

perceived an engine coming round the curve and approaching the station at speed. It was an empty engine from Holmfirth that was proceeding to Mirfield. It ran into the passenger train.

Honley station is about  $1\frac{1}{2}$  miles to the south of Berry Brow station. It had been shut up for the night, and the signals were at "all right" when the empty engine passed. The signals at Berry Brow were also at all right as the engine driver of the empty engine approached. He did not perceive the lights at the tail of the passenger train, which was standing at Berry Brow station, until he was within about 200 yards of the place where the passenger train was standing. He was running with tender in front at a speed of about 20 miles an hour at the time. The steam was shut off, and he tried to reverse, but failed in doing so. His fireman put on the break, and then the driver succeeded in reversing, and put on steam against his engine, but he could not pull up before he struck the passenger train at a speed of seven or eight miles an hour. The engine driver of the empty engine dropped off just before the collision and hurt his thumb slightly. The fireman remained on his engine and was slightly shaken at the time. The

empty engine and tender were slightly damaged. None of the vehicles left the rails. The engine driver of the empty engine could not be aware that there was anything on the road in front of him, as he received no caution or danger signals before he struck the passenger train.

The driver of the passenger train stated that he had been about one minute at the station when he heard the guard call out "Are you right?" and the porter immediately said "Go on, go on," sharply, as he saw the empty engine coming. He got the regulator open, and had just got the train in motion when it was run into by the empty engine. When he felt the collision he shut off steam and stopped the train. It had run about three or four carriage lengths from the place where it had been standing.

The accident was caused by the want of proper means to protect Berry Brow station. This can only be done by the adoption of the block-telegraph system. Station signals should also be provided.

I have, &c.,

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

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

Copies of the above report were sent to the Company.

## LANCASHIRE AND YORKSHIRE RAILWAY.

*Board of Trade,*  
(*Railway Department*),  
*Whitehall, 29th April 1872.*

SIR,

In compliance with the instructions contained in your minute of the 4th instant, 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 collision that occurred on the 2nd instant, at Miles Platting, on the Lancashire and Yorkshire Railway.

Miles Platting is about  $1\frac{1}{4}$  miles from Victoria station, Manchester. It is at the summit of a steep incline.

There are five telegraph cabins on the incline. No. 1 cabin is at the bottom of the incline in Victoria station, and No. 5 cabin is at the summit at Miles Platting.

This section of the Lancashire and Yorkshire Railway is worked on the absolute block system, with Tyer's block telegraph instruments. The signalmen appear to allow single engines to break the block.

About 12.20 a.m., on the 2nd instant, a Lancashire and Yorkshire goods train, that consisted of an engine and tender, 42 waggons, a break-van, and an engine at the tail of the train, left Victoria station to proceed towards Ardwick. It was allowed to run past No. 4 telegraph cabin on the Miles Platting bank, but it was stopped by the distant signal from No. 5 cabin which was at danger.

The distant signal at the Manchester side of No. 5 cabin was kept at danger, as the line was blocked between No. 5 and No. 6 cabins.

About seven minutes after the goods train had passed No. 4 cabin, the signalman on duty there, received notice that a single engine was coming towards his station from Victoria station. As the line between No. 4 and No. 5 cabins remained blocked for about seven minutes after the goods train had passed No. 4 cabin, the signalman at the latter station thought that the goods train was too heavy for the engines that were attached to it, and he allowed the single engine to run up to and pass his station, so that it might go to assist in pushing the goods train up the bank.

A few minutes after the single engine had gone forward, the London and North-Western mail train, that is due to leave Victoria station, Manchester, at 12.25 a.m., was signalled to No. 4 cabin.

No. 4 signalman stated that he telegraphed it to No. 5, and received the obstruction signal in reply.

About two minutes later he again telegraphed the mail train to No. 5, and received "line clear" in reply. No. 4 signalman then allowed the mail train, which he had stopped, to go forward. As the last carriage of the mail train passed his cabin he again received the obstruction signal, but it was too late for him to stop the mail.

The mail train ran forward at a speed of about 10 miles an hour. The night was dark and wet. As the engine-driver approached No. 5 cabin distant signal, he heard an engine whistle, and at the same moment he observed the engine at the tail of the goods train. He shut off steam, reversed, and whistled for the guard's break, but he could not succeed in stopping the train before it struck the empty engine at the tail of the goods train, at a speed of about five miles an hour. The engine-driver of the London and North-Western train could not see the distant signal of No. 5 cabin, which was at danger, in consequence of the steam and smoke of the two engines, which were standing close to the distant signal at the tail of the goods train.

The mail train consisted of an engine and tender, a guard's van with a guard, two composite carriages, and a van with the mail bags and a post office guard at the tail of the train.

The buffer plank of the engine of the mail train, and the buffer castings of the empty engine were damaged, but none of the vehicles of either train left the rails, and no persons were hurt.

The signalman on duty at No. 5 cabin gave very circumstantial, and (at the time) apparently truthful, evidence of the telegraph signals that had passed between himself and the signalman at No. 4 cabin. It was to the effect, that he had kept the block on for the whole time, against the mail train, in reply to the messages from No. 4. In cross questioning, subsequently, both the signalmen and the telegraph boy who was employed at No. 5 cabin for the purpose of registering the time that trains passed the station, it transpired that the signalman on duty at No. 5 cabin had been absent from his cabin during the greater part, if not during the whole of the time, that No. 4 signalman was telegraphing the mail train.

The signalman at No. 5 cabin had gone across to the opposite side of the line to make arrangements for clearing the line at the east side of his cabin, so that he might allow the goods train that had been stopped on the bank to proceed forward.

While he was away for this purpose, the telegraph boy,

who is supposed to work the speaking telegraph instrument only, meddled with the block instruments, and no doubt made the mistake of taking off the block and admitting the mail train. The signalman, on returning to No. 5 cabin, appears to have become aware of what had occurred, and gave the obstruction signal at once; but it was too late to stop the mail train, which had already passed No. 4 cabin at the time.

The admission of the empty engine on to the section between No. 4 and No. 5 cabins, appears to have caused some confusion in the telegraphing.

The accident was caused by the telegraph boy at No. 5 cabin meddling with instruments that he had no business to touch. The speaking instrument that he was required to work is quite separate from the block instruments. It would have been better if the signalman on duty at No. 5 cabin had sent the boy for the breaksman or guard of the train that he wished to speak to, in preference to leaving the cabin himself for that purpose. This man appears to have left his station with a good intention, and if he had not tried to conceal the truth and thus endeavour to saddle the mistake on the signalman at No. 4 cabin, he could only have been

blamed for a want of judgment in leaving his cabin at such a time, instead of sending the boy with the message. He was no doubt anxious to get the road clear for the mail train. I am of opinion that the various signals which are given on the block telegraph instruments by beats on the bell from 1 to 6, and sometimes 8, are liable to much confusion. Where these signals are given in quick succession it is impossible for the men always to count the number of beats correctly; and I think that greater safety would result if only two signals, or at the most three, were given, one for passengers, and, at the most, one for all other trains, and one as the obstruction signal. If the absolute block is adopted, it does not signify what class of train is on the line between two stations, no other train or empty engine should be allowed on to that section of the railway; and, therefore, one beat for trains, and one other signal as an obstruction signal, ought to be sufficient.

I have, &c.,

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

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

Copies of the above report were sent to the Lancashire and Yorkshire, and London and North-Western Railway Companies.

## LLYNVI AND OGMORE RAILWAY.

Board of Trade,  
(Railway Department),  
30th March 1872.

Sir,

In compliance with the instructions contained in your minute of the 20th instant, 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 16th inst., at Hendreforgan siding, on the Llynvi and Ogmore Railway.

This section of the Llynvi and Ogmore Railway forms an extension of the Gellyrhaidd branch of the Great Western Railway.

These lines of railway are only used for mineral traffic.

The permanent way of the Llynvi and Ogmore Railway, from Glamorgan colliery to the point where it joins the Gellyrhaidd branch, is maintained by the Llynvi and Ogmore Railway Company, but this section of railway is worked by the Great Western Railway Company. The gradient of the line falls 1 in 40, as it approaches the Hendreforgan siding from Glamorgan.

Hendreforgan siding is on a piece of level at the foot of the incline. It is situated on a curve of  $13\frac{1}{2}$  chains radius, and the approach to this siding has a reverse curve of 13 chains radius.

The level portion is about 18 chains long. At the east end of this level portion the line rises on an incline of 1 in 148 for about 5 chains, then it falls for about the same distance on the same gradient, and then proceeds eastwards on a falling gradient of 1 in 40.

The points of the Hendreforgan siding are worked by a lever, which is weighted, so that the points can be left right for the siding or for the railway.

These siding points are fitted with a bolt, a collar, and a padlock. They are kept locked in the proper position for the railway. The permanent way consists of a double headed rail that weighs 72 lbs. per yard lineal. It is fished and fixed in bracket chairs that weigh about 19 lbs. each.

The chairs are fastened to transverse sleepers with two tang bolts.

The sleepers are 11 ft. long, 10 in. by 5 in. The line is ballasted with broken stone and gravel. The rails are laid for the broad as well as for the narrow gauge.

On the day in question a mineral train, which consisted of a broad gauge tank engine, with its coal-box

in front, 16 loaded waggons and a break-van, left Glamorgan at 8.45 a.m. Thirteen waggons loaded with coke, and 10 waggons of coal, were added to the train at Gilfach Cock colliery, which is about a mile to the west of Hendreforgan.

The train left Gilfach about 10.5 a.m. Two guards travelled on the coal waggons, one on the 5th or 6th waggon, and the other on the 23rd waggon from the engine. A third guard travelled in the break-van at the tail of the train. The breaks are reported to have been down on about 12 or 13 of the coal and coke waggons when the train left Gilfach. And the guard who was riding on the 23rd waggon stated, that he thought that the guard on the 5th or 6th waggon raised some more of the waggon breaks before the train reached Hendreforgan.

The train approached Hendreforgan siding at a speed of about 18 to 20 miles an hour, according to the evidence of the driver, fireman, and two of the guards.

The driver stated that he found it necessary to approach Hendreforgan at about that speed, in order to get a train of such weight over the level portion, and over the short rise at the end of the level portion.

He was preparing to put on steam, when he felt his engine strike something, as it reached the points of Hendreforgan siding. The guard in the rear van had taken off his break, so as to let the train run over the level portion.

The right leading wheel of the engine must have pressed heavily against the right side stock rail, as the engine worked round the  $13\frac{1}{2}$  chain curve, and reached the siding points.

The checks of the two chairs that support the stock rail had been broken for some time. One of these chairs had been fixed to the sleeper, where the point meets the stock rail, and the other chair had been fixed to the sleeper three feet beyond the place where the point meets the stock rail.

The stock rail yielded to the pressure of the engine, and separated sufficiently from the point to allow the right leading wheel of the engine to strike the point, and get in between the stock rail and the point. The engine left the rails, and ran along, with the wheels of one side in the 6 ft., and the near wheels in the ballast, between the broad and narrow gauge rails. The narrow gauge rails acted as a guard rail, and kept the engine in the line that it had been travelling, until it arrived at the crossings (where the siding again