

The
VIRTUAL MUSEUM
of the
LANCASHIRE & YORKSHIRE RAILWAY

Accident Reports.

20 March 1872

BoT Report into Accident at
Leeds West Wortley Junction GNR.

(2 Pages).

Three coaches in this portion of the train had got off the rails.

The eight vehicles at the tail of the train had also become detached. This lot came to a stand, about 100 yards behind the centre portion of the train, and about 60 yards outside the south end of the tunnel. The front and rear coaches of this portion of the train were thrown against the retaining wall of the cutting.

The end of one coach and the side of another were broken, and the handles and steps of the other carriages of the last portion of the train were torn off. A rail was found broken into three pieces, at the place inside the tunnel, where the carriages first got off the rails. The rail was probably broken by the engine of the mail train as it passed, and was subsequently loosened by the coaches that followed, until the pieces of the rail worked out of the chairs, and allowed the back part of the train to leave the rails.

The foreman of the platelayers had walked over and examined this part of the line about half an hour before the mail train arrived, and he had not seen anything wrong with the rails.

Copies of the above report were sent to the Company.

When the hind part of the train got off the rails the couplings gave way, and the train separated into three parts.

A great number of rails have been broken on the Caledonian Railway during last winter. There has been no frost to account for the breakages, which must therefore be attributed to the rails being of rather a hard description, and their being worn to such an extent, as not to allow a sufficient margin of strength to prevent their breaking under any small additional strain, such as they may be subjected to by a defective engine or a slack joint.

The company's engineer appears to be using all possible diligence in watching the permanent way. I recommend that those parts of the railway on which the express trains run, and where the rails have proved brittle, should be renewed as soon as practicable.

I have, &c.,

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

F. H. RICH,
Lieut.-Col. R.E.

GREAT NORTHERN RAILWAY.

*Board of Trade,
(Railway Department),
16th April 1872.*

SIR,

IN compliance with the instructions contained in your minute of the 21st ult., I have the honour to report, for the information of the Board of Trade, the result of my inquiry into the circumstances attending the accident which happened on the 20th ult. at West Wortley junction, near Leeds, on the Great Northern Railway, from a passenger train belonging to the Lancashire and Yorkshire Railway Company running off the line.

One passenger had his leg broken, and 12 others are reported to have been cut, shaken, or otherwise slightly injured.

At West Wortley junction, between Armley and Holbeck junction, a double loop line, but little used except for mineral traffic, branches off to the right (as approached from Lowmoor) to give a direct communication with Wakefield. The branch curves to the right with a 16 chain radius, and the main line to the left with a 42 chain radius. The gradient is a descending one towards Holbeck at 1 in 49. The points and signals are not interlocked, but are concentrated in a raised cabin, and the signalman is supposed to keep his hand on the facing point lever while a train is passing over the points, which are heavily weighted to lie right for the main line.

The train in question, consisting of engine and tender, break-van (in which were a guard and travelling inspector), a second-class carriage, a first-class, a second-class, a third-class, and a composite carriage, six vehicles in all, coupled in the order given, the first four coupled together with Fay's continuous breaks, left Lowmoor for Leeds at 4.40 p.m., 10 minutes late; it first stopped at Laister Dyke, which it left also 10 minutes late, then at Stanningly where the time was not booked; it was passing through West Wortley junction about three-quarters of a mile from Holbeck, where it had next to stop, with steam shut off and the tender break slightly applied, at a speed of probably about 20 miles an hour, when the driver felt a sudden check, and on looking round saw the carriages crossing to the up line (from Leeds). He at once reversed his engine and applied contrary steam, and stopped about 160 yards from the points. He found that the tender had separated from the van about 20 yards, owing to the coupling hook having straightened out. The van was on the rails with all its wheels; the two carriages next the van were off the rails with their

left wheels in the 4-ft. space; the two next were lying on their right sides across the up line, and the last carriage was lying wheels uppermost in the fork between the lines to Leeds and Wakefield.

The accident occurred at 5.2.

The first-class carriage next but one to the van had its leading axle bent, and the last and last but one their bodies broken; the break gearing was all damaged.

The signalman on duty in the junction cabin (Buckridge) had only been in it three days prior to the 20th, having been for the previous 17 months a signalman at Dudley Hill station. He had come on duty at seven in the morning for a 12 hours' spell, and had a relief signalman with him in the cabin to teach him his duties. This portion of the line is worked on the block-telegraph system, and at five o'clock Buckridge received train on line from Armley, about three-quarters of a mile distant, pegged over his needle, and lowered his signals for the train to pass. He states that he was holding the point lever as the train passed the junction, at a speed of perhaps 30 miles an hour, when he believes he saw the last carriage but one (*i.e.* the fifth) leave the rails at the point heels, taking the direction of Wakefield, and dragging the last carriage after it; he thinks that the fourth carriage turned over first, the last two following it; he declares that he held his point lever till the last carriage had passed, feeling nothing unusual about the lever's action, and then restored his home-signal to danger; he also states that the points would work freely after the accident, that an engine going to Leeds had passed the points at 4.40, after which a lorry had passed through them towards Wakefield, and that the next train after the one that met with the accident would be a passenger train for Leeds.

The relief signalman generally corroborates Buckridge's evidence.

A foreman platelayer who was unloading the lorry on the Wakefield Line near the junction saw the last carriage but one leave the rails, first with its leading and then with its trailing wheels, taking the Wakefield direction; the last carriage followed it, and then those in front were dragged off. The last carriage turned over first on its right side and then on its roof, on coming in contact with a telegraph post. He estimates the speed at 20 to 30 miles an hour.

In the permanent way the first broken chair was one three feet on the Leeds side of the heel of the

left switch, broken as if by a wheel dropping on it; the next broken chair was the next but one to this on the left rail of the line to Wakefield, broken outside; after this, the fractures became numerous; a check rail 27 yards from the points, on the right rail to Wakefield, at the crossing of the right rail to Leeds with the left rail to Wakefield had been struck and displaced. Altogether 46 new chairs and one new sleeper had to be put in.

The theory was broached at the inquiry that the accident was caused by the third vehicle in the train leaving the rails at the points, in consequence of its leading axle having been previously bent, and its wheels three-quarters of an inch out of gauge. It so happened that I had been riding in the front compartment of this very carriage from Lowmoor, without feeling its motion at all unusual; and I have little doubt from the peculiar motion I experienced when trying it on the day of the inquiry that the bend in the axle must be looked upon as a consequence and not a cause of the accident. There were marks of heavy blows on the tyres sufficient to account for the axle having been bent.

From the examination of the permanent way, which I was able to make immediately after the accident, and from careful consideration of the evidence, I think

that the accident was caused by the points opening after the passage of the fourth vehicle from the front sufficiently to admit of the right wheels of the fifth (the last but one) taking the line to Wakefield; this carriage then left the rails, taking the direction of the tangent to the curve, and dragging off with it the carriages before and behind it. The opening of the points was most probably rendered possible by the signalman omitting to hold the lever until the whole of the train had passed; from which omission some action of the trailing wheels of the fourth vehicle caused an opening of the points sufficiently to split the leading wheels of the fifth vehicle.

It is hardly necessary at the present day to draw attention to the danger of unlocked facing points, and the occurrence of this accident will probably have the effect of inducing the Great Northern Company to lose no more time in having the points and signals at this junction (which trains are constantly passing at considerable speed) interlocked.

I have, &c.,

C. S. HUTCHINSON,

Lieut.-Col. R.E.

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

Copies of the above report were sent to the Great Northern and the Lancashire and Yorkshire Railway Companies.

GREAT WESTERN RAILWAY.

*Board of Trade,
(Railway Department),
Birmingham, 1st April 1872.*

SIR,

In compliance with the instructions contained in your minute of the 14th ult., I have the honour to report, for the information of the Board of Trade, the result of my inquiry into the circumstances which attended the accident, that occurred on the 21st Feb., at Stourbridge station, on the Great Western Railway.

The train which is timed to leave Kidderminster for Dudley at 8.20 a.m., left at its proper time on that day.

It consisted of a tank engine, two third, one first, one second-class carriage, a break-van with a guard, and a composite carriage.

The vehicles were coupled together in the order in which they are given. The train arrived at Stourbridge at 8.40, and left that station at 8.44 a.m., which was its proper time.

The guard of the train gave the engine-driver the signal to start from Stourbridge station, and the train proceeded on its journey.

The line from Stourbridge to Birmingham joins the line from Stourbridge to Dudley at the north end of Stourbridge station.

The junction cabin used to be at the north end of the station, but a new cabin has been erected in place of the old cabin, at the south end of the station, in order to give the signalman in charge a better view, and better control over the goods yard, which is situated at the south side of the station.

This new junction cabin is fitted with a locking apparatus, to control the junction and the traffic at the north end of Stourbridge goods yard.

The locking apparatus had not been completed at the time of the accident, and the starting-signal, for trains proceeding from Stourbridge to Dudley, was not connected with the junction points at the time.

The signalman who was on duty in the new junction cabin was an experienced man. He was teaching another signalman to work the locking apparatus.

The man who was being taught had been five years a signalman in the Great Western Railway Company's employment, but he had never worked a locking apparatus before.

A goods train had been placed on the line to Birmingham, at the north end of Stourbridge station, just before the passenger train arrived, in order to clear the line for the passenger train.

This goods train was to return through the junction and follow the passenger train.

After the passenger train left Stourbridge station, the signalman on duty at the junction cabin called to the man he was teaching, "No. 7 lever," meaning, that he would have to pull No. 7 lever to allow the goods train to return on to the line and follow the passenger train.

The passenger train had not cleared the junction points at this time, but the man under instruction pulled No. 7 point lever, and the composite carriage, which was the last carriage of the passenger train, was thrown off the rails.

The train was only proceeding at a speed of about three miles an hour at the time. The driver and guard observed at once that a carriage had left the rails, and the train was brought to a stand, when it had run about 74 yards from the points where the composite carriage left the rails.

The carriage did not fall over. There were only four passengers in the carriage, and none of them were hurt.

The locking apparatus has now been completed, and a similar accident cannot occur, unless the signalman raises the starting-signal and moves the points before the trains have passed clear over the points.

He should never raise the signal until the trains have cleared the points, and he cannot now move the points until he has raised the signal.

I have, &c.,

F. H. RICH,

Lieut.-Col. R.E.

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

Copies of the above report were sent to the Company.