and Yorkshire Railway. Sixteen passengers and one of the company's guards have complained of injury. The injuries are believed to be slight.

Mill Hill sidings are situated about a mile to the west of Blackburn station. The siding junctions are protected with signals and distant-signals, which are interlocked with the points.

On the day in question a goods train, which consisted of an engine and tender, six waggons, and a break-van, arrived from Blackburn, and stopped at Mill Hill in order to do some work in the sidings. Passenger trains were overdue at the time on both the up and down lines, so the pointsman directed the men in charge of the goods train to put it away at once in the sidings at the north side of the railway. The goods train, after drawing down clear of the points, was backed from the down line across the up line. Part of it had already reached the sidings when the 9.10 a.m. passenger train from Preston ran into it at a speed of about 20 miles an hour. There was a dense fog at the time, and fogmen had been placed at the distant-signals. The passenger train, which consisted of an engine and tender, three coaches, and a break-van with a guard in it at the tail of the train, left Preston about 16 minutes late. It had lost a few minutes on the road owing to the weather

and being detained by signals. Three of the coaches of the passenger train were fitted with continuous breaks. When the passenger train arrived at the Mill Hill distant-signal, the engine-driver observed that the signal was at "all right," and the fogman, who was standing close by, allowed it to pass accordingly, but the moment that the train had passed the fogman saw the distant-signal placed to danger. This distant-signal is about 850 yards from the Mill Hill sidings. The engine-driver of the passenger train proceeded at his usual speed up to Mill Hill, and did not become aware of anything being across the road on which he was travelling until his engine struck the goods train which was being shunted into the Mill Hill sidings. No vehicle of the passenger train left the rails. The engine and the sides of the passenger carriages were damaged, and about six waggons of the goods train were damaged and thrown off the rails. The fog was so thick that the engine-driver had no chance to observe the home-signal at Mill Hill, or the goods train before he run into it.

The accident was caused by the signalman at Mill Hill sidings not having allowed sufficient time to elapse after he placed his signals at danger before he allowed the goods train to shunt across into the sidings at Mill Hill. The passenger train was inside the Mill Hill distant-signal when the signal was placed at danger to protect the goods train.

I have, &c.

*The Secretary,*  
(*Railway Department,*  
*Board of Trade.*

F. H. RICH,  
*Colonel R.E.*

Printed copies of the above report were sent to the Company on the 11th February.