

the continuous break for ordinary running into terminal stations,) he would have had a reserve of break power to fall back upon when he found too late that his speed was too fast.

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

I have, &c.,  
C. S. HUTCHINSON,  
Major-General, R.E.

Printed copies of the above reports were sent to the Company on the 1st June.

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### NORTH UNION RAILWAY.

Board of Trade, (Railway Department),  
1, Whitehall, London, S.W.,

SIR,

25th June 1884.

I HAVE the honour to report, for the information of the Board of Trade, in compliance with the instructions contained in the Order of the 5th instant, the result of my inquiry into the causes of a collision which occurred at Preston station, on the North Union Railway (joint London and North-Western and Lancashire and Yorkshire Railway), on the 3rd instant.

In this case, a Lancashire and Yorkshire excursion train from Todmorden to Blackpool,—consisting of engine and tender and 21 vehicles, including two break-vans and one break-carriage,—when passing through Preston station on the down line at about 7.12 a.m., and when at the north end of the platform, came into collision with London and North-Western light engine No. 473, which had been setting back through the crossing leading to the down loop, but which had been stopped by the driver, and had just started to run forward again when it was struck.

The collision was a slight one; no vehicles left the rails, and no passenger complained of injury, although the train was very full.

The tender frame of the London and North-Western engine was badly damaged, and in the Lancashire and Yorkshire train the engine buffer beam and framing were bent, and the draw-bar hook, vacuum-pipe, and cylinder tap rods were broken, and several buffer-castings in the carriages were broken, and some carriage bodies were shifted.

#### *Description.*

At Preston station there are, on the down side, two passenger lines, one being the platform line, and the other outside it being a loop.

At the centre of the platform there are scissors crossings between these two lines, immediately opposite to No. 2 cabin, and covered by signals worked from this cabin.

The loop joins the platform line at the north end of the platform, and the points and signals at this end of the station are worked from No. 4 cabin, a large cabin containing 74 levers.

The home-signals covering the scissors crossing are upon a four-armed bracket post on the platform, about 30 yards south of No. 2 cabin; and the home-signal, covering the connection between the loop and the down platform line, is about 75 yards south of the points, and about 175 yards south of No. 4 cabin.

The distance between No. 2 and No. 4 cabins is 387 yards.

The line is nearly straight, but there is a sharp curve at the north end of the station, and an indifferent view of the down signals worked from No. 4 cabin, which is round the corner beyond Fishergate Street bridge, and out of sight from No. 2 cabin.

The working through Preston station is "permissive block" the following being extracts from the rules, dated July 1882:—

" \* \* \* \* \*

" For permissive working additional discs have been provided, numbered 2 to 6; and when a train or engine is already in the section, and another train or engine is required to be sent forward into the section, the signalman must give the 'Be ready' signal to the box in advance, and the signalman there will reply by one stroke on the bell or gong, and until this reply is received the second train or engine must not be allowed

to enter the section. When the train or engine is allowed to pass the 'Train entering section' signal (two strokes on the bell or gong) must be given; the signalman on receiving it will acknowledge by one stroke on the bell or gong, and will move the disc forward one number. The same process will be observed for each subsequent train or engine, the disc being moved forward one number in each case.

"NOTE.—Should the signalman receiving the 'Be ready' signal for a second or subsequent train wish to prevent its being sent forward into the section, he will give the 'Obstruction' signal (six beats) in reply.

"As each train or engine (except the last one) passes out of the section the disc must be moved back one number, so that the actual number of trains in the section may be shown; and when the last train passes out of the section one stroke on the bell or gong must be given, and the disc and indicator moved to 'Line clear,' which the signalman in the rear will acknowledge by one stroke on the bell or gong, after which the disc and indicator must be turned to 'Line closed' (the normal position)."

The rule as to signals is the same as that where absolute block working is in force, and is as follows:—

"Whilst the indicator shows 'Train on line' or 'Line closed' the signals at the box in the rear must be at danger."

The following special notice was issued to drivers on 29th May 1884:—

"Trains must run at slackened speed (Whit-week) from June 1st to June 7th, 1884."

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#### *Signalling of trains through Preston.*

"As no discs have been provided, all trains timed to run through Preston (without stopping) must be brought under control at the home-signals at all cabins between Ribble Viaduct, Wyre crossing, and Wellfield Road."

The Lancashire and Yorkshire train was fitted with automatic vacuum-break on the engine, tender, and eight out of the 21 vehicles in the train, and there were also the ordinary hand-breaks in the guard's van.

#### *Evidence.*

*Henry Martin*, signalman at No. 4 cabin, Preston, North Union Railway, states: On June 3rd I came on duty at 6 a.m., for an eight hours' turn. I have been five years in the Company's service, and nine months in charge of No. 4 cabin. At about 7.10 a.m. a light engine arrived from the shed on the up slow line. This engine was required to work the 7.30 a.m. train from Preston to Windermere; it had to be crossed over on to the down fast line, and I received an order from Mr. Miles, the station-master, to send it into the down loop. I therefore instructed the driver to back the engine into the down loop. Whilst this was being done I received "Be ready" signal for Lancashire and Yorkshire No. 5 excursion, approaching on the platform line, which I accepted. I consider I was justified in working as I did. At the time I accepted the "Be ready" the light engine was about half way between my cabin and the loop points, setting back towards the loop. I had only just left the instrument when the collision occurred. I accepted the "Be ready" after the engine had commenced to set back. I did not get any "Train entering section" signal; only the "Be ready," three strokes on the bell. I turned my needle to "Line clear." My down home-signal, for the passenger line, was at danger. I have no down distant-signal.

*James Hilton*, signalman at No. 2 cabin, Preston, North Union, states: On the morning of the 3rd inst. I received the "Be ready" signal for an excursion train at 7 o'clock from No. 1 cabin, which I accepted and lowered my signals. So long as I have received "Line clear" from the cabin in advance, on receiving "Be ready" from the cabin in the rear I take off my signals without waiting for the acceptance of the "Be ready" from the cabin in advance. On this occasion No. 5 special was duly warned to me at 7 a.m. and it passed my cabin with the signals off.

When I heard the train coming I sent the "Be ready" forward to the cabin in advance. Although I got the "Be ready" for this train, I never got "Train on line" for it. I sent the "Be ready" forward when the train was within hearing. I think the train passed my cabin between 15 and 20 miles per hour. I had received "Line clear" from No. 4 cabin some 10 minutes before the excursion train arrived, but after I had answered this signal the signalman in No. 4 cabin had turned the needle to "Line closed." The rule states that my signals are to be kept at danger when the instrument shows "Line closed." My "Be ready" signal to No. 4 cabin was accepted before the train passed my cabin, but my signals were off before the "Be ready" was accepted. The instrument shows "Line closed" until the "Be ready" is accepted. Just as the engine was passing me I held a red flag out of my window, because I saw the No. 4 signals at danger. I could not see the driver for steam. He did not seem to see me, or to check the speed of the train, until near the home-signal worked from No. 4 cabin.

*Reuben Cross*, signalman in charge of No. 1 cabin, Preston, North Union, five years, and 13 years in the Company's service, states: I received warning signal at 7 a.m. for the excursion train, and transmitted it at the same time to No. 2. I received "Train on line" at 7.12, and repeated it to No. 2 at the same time. The instrument stood at "Line closed" when I sent the warning forward to No. 2, and the signalman at No. 2 then put the instrument to "Line clear." I am not sure whether he put the needle back to "Line blocked" after I had given him the train on line. My signals were off for a clear road, and the train passed me at the rate of 12 or 15 miles per hour. We work absolute block from Ribble bridge to No. 1, but permissive from No. 1 to No. 2.

*William Law*, driver of the Lancashire and Yorkshire No. 5 excursion train, Todmorden to Blackpool, June 3rd, states: I have been 16 years in the service, and about eight years a driver. On approaching Ribble bridge I found the signals off. At No. 2 they were also off. When approaching the home-signal for No. 4 I saw an engine in front of me, on the same line of rails and running towards me. I was then going at the rate of 10 miles an hour. I put on the vacuum-break with full force, and reversed my engine. I came into collision with London and North-Western engine at a speed of two or three miles per hour. There was no rebound of my train. The buffers and the vacuum-break coupling, and draw-bar hook in front of my engine were broken. The collision occurred at about an engine's length in advance of the home-signal for No. 4. My train consisted of 21 vehicles, eight of which had vacuum-break power. Between the signals at the centre of the platform and those at the north end I saw two officials on the platform, who called me forward. I then crossed over to the other side of the engine, and saw the London and North-Western engine in front of me. I did not see the London and North-Western engine until within 40 yards of it. It is difficult to see No. 4 signal until very near to it. My break acted well.

*William Cowell*, driver of engine 473 for excursion train 7.30 a.m., Preston to Windermere, states: I have been 15 years in the service of the London and North-Western Railway Company, and four and a half years a driver. I was ordered at No. 4 cabin to go down the loop. When I was coming round the loop by the water column I saw the Lancashire and Yorkshire special approaching. I stopped my engine, reversed, and had just got in backward motion when the Lancashire and Yorkshire train struck my engine-tender. I was backing tender first. The Lancashire and Yorkshire train was beyond No. 2 when I first saw it. It was running fast. I think it was running at 12 miles an hour when it struck my tender.

*John Yates*, permanent way inspector, states: I was standing on the slope of the temporary platform when the collision took place. The excursion train passed the booking office at about 20 miles an hour. The driver reduced speed very greatly, and made a smart stop.

*William Dickinson* states: I have been about 32 years in the service of the Lancashire and Yorkshire Railway, and about 25 years a guard. On the 3rd instant I was guard of No. 5 special excursion train from Todmorden to Blackpool. It was made up as follows:— Engine, tender, and 21 vehicles including two break-vans and a break-carriage. The break carriage was next to the tender, one van in the centre and one at the rear. The eight leading vehicles were fitted with the vacuum-break. We started at 5.32, two minutes late, and left Wallsden at 5.40 a.m. We stopped at Bury for water and left at 6.12, and at Harwich junction for tickets; we left Harwich junction at 6.46; the next stop would be Kirkham. We had not to stop at Preston. The signals at Ribble bridge were off and the signals worked from No. 2 cabin. We entered the station and passed No. 2 cabin at about 20 miles an hour. I did not see the signal at the near end of the station, but when my van was between the south end of the platform and No. 2 cabin I saw a red flag exhibited from the cabin. I immediately applied my break, and it was hard on before I got to the cabin. After I had applied my break I heard my driver whistling, and I felt the application of the vacuum-break. This would be when my van was a few lengths south of No. 2 cabin. The train was very full. I did not feel the collision in the least. I should say my train might have been at a speed of five miles an hour. I did not see any men on the platform calling my driver forward. My train was a full train. No passenger complained of injury.

#### *Conclusion.*

This slight collision was principally due to the want of proper attention to rules by the signalman in No. 2 cabin, at the centre of Preston station, inasmuch as he lowered his signals for the Lancashire and Yorkshire train when the indicator in his cabin, worked from No. 4, showed "Line closed." The Lancashire and Yorkshire train was, also, judging from the evidence, running at too high a rate of speed, even although the signals were off for it; and if it had been under proper control the driver ought to have been able to stop easily enough, with the break power at his command, even in the short distance available after he saw the home-signal worked from No. 4 cabin at danger.

The north end of the station yard and the down-signals connected with it are so situated that no train should ever be allowed to run through this station except cautiously, and I do not consider that the crossings at the north end are sufficiently protected by signals, in the absence of distant-signals for the down lines worked from No. 4 cabin.

These should be added without delay.

The continuous break on the Lancashire and Yorkshire train seems to have acted well, and would probably have sufficed to stop the train if all the vehicles had been fitted with it.

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

I have, &c.,  
F. A. MARINDIN,  
Major.

Printed copies of the above report were sent to the Lancashire and Yorkshire, the London and North-Western, and the North Union Railway Companies on the 21st July.