

The
VIRTUAL MUSEUM
of the
LANCASHIRE & YORKSHIRE RAILWAY

Accident Reports.

28 November 1874

BoT Report into Accident at
Leeds.

(1 Page).

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.

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

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

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 $\frac{4}{16}$ 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.

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

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

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