

## LANCASHIRE AND YORKSHIRE RAILWAY.

*Board of Trade,  
(Railway Department),*

SIR,

*Whitehall, 12th November 1872.*

I HAVE the honour to report, for the information of the Board of Trade, in compliance with the instructions contained in your minute of the 31st ult., the result of my investigation into the circumstances connected with a collision that occurred on the 17th ult., near Bradford station on the Lancashire and Yorkshire Railway, between a light engine and a passenger train.

I was informed that no passengers have complained of injury.

Bradford station is situated at the foot of a steep incline of 1 in 50, and to help a heavy train to ascend this gradient the objectionable practice exists of allowing a pilot engine to pursue it, overtake it, and push it up. This practice is the more objectionable at Bradford inasmuch as, 1st, the traffic is worked by the block-telegraph, so that every time an engine pursues a train the block-telegraph rules are permittedly broken; and, 2nd, about 100 yards from the departure end of the station there is a tunnel 150 yards long, which makes it especially difficult for the driver of the assisting engine to regulate his speed so as to overtake the train without bumping it.

On the present occasion, the 6.2 p.m. train for Huddersfield started punctually from Bradford, consisting of engine and tender, a van, and five coaches, three of the latter being coupled to the van with continuous breaks. The driver wanted no assistance up the bank, gave no intimation that he wanted any, and was not aware that any engine would follow him. As he was emerging from the tunnel alluded to, at a speed of seven or eight miles an hour, he felt a slight blow on the engine. It was not sufficient to cause him to stop, and the train went on to Low Moor. No damage was reported to have been sustained.

The pilot engine, when the passenger train started,

was waiting in a siding to go to its home at Low Moor, its day's work being done. The head shunter told the driver that he could follow the passenger train and help it up the bank; the driver accordingly whistled for the starting signal, which was lowered after the passenger train had started, and he followed it after about a minute's interval, expecting to overtake it some little distance on the Low Moor side of the tunnel. The tunnel, he states, was very full of steam, and he came upon the train unexpectedly while it was still in the tunnel, having no time to moderate his speed so as to avoid coming into slight collision with it.

The signalman declares that the passenger driver intimated that he wanted the pilot engine to help him up the bank, and accordingly lowered the signal for the pilot engine to come out of the siding and follow the train, in accordance with the permitted mode of working in such cases.

I do not believe that the passenger driver did give any intimation that he wanted assisting up the bank, but that the signalman in pursuance of the allowed practice of infringing the block-telegraph rules, in the case of engines following passenger trains to assist them up the bank, thought he might transgress them in the case of this pilot engine.

This collision was the result of an objectionable system of working. It is impossible but that accidents must again and again occur so long as it is permitted to continue. If I do not mistake, this is the fourth collision that has occurred on this railway owing to the same system of working during the last few months, and I think the directors would do wisely to forthwith order its discontinuance, before a more serious collision is the result.

I have, &amp;c.,

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

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

## LANCASHIRE AND YORKSHIRE RAILWAY.

*Board of Trade,  
(Railway Department),  
4th January 1873.*

SIR,

I HAVE the honour to report, for the information of the Board of Trade, in compliance with the instructions contained in your minute of the 21st ult., the result of my inquiry into the circumstances connected with the collision which occurred on the 13th ult., near Radcliffe station on the Lancashire and Yorkshire Railway, between a passenger train and a pilot engine.

Three passengers are returned as having been bruised or shaken.

Radcliffe is the first station out of Bury, from which it is distant  $2\frac{1}{2}$  miles, on the main line between Bury and Manchester. There are two intermediate signal cabins, one at Buckley Wells level-crossing, where sidings join both main lines about half a mile from Bury, and a second, where the locomotive sidings join the up line to Manchester, about 700 yards from the first, or nearly a mile from Bury and a mile and a half from Radcliffe.

The evening of the 13th was stated to be foggy, the thickness of the fog being such that lights could not be seen at a greater distance than 40 or 50 yards.

At about 9 o'clock on the evening in question the Radcliffe station-master observed the 7.40 p.m. goods train from Rawtenstall to Salford pass through the station without any van, and concluded that a portion had been left behind. In a minute or two this rear portion entered the station at a slow speed (the gradient is falling from Bury to Radcliffe, and then commences rising towards Manchester), and the station-master directed the guard to let it run through

the station as far as possible, the result being that the van stopped at about the Manchester end of the platform. The cause of the dislocation of the train had been the fracture of the cotter hole in a draw-bar. The station-master then sent a porter to the goods yard (about half a mile on the Bury side of Radcliffe) to see if there was a pilot engine there, and also telegraphed to Bury to ask for one; and on the porter returning and saying there was not one, he sent him back again with fog signals to protect the line and caution anything coming. He next got some reply from Bury which he did not understand, and at the same time the fireman of the goods train arrived from the next station, where the accident to the goods train had been discovered, to know whether the engine was to come back along the wrong line for the tail of the train. To this the station-master replied that the engine must come along the proper line. It was now past 9.30, an up passenger train being due at 9.47, and the station-master getting uneasy went down the line to see if he could hear anything of the pilot engine he was expecting. Before he had gone very far he met the engine proceeding at a faster rate than he thought was right; he therefore pulled up the driver with a red light, and was informed by him that his engine had just been run into by the engine of the passenger train. On proceeding onwards he found the engine and one of two coaches off the rails, at a point 320 yards inside the distant-signal, which was showing a good red light visible at least 40 yards off.

The driver of the pilot engine on receiving orders through a Bury porter to proceed to Radcliffe to help a goods train got ready as soon as possible, and entered the main line, with the knowledge of the

Buckley Wells level-crossing signalman\* (Sandiford), through points about half-way between his cabin and the locomotive sidings cabin, where a signalman named Hopwood was on duty. The driver went on cautiously towards Radcliffe, not knowing where he should find the waggons. He passed the Radcliffe distant-signal, which was at danger, and which he was unable to see till close under it, at a speed of 8 to 10 miles an hour, with steam off, and was shortly afterwards run into by the passenger train. The blow was a heavy one, and knocked him and his fireman down on the foot plate, but without hurting them. The pilot engine had its buffer plank broken and frame ends knocked in. As the engine was running towards the station after the collision it passed over some fog signals, which had been placed on the rails by the Radcliffe porter.

The passenger train, consisting of engine, tender, and eight vehicles, including two break vans with a guard in each, one van and the two vehicles next to it being coupled together with continuous breaks, left Bury for Radcliffe, &c. at 9.46, five minutes late. On approaching Buckley Wells level-crossing the driver states that he found the signals against him, and had in consequence almost stopped, but the home-signal being lowered to caution he was again going on when the signalman pulled him up with a red hand lamp and shouted to him, as he understood it, something about an engine going into the sheds, a very common occurrence; that he then went on, and seeing an engine in one of the locomotive sidings asked the driver if the road was clear, and on his replying "Yes," said "Why did you not crow then?" (the customary mode of an engine driver's signifying that he was clear of the main line), thinking that this was the engine to which the signalman had referred; that he next got a green signal and green hand light from Hopwood (the signalman at the locomotive sidings), who also shouted, as he passed, something about a light engine, which he understood to refer to an engine sometimes despatched to Manchester to bring back a train, in case the one he was driving was an hour late; and that as he was only five minutes late this puzzled him a bit; that he then shut off steam to run into Radcliffe, where he had to stop, some distance from the distant-signal, which he saw when 30 or 40 yards from it showing danger, his speed at the time being 15 or 16 miles an hour; that upon this he opened his whistle and had his tender break applied, but saw nothing of the pilot engine till he was close upon it, and struck it, with his speed reduced to about nine miles an hour.

The buffer plank of the engine of the passenger train was broken, and both engine and tender left the rails.

The fireman of the passenger train corroborates more or less the evidence of the driver; he still further underrates the speed both at the distant-signal and on collision.

The guard in charge, who was in the front van next the tender, did not hear what passed between his driver and the signalman either at Buckley Wells level crossing or at the next post. He estimates the speed at the distant-signal at 20 miles an hour, and saw it showing a red light when close to it; he thinks the driver gave the break whistle and he immediately applied his break; speed was reduced to about 15 miles an hour when they overtook and came into collision with the pilot engine; steam had been shut off about a quarter of a mile from the distant-signal. This guard was knocked against the break wheel and hurt his arm. The four wheels of his van and the front wheels of the carriage next it were knocked off the rails.

According to the signalman (Sandiford) at the Buckley Wells level-crossing the pilot engine had started about five minutes before the passenger train; he had his signals on as the latter approached, but took off his home-signal as the driver was drawing up to it, and went towards him with a green hand lamp to caution him about the pilot engine;

finding, however, that he was going ahead too fast, he changed his light to red and made the driver stop a short distance past his cabin; the fireman then said "What's that?" and he replied that there was a pilot engine gone to Radcliffe and that they were to go cautiously till they overtook him.

Hopwood's (the signalman at the locomotive sheds) evidence is to the effect that the pilot engine passed his cabin at 9.48, and the passenger train at 9.52; the former, he thought, was going to Salford (for the purpose described by the passenger driver), and the latter, until he saw the two white head lights on the engine (denoting a passenger train), was a goods train for the Bury sidings. After the pilot engine had passed he had put his distant-signal to danger and his home-signal to caution, and on the passenger driver whistling he took off his distant-signal (believing it to be the goods train), and on seeing the two white head lights ran towards the engine with a green hand lamp and shouted to the driver that an engine was in front of him. Hopwood thinks that the speed of the passenger train was about 10 miles an hour, and that the driver leaned over the hand rail as he passed, as if listening to what he was saying.

Both Sandiford and Hopwood state that the fog was very thick, the latter affirming that he was unable to see the light of Sandiford's down distant-signal only 40 yards off.

The Radcliffe porter, who had been sent back by the station-master, put down three fog signals on the rails at a point about 400 yards inside the distant-signal. After waiting about five minutes he heard an engine approaching and was going forward to meet it, when he heard another following it, and had only just time to get out of the way when the collision occurred.

This collision was primarily caused by a want of caution in the driver of the passenger train in approaching Radcliffe station, the distant-signal, from which was, he admits, showing danger as he passed it. Granting that in consequence of the fog he was unable to see the distant-signal in time to stop at it, he could still have so reduced his speed as not to have overtaken and struck with considerable force at a point 320 yards inside the distant-signal, a pilot engine travelling at the rate of at least 10 miles an hour in the direction in which he himself was running.

There was a reprehensible omission on the part of the officer in charge at Bury station when the passenger train left it, in not informing the driver of the break-down at Radcliffe and of the despatch of the pilot engine.

The signalman at the locomotive sheds is much to blame for not having kept his signals on at danger for five minutes after the pilot engine had left, and detained the passenger train until this interval had fully elapsed, particularly on a night with a fog of such density as he himself admits it to have been.

The Radcliffe station-master is also deserving of censure in not having had fog signalmen at his distant-signals. Had there been one at the up distant-signal it is highly probable that the passenger train might have been stopped in time to have prevented the collision. Had the porter he despatched gone further back he might have accomplished the same object, but he looked upon himself as protecting the van of the goods train and not as a regular fog signalman.

This collision is one of a class which block telegraph working goes far to prevent, and it is satisfactory to be able to report that the arrangements are nearly complete for its introduction on this portion of the Lancashire and Yorkshire Railway.

I have, &c.,

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

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