

years' service, received a message from the junction, that the London and North-western passenger train was approaching. He was at the time talking to the driver of a London and North-western passenger train from Leeds (who had stopped his engine close to the signal cabin); and candidly admits that, forgetting for the moment the fact of part of the goods train standing on the main line, although it was well within his sight, he lowered his distant signal. He remembered his mistake almost immediately, and restored his signal to danger, but too late, for, in less than a minute, he heard the collision; which took place about 9.20.

The London and North-western train, consisting of engine and tender, three composite carriages, a third class, and break van; left Victoria station, Manchester, for Leeds (having first to stop at Stalybridge) at 9.5, two minutes late, and was detained a minute or two near Miles Platting. On approaching Ashton the junction signals were right for going on, and 'just' after passing the junction distant-signal the station distant-signal was seen by the driver to drop to all right. He ran through the junction at a speed of 23 miles an hour, and, when about 130 yards past it, caught sight at the same time of the van of the goods train (170 yards off), and a man running towards him with a red flag. He gave the alarm whistle, and took immediate means to stop, but struck the van at from 10 to 12 miles an hour. Neither the driver nor fireman was hurt. The guard says that on hearing the alarm whistle he got his break on; he was thrown down in his van, but not injured.

The only damage to the passenger train consisted in the buffer plank of the engine being broken and the foot-plate bent up. In the goods train the van (which had its break on) had its four buffers broken. Its end next the coal waggons and the last coal waggon were injured.

The immediate cause of this collision was the forgetfulness of the station signalman in lowering his distant-signal while a portion of the goods train, for the protection of which he had himself put the signal to danger, was still occupying the main line.

Other circumstances connected with the collision show, on the part of officers holding the superior position of passenger inspector and foreman of the yard at an important station, no effort to have the company's rule enforced (and, in the case of the latter,

an actual overruling of a protest raised by the breakman of the goods train) as to the occupation of the main line in the face of a nearly due passenger train. The rule as to an engine engaged in shunting accompanying waggons into the siding in which they are intended to remain was here again (as in the Stoneclough collision) openly violated, with the additional aggravation that in this case a waggon was allowed to run down an incline of 1 in 133, on the main line, against a portion of the train held there on the same incline by the van breaks, thus running the risk of setting the whole in motion, and of causing a very bad collision. When one sees these violations of rules taking place under the eyes of and indeed by order of those officers of a company whose duty it is to see the rules upheld, it is impossible to avoid the conclusion that the discipline maintained in this company is by no means what it ought to be.

The remark too of the goods inspector, to the effect that the passenger department would look after the protection of the line, the safety of which had been endangered by the act of his own subordinates, seems to indicate some want of cordiality of working between the goods and passenger departments, which can hardly co-exist compatibly with the safe working of the line.

The enquiry into this accident brings to light the existence of an important double junction, through which about 270 regular trains pass during the 24 hours on the Lancashire and Yorkshire line alone, unprovided with locking apparatus, and but imperfectly signalled. I trust that by now drawing attention to the fact, the requisite improvements will be effected before some serious collision occurs to demonstrate their necessity. In any re-arrangement of the signals, those at the junction and the station should be made to mutually "slot" each other.

I regret to add that, notwithstanding the large amount of traffic of a very mixed character which runs over this line, I do not hear that it has yet been decided to apply to it the block-telegraph system.

I have, &c.

C. S. HUTCHINSON,
Lieut.-Col. R.E.

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

Printed copies of this report were sent to the company on the 31st January.

LANCASHIRE AND YORKSHIRE RAILWAY

*The Woodlands,
Dulwich Common,*

SIR,
21st January 1871.

In compliance with the instructions contained in your minute of the 10th inst., I have the honor to report, for the information of the Board of Trade, the result of my inquiry into the circumstances that attended the collision that occurred on the 30th December last at the east side of Sandhills station, near Liverpool, on the Lancashire and Yorkshire Railway.

Two passengers are reported to have been cut in the face, and three or four more to have been shaken or bruised, but their injuries are believed to be slight.

About 600 yards to the east of Sandhills station there is a large bridge over the Lancashire and Yorkshire Railway.

The bridge spans five lines of railway. Two of these are the main up and down lines to Liverpool, and the three other lines are sidings.

Two of these are at the north side of the main lines of railway, and one at the south side.

Kirkdale signal cabin is situated at the south-west angle of the bridge. The points of a cross-over road which leads from the coke and engine shed sidings (which are situated at the north-east side of the bridge) to the several lines under the bridge, and to the goods

yard at the south-west side of the bridge, are worked from Kirkdale cabin.

This cabin is provided with home signals and distant signals in each direction; as well as an intermediate signal towards Liverpool, for the protection of the various crossings, and for the protection of the lines to the goods sidings. There are four other signals, to control the several lines which lead to the engine shed sidings, to the machine siding, to the East Lancashire engine shed, and to the north docks. There is also bell communication with Sandhills station to the west, with Bootle Lane to the east, and with the Lancashire and Yorkshire engine shed cabin, which is about 60 yards distant. The Lancashire and Yorkshire engine shed cabin is at the north-east side of the bridge, at the junction of the coke and engine shed sidings with the main lines.

The signalman on duty there, works the levers which move fourteen pairs of points. Four of these levers move points connected with the main line, and the ten others move points connected with the sidings. He works no signals. When enginemen require to take their engines in or out of the coke and engine shed sidings, they communicate by means of their engine whistle with the signalman on duty at Kirkdale cabin. The latter then lowers a semaphore signal, at the engine

shed cabin to allow them to come out of the coke sidings. He rings a bell, and lowers a small semaphore arm at the engine shed cabin to allow them to come out of No. 1 siding.

About two p.m. on the day in question, an engine had to be taken from the coke shed sidings, to the engine shed sidings.

The driver whistled, the signalmán on duty at Kirkdale cabin gave the necessary signal, and the pointsman at the engine shed cabin moved two pairs of points for the engine to move out from the coke sidings on to the main up line. When the engine had got on to the main line, he put these two pairs of points back in their places, and then pulled over a pair of facing points on the main up line, and fixed them in that position with a stick which he kept for that purpose in his cabin.

He then pulled over the points which lead on to No. 1 (which is the first siding), to prevent the engine running into No. 1 siding. When the engine had cleared No. 1 siding, he allowed these points to fall back in their place, and pulled over the two levers of a set of three-throw points, so as to let the engine into No. 7 siding, where it required to go. The connecting rod fastening, of one of these points gave way, when they were pulled over, so he fixed the two levers of the three-throw points with other sticks, and went from his cabin to the points to block them over, so that the engine might pass over them into No. 7 siding.

He forgot the facing points on the main up line, and left them fixed with the stick, so that anything running on the main up line would run off the line into the siding.

While the engine shed pointsman was engaged with the engine driver in blocking the points of No. 7 siding, the 2 p.m. train from Liverpool to Preston arrived, and ran through the points which had been fixed for the engine shed sidings. The engine of the passenger train struck the tender of the engine that was standing on the siding, knocked it over on its side, and smashed it to pieces.

The empty engine became uncoupled by the shock, and was driven forward into the engine shed.

The passenger engine and tender also became uncoupled by the shock, but it did not leave the rails, and ran down No. 1 siding.

The passenger carriages followed down No. 1 siding, and came to a stand about 20 yards beyond the point of collision, and about 40 yards in rear of the passenger engine.

The pointsman and driver of the empty engine who were blocking the points, so as to get the engine into No. 7 siding, were fortunately alarmed by the shouting of some men near at hand, and they were able to get out of the way before the collision occurred.

The driver of the passenger train got "all right" signals from Kirkdale cabin. He was not aware of the danger until he got to the over-bridge. He then saw a man in the 6-foot waving his arms as signals for him

to stop. He shut off steam, reversed, put on steam, and whistled for the guards breaks; the fireman applied the tender break, and the speed of the train was reduced to about 12 or 14 miles an hour when it struck the empty engine.

The driver shut off steam, and jumped off, just before the collision. He was hurt in his knee. The fireman also jumped off just before the collision, and was very slightly hurt.

The passenger train consisted of an engine and tender, a second-class, three first, a second, a first-class carriage, a break-van with a guard, and a horse box. The vehicles were coupled together in the order that they are given. The van and the two coaches in front of it were fitted with Newall's patent breaks.

The smoke box, the cylinder covers, and the buffer beam, of the passenger engine were broken. The bodies of the two carriages next to the engine were shifted on their frames, and the ends of these carriages were slightly damaged. The buffers of the third and fourth carriages of the train were damaged. One end of each of the second and third carriages of the train were slightly lifted up from the rails.

The accident was caused by the pointsman on duty in the engine shed cabin, who forgot to take out the stick with which he had fixed the facing points on the main up line, and to put those points back in their proper position.

The signalmán at Kirkdale cabin should not have lowered the main line signals, which are worked from his cabin, before the engine shed cabin pointsman had put the points back to their proper place; but there is no proper means of intercommunication between these two men, and when the Kirkdale signalmán saw that the empty engine had gone into the engine sidings, clear of the main up line, he believed that the points had been put back into their proper position for the main line, and he lowered the signals for the passenger train to pass.

The steam and smoke under the bridge, between the Kirkdale cabin and the engine shed cabin, is often so thick as to prevent the men on duty at these stations seeing what the other is doing, although they are only about 60 yards apart.

The whole of the connexions with the sidings at both sides of the Kirkdale over-bridge, and at both sides of the railway should be rearranged. All the points and signals should be arranged on the locking principle, and this section of the Lancashire and Yorkshire Railway should be worked on the block telegraph principle.

With such arrangements as now exist, it is most creditable to the men employed, that accidents like the present one are not of very much more frequent occurrence.

I have, &c.

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

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

Printed copies of this report were sent to the company on the 7th February.

LONDON AND NORTH-WESTERN RAILWAY.

Board of Trade
(Railway Department),
30th July 1870.

Sir,

IN compliance with the instructions contained in your minute of the 11th instant, I have the honour to report, for the information of the Board of Trade, the result of my inquiry into the circumstances attending the collision which occurred at St. Nicholas' crossing, near the south end of Carlisle station, early on the morning of the 10th instant, between a mail train from Scotland to the south belonging jointly to the London and North-western and Caledonian companies and a North-eastern goods train crossing from west to east.

This collision has, I regret to state, occasioned the death of five persons; in addition to which, one passenger has sustained a compound fracture of the leg, 29 others, as well as one of the guards of the mail train, have been bruised, shaken, or otherwise injured.

At St. Nicholas' crossing, which is situated 520 yards south of the south end of the joint Citadel station at Carlisle, the main lines of the Lancaster and Carlisle railway are crossed on the level by a goods line of the North-eastern railway Company, called the Canal line, which connects their Newcastle and Carlisle line (by means of a junction called the "Gates" junction, 120 yards east of the crossing) with a goods