

The
VIRTUAL MUSEUM
of the
LANCASHIRE & YORKSHIRE RAILWAY

Accident Reports.

29 August 1871

BoT Report into Accident at
Bolton.

(3 Pages).

shunt to make;—in order to take 10 wagons out of a siding, and to place them in front of 16 other wagons, which had already been placed in front of the break-van, and were marshalled in No. 4 siding.

The engine-driver, standing 40 yards on the south of the siding points, whistled to the pointsman, to ask permission to go out on the main line with his 10 wagons, in order to shunt these wagons back to the 16 wagons in No. 4 siding; but he received no reply to his whistle, and he whistled again. After the second whistle, the pointsman showed him a white light from his hand-lamp, as a signal to proceed forward to the main line; and he accordingly started forward towards the main line, whilst the pointsman held the points which allowed him to leave the siding. He had already reached the main line before he received any warning of the approach of the passenger train. He then heard some one call out to him, and, looking northward, he saw the train about 50 yards from him. He opened his regulator wider, with the view, if possible, of getting his wagons across to the west line out of the way of the passenger train; but before he could do so the passenger engine struck the second and third wagons from the goods engine as already described. One of these, an empty cattle-wagon, was completely destroyed; and the other, a low-sided goods-wagon, was much damaged.

The pointsman who was on duty at the siding points does not remember having heard the driver of the goods engine whistle more than once. On hearing the whistle from that engine, he looked towards the signal-cabin, to see whether any red light was displayed by the signalman at that cabin from his hand-lamp in the usual manner; and seeing no such signal, he showed a white light from his own hand-lamp to the engine-driver, and opened the points to turn him on to the main line. This pointsman appears to have done his duty in the ordinary way, according to the means which he had at his disposal, and the practice under which he ordinarily worked.

The signalman in the junction cabin received from Bootle Lane notice, by means of a gong, of the approach of the passenger train at 9.35 p.m.; and on receiving that notice he looked towards the goods siding. Seeing all clear, apparently, towards the sidings, he lowered his signals for the passenger train to approach; but he forgot, before doing so, to place his hand-lamp on the little shelf outside his cabin, to indicate to the pointsman that the road was blocked from the siding to the main line. He had been using his hand-lamp to make signals in an opposite direction immediately before he received notice of the approach of the passenger train; and he put it down on a small post in his cabin, on which it usually stands, in order to lower the signals for the passenger train, instead

of placing it, as he ought to have done, on the little shelf outside his cabin, with a red light showing towards the siding pointsman. He did not see the engine with the goods-wagons going out of the siding until they were already foul of the down main line; but he then turned his main line signals to danger as quickly as he could; and the guard, as already stated, saw the home signal in time to enable him to apply his break, and thus materially to lessen the shock of the collision.

This accident was caused by an act of forgetfulness on the part of the signalman in the Sandhills Junction cabin. The signalman had been stationed in that cabin, or in the one opposite to it, for four years, and is reported to be a man of excellent character. He could not have made the mistake which led to the accident if he had been provided with those appliances which are absolutely necessary to safety in the working of important junctions and stations, and in the neighbourhood of goods yards, and their communications with passenger lines. The safety points and the points connecting the siding with the main line should obviously be worked from the cabin by the junction signalman himself; and the lever for working them should be so interlocked with the main-line signals that it would be impossible for the signalman to open them for the main line when the signals are lowered for the passage of passenger trains, or, on the other hand, to lower the signals for passenger trains when the siding points are open.

I am happy, however, to be able to state that the directors of the Lancashire and Yorkshire Railway Company have at length authorized a considerable expenditure of money, which is so necessary for the reasonable security of their traffic, at this as well as in other important places; and brick buildings have already made considerable progress on both sides of the line at Sandhills, which are intended to be improved signal cabins, and from which a series of point-levers and signal-handles, interlocked with each other, will, when the system has been completed, be worked. This necessary work will, I am informed, be completed within a couple of months from the present time. And it is also, I believe, intended to add to the siding accommodation, with a view to the shunting being performed in the sidings, independently of the main lines, in place of its being done across the main lines, as on the present occasion, to the delay as well as to the risk of the passenger traffic.

I have, &c.

H. W. TYLER.

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

LANCASHIRE AND YORKSHIRE RAILWAY.

SIR,

Bolton, September 8th 1871.

IN compliance with the instructions contained in your minute of the 1st inst., 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 29th ultimo at the Bolton station on the Lancashire and Yorkshire Railway.

In this case the 12.20 p.m. passenger train from Manchester to Liverpool, came into collision, whilst shunting from the front to the back of the Manchester platform at Bolton, with an engine proceeding from the turn-table over the passenger line at the back of platform, in returning to Manchester.

At the Bolton station the two lines from Liverpool and Preston, and from Blackburn, meet for Manchester. The platform appropriated to the trains from Blackburn is constructed on the segment of a circle, curving from the eastward to the northward.

The main-line platform is also circular, but curving to the westward. There are four lines of rails between the two platforms at the east end of the station. In the middle of the station, the lines from Blackburn on the north, and Liverpool, Preston, and Southport on the west, join each other, and run into these four lines. The southern main line platform east of the junction, is used for trains going either northward towards Blackburn, or westward towards Liverpool and Southport. At the west end of the south main line platform there is a junction between the main line and three sidings, one of which is the turn-table siding, and all of which are on the south of the platform. One of these sidings adjoins the south of the main line platform, and is frequently used as a starting line for trains in the direction of Liverpool and Southport; and in order that such trains may start from that siding, they are, on their arrival at the station from the east, run forward, past the north side,

beyond the platform, and then backed into the south side of it. There is a signal-cabin at the west end of the station, of a commodious character, which has been lately fitted up with a locking-frame, and which contains levers for working the points and signals in its neighbourhood. The points on the west of the main platform, which connect the main line with the three sidings above referred to, are worked from this cabin; and there is a signal on the west of the platform, applying to these three sidings, which is also worked from the cabin.

The 12.20 p.m. passenger train from Manchester for Liverpool left Manchester punctually on the day in question, and reached Bolton, also punctually, at 12.55 p.m., consisting of an engine and tender, five carriages, and a break-van. On reaching Bolton it was drawn up at the west end, and on the north side of the Manchester platform; and the passengers and luggage were exchanged. It could not then proceed westward from the north side of the platform, because it had to be joined, before proceeding westward, by the Rochdale train, which was due to arrive three minutes after it, on the same line of rails. In order that it might get out of the way of, and be joined by, this Rochdale train, it was necessary that it should be sent forward sufficiently far to clear the points above referred to on the west of the main line platform, and should then be shunted back into the siding adjoining and on the south of that platform; and the inspector on duty on the platform accordingly ordered the engine-driver to proceed forward for this purpose. The guard of the train from Manchester leaves it at Bolton, to return with another train to Manchester, and the guard from Rochdale takes charge of the joint train between Bolton and Liverpool; but during the shunting operation at Bolton, a shunter is specially employed to accompany the Manchester train to the west of the platform, and back into the siding south of the platform; and it is the duty of this shunter to apply the break of the train as may be required, and to instruct the engine-driver when his carriages are clear of the points, and when it is right for him to set back into the siding.

The shunter accompanied the train as usual on this occasion. The train went forward round a sharp curve which occurs on the west of the south main line platform, and by which, owing to the high walls on either side of the line, and the numerous bridges over it, the view is much obstructed. He gave a signal to the engine-driver to set back, and he rode back in the van next behind the engine, and applied the break. As the train was setting back to the siding, the shunter caught sight of an engine coming out of the turn-table siding, towards the line on which he was travelling. He had no means of warning the engine-driver, but he began to apply his break, and had got it partly on before the engine from the turn-table came into collision with the third-class carriage which was last in the train.

The engine was not actually pushing the carriages back into the siding at the time of the collision, as it had been uncoupled from them, after moving forward from the north side of the platform, before the train was set back towards the siding; but after the engine had been uncoupled from the carriages, the engine-driver pushed them back for a short distance, and then allowed them to run back by themselves towards the siding, and the engine was seven or eight yards from the carriages when they were struck by the pilot-engine. The driver of the train-engine saw nothing of the pilot-engine coming out from the turn-table, on account of the curve of the line; and he was only able to see that the carriages rebounded towards him when they were struck by the pilot-engine. The carriages were very little damaged, no vehicle having been thrown off the rails, and the spindle only of a buffer having been bent. Out of nearly 100 passengers who were riding in the train, six have, up to the present time, complained of injury.

The shunter who accompanied the Manchester train, had, before starting with it from the north side of the

platform, called out to the signalman in the cabin at let out the pilot-engine from the turn-table siding on the south of the platform; intending that the pilot-engine should proceed from the turn-table siding to a goods line on the north of the line on which the passenger train was standing; and that it should do so before the passenger train proceeded westward to shunt into the siding; but the signalman lowered his signal for the passenger train to proceed westward before turning off the signal applying to the sidings south of the platform, and the train therefore started forward before the goods engine left the siding.

The pilot-engine which was in the turn-table siding, had left Manchester at 11 a.m. with a passenger train; had reached Bolton at 11.35 a.m.; and had, after doing its shunting, been taken into the turn-table siding for the purpose of being turned and made ready for the return journey. The engine-driver, Minto, had been in the turn-table siding for upwards of an hour, when he saw the passenger train arrive from Manchester, and heard the shunter telling the signalman to take off the siding signal, to allow him to leave the siding. He also saw the passenger train proceed westward to shunt back into the platform siding. He states that the shunter said to him, when getting into the van to go westward with the passenger train, "Minto, follow this train out." He therefore waited till the signal applying to the siding was turned off to "all right," and then moved his engine forwards towards the main line. He did not expect, after what the shunter had said to him, that the passenger train would be shunted back until he was clear out of its way. After moving forward, he had just time to reverse his engine and whistle, when he saw the passenger train backing towards him, before the collision occurred. Neither his engine nor his tender was damaged, or thrown off the rails.

The shunter denies, however, that he said to the engine-driver "Minto, follow this train out;" and he asserts that the only instruction which he gave to him was, on the arrival of the train, with the intention that he should get his engine across to the goods line *before* the passenger train went westward, and that he should thus make room for the engine of the passenger train to go to the turn-table.

The signalman who was on duty in the signal-cabin has, unfortunately, since this collision, met with a very serious accident. He has been knocked down by a train in the station, run over, and had one of his arms amputated; and I was not, therefore, able to examine him on the occasion of my inquiry. It appears to have been, and was evidently, his intention, that after the passenger train moved westward from the platform, the engine should come out of the turn-table siding, and get across to the goods line out of its way, before the passenger train was set back into the siding on the south of the platform.

Whether the statement of the engine-driver, or that of the shunter, is correct, there is no further means of ascertaining; but there was clearly a misunderstanding between the shunter and the signalman; and the shunter says, truly enough, that he had nothing to guide him as to when he should set back with the passenger train, except the siding points; and that, seeing those points open for the siding, he concluded that the signalman intended him to set back with his train through them. But those points apply equally to the engine coming out of the sidings, and to the train setting back into the sidings; and the signalman very probably intended, when he moved the points, not to intimate to the shunter that it was time to set his train back, but to allow the engine to get out of the turn-table siding, for which purpose he had turned his spectacle signal at the end of the sidings to "All right."

In order to prevent the possibility of such an accident again occurring, it is desirable,—that a three-armed semaphore signal shall be erected at the end of the sidings, in place of the existing spectacle signal; that a shunting signal (applying to engines or trains shunting back into the station) shall be supplied in a

convenient situation on the west of the main line platform; and that these signals shall be properly interlocked with one another and with the siding points. It will not then be possible for the signalman to let anything out of any one of the three sidings at the same time that a train is shunting back into those sidings, or to allow a train to shunt back into the sidings when any-

one of the three signals is lowered for a train to go out of the sidings.

I have, &c.,
H. W. TYLER,

The Secretary,
Railway Department,
Board of Trade.

LANCASHIRE AND YORKSHIRE RAILWAY.

SIR, *Burnley, 8th September 1871.*

IN compliance with the instructions contained in your minute of the 5th 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, between a pilot-engine and a passenger train, near the Burnley station, on the Lancashire and Yorkshire Railway.

The Burnley station is 46 miles from Liverpool, 6 miles from Accrington, and 10 miles from Todmorden; and the line from Burnley to Todmorden is constructed, with steep gradients and numerous curves, through a very hilly country.

On leaving Burnley, where there is a level portion at the station, 4 chains in length, the gradients rise 1 in 69 for one mile, 1 in 193 for rather less than a mile (76 chains), and 1 in 68 for 2 miles and 30 chains. It is the practice, in the case of heavy excursion trains passing Burnley from Accrington for Yorkshire, to allow them to run through the Burnley station without stopping, and to employ a pilot-engine, sent previously to Burnley for the purpose, to follow them, when required, from a siding at Burnley, and to assist them up the inclines above referred to. The engine so following, usually overtakes the excursion train between Burnley and Towneley (which are three-fourths of a mile apart), and, joining it while in motion, assists it by pushing it up the gradients of 1 in 69, 1 in 193, and 1 in 68, above referred to. As soon as the excursion train arrives at the summit of the last-mentioned gradient of 1 in 68, the pilot engine, being no longer required, drops behind the train, and returns to Burnley or Accrington, as the case may be, leaving the train to pursue its journey, without stopping, towards Yorkshire.

The excursion train now in question, left Liverpool punctually at 7 p.m. on its return journey to Huddersfield, consisting of an engine and tender, 18 carriages, and 2 break-vans. It was accompanied by two guards, one of whom rode in a van in the front, and the other in a van at the tail of the train; and each van was coupled to three carriages, working continuously with it, with Newall's patent breaks. After stopping at Ormskirk and Blackburn, it passed through Accrington at 8.50 p.m. without coming actually to a stand; and, running forward, it passed through the Burnley station at about 20 miles per hour. The engine-driver did his best, indeed, to keep up the speed of the train through Burnley, in order the better to surmount the rising gradients east of Burnley; and he saw, as he passed, the assisting engine in the siding at Burnley, which would, he was aware, follow him from that station, in order to assist him up the heavy gradients referred to. After passing through Burnley, the excursion engine-driver found the speed of his train slacken, after he commenced to ascend the gradient of 1 in 69, from 20 to 12 or 14 miles an hour; and while he was travelling at the latter speed, and at about two-thirds of a mile from Burnley, he felt a shock from the rear, and surmised that the pilot engine, which he knew was following him, had come into collision with his train. He did not consider, however, that anything had happened to prevent his continuing his journey towards Todmorden, where he was next due to stop; and he ran down the falling gradients to Todmorden at a speed of 15 or 16 miles an hour.

The guard in the leading van also felt a shock about two thirds of a mile from Burnley, and knew that it was caused by the pilot-engine; but he looked out of his van along both sides of the train without being able to see that anything was the matter with the carriages; and he did not therefore apply his breaks before reaching Todmorden. The guard in the hind van was looking out, expecting the pilot-engine to come up to the rear of his van, and saw it approaching. It appeared to him to be travelling at considerable speed until it approached to within about 30 yards of his van; and he then thought that the pilot engine-driver shut off his steam and slackened his speed. It next appeared to this guard that the driver reapplied his steam, increased his speed, and came against the break-van with a considerable shock; and, seeing that the shock was coming, he jammed himself in between the break-wheel and the end of his van, the better to receive it. He was thrown, first forward against the van end, and then backward against the break-wheel; and his hand-lamp having been put out by the shock, and thrown off the foot-board of the van, he proceeded to seek for it in the dark. When he recovered it, he found that the lamp-wick had been knocked down in the socket, and he had therefore some difficulty in re-lighting it. On looking out at both sides of his van, he could see nothing wrong with the train; and he did not apply his breaks until he reached the summit of the incline, $4\frac{1}{2}$ miles from Burnley; but he then turned them on to see whether the couplings were complete throughout the train. The carriages appeared to him to be all connected together, and he kept his breaks slightly applied until the train was brought to a stand at Todmorden.

On reaching Todmorden, he made an examination of the train, and found that the draw-bars of two carriages near the middle of it, had been pulled out by the shock of the collision, but that the carriages were still coupled together by their side-chains. He also found that two of the screw-couplings had been fractured, and that one of them had been jerked off the hook of the draw-bar. The body of the van in which he was riding had been shifted slightly on its framing, and the buffers behind his van were slightly damaged. Out of about 700 passengers who were riding in the train, four have, up to the present time, complained of injury.

The pilot-engine, which came thus into collision with the excursion train, left Accrington about 7.45 p.m. the same evening for Burnley, for the special purpose of assisting excursion trains up the Burnley incline. The engine-driver had performed the same duty on previous occasions, and he was an experienced servant of the company, having been 10 years on the line, and having acted as engine-driver for three years. After leaving Accrington at 7.45 this engine-driver found, in passing Rose Grove, $1\frac{1}{2}$ miles west of Burnley, that there was an excursion train ahead of him. He joined that train immediately after passing Rose Grove, and assisted it to Burnley, and through that station, and up the incline beyond it, as far as Copsy Pit siding, on the summit of the Burnley inclines. Being no longer required for that excursion train, he returned to Burnley, and went with his engine into the siding at that station, to wait for the excursion train now specially under consideration, which he knew was due to leave Liverpool