

The  
**VIRTUAL MUSEUM**  
of the  
**LANCASHIRE & YORKSHIRE RAILWAY**

Accident Reports.

30 October 1876

BoT Report into Accident at  
Brierfield.

(3 Pages).

## LANCASHIRE AND YORKSHIRE RAILWAY.

Board of Trade,  
(Railway Department),  
Whitehall, 8th November 1876.

SIR,

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 1st instant, the result of my inquiry into the circumstances connected with the collision which occurred on the 30th ultimo, at Brierfield station, near Burnley, on the Lancashire and Yorkshire Railway.

In this case the 3 p.m. cattle train (running only on Mondays) from Skipton to Salford was run into by the 6.45 p.m. passenger train from Colne to Manchester.

Two butchers who were travelling in the van of the cattle train were killed on the spot; a third was so seriously injured that he died on the 4th instant; and two others were more or less injured.

In the passenger train, nine passengers were injured, though none, it is hoped, seriously. The driver and fireman of the passenger train were severely shaken.

In the cattle train the van was completely demolished, and 4 waggons badly damaged, 12 beasts being killed.

In the passenger train the engine had its smoke-box end stove in, its funnel knocked off, and its buffers and buffer-beam broken; but there was no damage to the tender or carriages.

Brierfield is the first station north of Burnley, on the line between Burnley and Colne, the station next north of it being Nelson, distant one mile. There are sidings on both sides of the station, the point and signal levers having been all recently concentrated and interlocked in a new raised cabin, situated at the Burnley end of the down platform, close to the level crossing of a public road, the gates of which are worked from the cabin. The level crossing is a very wide one, extending over two lines of rail and a warehouse siding. The only signals to which it will be necessary to refer in this report are the down home and down distant-signals. The down home-signal is 270 yards from the signal-cabin, and on the Nelson side of it; and, on account of a curve, a cutting and an over-bridge (called a tunnel) 70 yards in length, is visible to an approaching driver for a distance of only 220 yards, i.e. from a point 10 yards inside the tunnel mouth. The down distant-signal is about 900 yards from the cabin, from which it cannot be seen. It is now electrically repeated. It is visible from Nelson station. This signal is a new one, and has been only in use about a month, when it replaced an old one about half the distance out. The electrical repeater was not, however, in operation at the time of the collision, and was brought into use (together with other telegraphic arrangements for working the block system) only on the 4th instant. The line rises from Nelson towards Brierfield on a gradient of 1 in 660, which terminates 15 yards on the Brierfield side of the tunnel, when it commences to fall towards the station on a gradient of 1 in 330.

The collision occurred at a point 70 yards on the Nelson side of the home signal, or 140 yards from the tunnel mouth, where the van of the cattle train was standing, it having been possible for the driver to see this van from a point 25 yards from the tunnel mouth, or for a distance of 165 yards.

The block system was not in force at the time of the collision, but preparations have been for some time in progress for establishing it over this part of the line, and it will be very shortly in operation, the signalman being now engaged in practising with the instruments.

The following is the evidence bearing on the collision.

1. *Thomas Lyon*, signalman about one month at 38474.

Brierfield, previously goods porter about four months, some time before this in the service as a permanent-way man.—I was working under another signalman for a fortnight before I took charge myself. The new cabin was first brought into use about a month since. The electric repeater of the down distant-signal was put into working order only on Saturday last, the 4th instant; before that I could not tell whether this distant-signal was working or not. I came on duty at 6 p.m. on the 30th ult. for 12 hours. The cattle train arrived at 6.45 p.m. I had lowered my distant and home signals for it to come in. I put back the distant-signal lever when the train had reached the tunnel, and my home-signal as soon as it had passed inside it. I had lowered the distant-signal once before this for a passenger train due at 6 o'clock, and had put back the lever as soon as this train had passed. I had received no instructions with regard to shunting the cattle train from the station-master. The driver drew down to the cabin, and said he had three waggons to leave; and I said, "If you're sharp we can just manage, as there is about 12 minutes." There were passenger trains due both ways, one at 6.55 and another at 7.4, and there was no room in the sidings to hold the train. The three waggons were in two different places, and the driver had finished shunting, (during which operation the down signal-levers had been necessarily in the position of danger, as the crossing-points, No. 12 lever, were open,) and was just about re-joining his train, when the collision took place, at 6.57. I heard the passenger train coming, and thought there seemed too much speed on it. I had closed No. 12 points a minute or two before the collision. I heard a break-whistle just before it. I was told, after the collision, that the down distant-signal was off, and it was then thought that the defect was at the post. I had not heard of this distant-signal working badly before the collision; but I heard of its failing last Thursday, owing to the wire sticking in the pulleys. On Monday last it did not work properly, but it was probably due to the wire not being in adjustment. It has not failed since. The telegraph instruments were not in working order, though fixed on the day of the collision. We began practising with the bells some day last week. I did not see the driver and fireman at the time of the collision. I heard the beat of the cattle train somewhere above Nelson station, and accordingly lowered my signals before the driver whistled for them.

2. *Arthur Bentley*, station master at Brierfield seven months, previously station master at Broadley about 18 months.—I was standing near the down home-signal when the cattle train arrived, and was present on the ground when the shunting was going on. I felt myself justified in allowing this train to shunt, as there was a margin of 10 minutes, within which time I thought the work might have been done. The train being a special cattle train took it, according to my idea, out of the provisions of the 2nd clause of Rule 83.\*

\* 83. Every endeavour, consistent with safety, must be made to expedite the departure of goods trains from the roadside stations, and no delay should be permitted, unless obstruction to passenger trains may be reasonably apprehended. As a rule, passenger trains are to take precedence of cattle, goods, mineral, or ballast trains; waggons of fish and other perishable goods, and cattle, or quick goods trains, must have preference over ordinary goods trains; goods trains must have preference over mineral and ballast trains; and no cattle, goods, mineral, or ballast trains must be started from any station when passenger trains are due. This regulation, however, will be subject to modification, agreeably to the circumstances of the trains, the state of the weather, the weight of the load, and the character of the engine. Thus, a light through cattle or goods train, on a clear day or night, with a good engine, may be started before a passenger train which is due, should the latter have to stop at all the stations. Again, if from facts which may come to the knowledge of the station-master, by means of the telegraph or otherwise, the passenger train which is due may not be expected for some time, the station-master will be justified in despatching the goods train, taking care, in this case, specially to warn the engine-man of the passenger train, when it arrives, informing him the precise time when the goods train was despatched, and where next ordered to stop and shunt; but if a goods or mineral train should not be more than 10 minutes in advance of a passenger train subject to the foregoing modification, it must be shunted into the nearest siding, to allow the passenger train to pass.

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There was no room to hold this train in the sidings, and the only alternative would have been to put it on the up road, and there a train was due at 7.4, which would have left a margin of only nine minutes after the departure of the down train. No time was lost in making the necessary shunts (three in number). I was close to the scene of the collision, and I did not see the passenger train nor hear the break whistle till just before it happened. The speed was quick, but not more so than usual. Shortly after the collision I asked the driver how he found the signals; and he said the distant-signal was off, showing a clear white light, which the fireman also maintained. I did not myself go back to see the signal, but I sent back guard Broughton to protect his train, and a messenger to Nelson to stop the down traffic. Before this, to my knowledge, the new distant-signal had not failed; but since the collision I heard on November 1st, about 11.30 p.m., driver Forrer complain about the distant-signal showing a white light, although the arm was at danger, the home-signal being on at the time. On this same night previously pointsman Latham and myself had been to the signal, and oiled and cleaned it. It was then working properly. After this complaint I went up with ganger Whiteside, and found that the distant-signal was in proper working order. The same time the following night the same driver complained that the down home-signal was off, and the distant-signal on; and I found that the home-signal had not enough weight on it, and was not working properly. On the morning of the 2nd, at about 9 o'clock, Whiteside told me that the wire of the distant-signal had stuck in one of the pulleys, which had kept the signal off, when it ought to have been at danger,—the driver of the 8.51 train having complained of the signal being a doubtful one. This last complaint caused the pulleys to be examined and altered. Last Monday I found the signal again not working properly, as indicated by the electric repeater, which had been just fixed; that was due to want of adjustment, and it is now working properly. The sidings were all full on the evening of the 30th ultimo, but occasionally there is plenty of room. There is no siding here which will hold a train of 30 waggons.

3. *John Unsworth*, driver 10 years.—I was coming from Skipton with the 3 p.m. Monday cattle train for Salford. I left Skipton at 5.45 p.m., having been kept waiting for a train off the Midland line. I stopped last at Colne (three miles distant), and left it at 6.35 with 33 loaded cattle waggons and a break-van. When I came in sight of the Brierfield distant-signal it was off, and the home-signal also. I stopped beside the cross-over road, knowing that I had some waggons to leave. I had only two shunts to make, and no time was lost in making them, and I was just hooked on and had given my engine steam when the collision occurred; it took me quite unawares. I was pushed forward 40 or 50 yards. The train broke in one place. I went on to Burnley for assistance, and on returning saw the driver of the passenger train, who said that the distant-signal was off when he passed it. I have passed the new distant-signal three times in all, and it has then been working properly.

4. *Thomas Hamer*, goods guard 6 years.—I left Skipton at 5.45 in charge of the 3 p.m. cattle train, with perhaps 12 or 14 drovers and butchers (I knew them all by sight) in the break-van, which is fitted up for passengers. We took on one waggon of cattle at Colne, and another butcher with them,—one of those killed. We left Colne at about 6.30 with 33 loaded cattle waggons and a break-van. Nothing passed about our remaining at Colne till the passenger train had left. We did not stop at Nelson. The Brierfield distant signal showed a white light. I did not notice the home signal. The driver knew we had to leave waggons at Brierfield, and we stopped near the crossing, the van of the train being 70 yards outside the home signal. No time was lost in making two

shunts, and the collision occurred seven minutes after we arrived. I was between the waggons, coupling up, when I heard the passenger train coming through the tunnel. I finished coupling, got out, and gave the driver a signal to start, when I heard the break whistle, and immediately afterwards the collision. I was coupling between the eleventh and twelfth waggons from the engine. The van and three waggons were smashed. About four of the drovers jumped out, and escaped injury. I went back to Nelson to protect my train, and on returning saw the driver of the passenger train, who said the distant signal had been off for him. I saw that this distant signal was showing a full white light as I came back from Nelson. The wreck of my train was then on the wire.

5. *James Clough*, driver about 11 years.—I started from Colne with the 6.45 p.m. passenger train for Manchester. We were three minutes late starting, waiting for the Midland train due at Skipton at 6.35. My engine was a six-wheeled four-coupled engine and tender with 5½-feet coupled wheels, cylinders 17" × 24". There was no break on the engine, only on the tender, which has six wheels. I was running engine first. Fireman Jackson was alone with me on the engine. My train consisted of ten vehicles. I stopped at Nelson, and we were still about three minutes late leaving it. The night was very clear and moonlight. I had not to whistle for the Brierfield distant-signal, which was off when I sighted it from close to Nelson station (about half a mile off). I saw the light first, and then the arm, which was right in the post; it was not at all a doubtful signal. My speed on passing it was about 20 miles an hour. I had passed this new signal only once before, viz., the same morning, and it was then working properly. I shut off steam on entering the tunnel, the usual place for stopping at the station; and just on getting to the tunnel mouth I saw the three van lights of the special train. I at once reversed, got steam against the engine, and whistled twice for the breaks. My fireman was at his break, but I don't know whether he got it on. I could not say whether the guard got his break on. The speed had diminished very little before we struck. We neither of us jumped off, and the blow did not feel so very heavy. I lost my hold of the reversing lever and regulator, and fell back. I was not seriously hurt, but am still off duty. I am not in the habit of whistling at the whistle board near the distant signal, as there have been so many complaints about whistling.

6. *William Jackson*, fireman 3½ years.—I work regularly with Clough. We stopped at Nelson after leaving Colne. We had not to whistle for the Brierfield distant-signal, which was off when we sighted it, soon after leaving Nelson. We passed it at a speed of about 20 miles an hour. We did not whistle at the whistle board, it not being the custom to do so by night, as it is intended to give warning for the level crossing. The driver shut off steam about the entrance of the tunnel; we both saw at the same time the red lights of the cattle train just as we emerged from the tunnel. I had time to apply my break a little, and then we struck. I was knocked about, but am not much the worse now. I have not yet returned to duty. The speed was not much reduced. The driver tried to reverse, and gave the break whistle twice. I did not notice the arm of the distant signal so much as the light, which was a very clear white one.

7. *Stephen Broughton*, passenger guard nine years.—I left Colne at 6.49 p.m., four minutes late, detained by the Midland train being late. The train consisted of 10 vehicles, including two vans. I was travelling in the front van, the only guard. I had three carriages coupled to the van with Newhall's breaks. I left Nelson at 6.55, five minutes late, having lost a minute. I did not hear the driver whistle for the Brierfield distant signal, and I did not see this signal, as I was

busy with my parcels. The collision took me unawares. I had heard no break whistle till just as we struck. I was at my break, having gone to it at the entrance of the tunnel for the ordinary station stop. The speed then was about 20 miles an hour. I was a bit shaken, but have not had to leave work. There was no damage to the van or carriages. The collision occurred about 6.58, the train being due to leave Brierfield at 6.55.

8. *Richard Whiteside*, foreman platelayer from Brierfield towards Burnley for  $1\frac{1}{2}$  miles.—After the collision I went through the tunnel, and saw by its back-light that the Brierfield distant-signal was not at "danger." I found this was owing to the wreck of the train lying on the wire, and I cut the wire in consequence. Some days afterwards my brother told me that he found the distant-signal wire striking between a pulley and its sheave.

9. *Joseph Whiteside*, platelayer.—On Thursday last, in consequence of the complaint of driver Chandley that the Brierfield down distant-signal was neither off nor on, pointsman Latham and I examined the wire, and we found the wire jammed between the pulley and bracket in one place under the platform. On pulling it out the signal worked all right. I had not seen the signal before examining the wire.

10. *James Oram*, signal-fitter, in the employment of Messrs. Saxby and Farmer.—I have been in charge of the new work at Brierfield station. I have had my attention drawn to the distant-signal not working properly. Two or three dozen pulleys of a different description from the usual ones had been fixed in doing the work, the small ones being  $\frac{7}{16}$  inch thick, and the proper ones  $\frac{1}{2}$  inch thick, the jaw of the brackets being  $\frac{3}{4}$  inch wide. I had not noticed that these pulleys were so small as to allow the wire ( $\frac{1}{2}$  inch) to jam between the bracket and the pulley. I did not see the jamming of the wire last Thursday. The small pulleys have now all been replaced by proper ones.

11. *Herbert Quinny*, signalman on duty at goods-yard cabin, Nelson.—I have frequently noticed the working of the Brierfield distant-signal. I have seen it pulled off and go on. As far as I have seen the signal it has worked properly. I did not notice the signal on the evening of the collision until after the tail-lights of the passenger train disappeared from my view, when I noticed that the signal remained off.

*Mr. Johnson*, Messrs. Saxby and Farmer's district superintendent, informed me that the small pulleys had been cast for a special purpose, and had been sent from London improperly mixed up with the larger ones; that the pulleys are now being examined at all the places where new work has been recently done, and altered if necessary.

There was a sharp frost on the evening of the collision after a warm day.

This collision, which resulted in such fatal consequences, is to be primarily attributed to a failure in the working of the Brierfield down distant-signal, which there is good reason to believe was showing "all right" to the driver of the passenger train, although it ought to have been at "danger" according to the position of the lever in the locking-frame. The signalman on duty is not to be blamed for this, as he could not see the back light of this distant-signal, and had not at the time any means of knowing (by the electric repeater since fixed) how the signal was

working. It is not possible to fix the precise cause of the signal failing. If it was really *completely* off, as stated by the driver, fireman, and the Nelson goods-yard signalman, the failure was most likely caused by the wire having become jammed (as actually occurred a few days afterwards) between one of the (too small) pulleys and its frame. If *not completely* off, the failure might have been owing to the contraction of the wire from the contraction of the temperature on a frosty evening after a warm day.

The failure of the distant-signal shows how important it is that every signal out of sight of the signalman should be supplied with a trustworthy means of informing him whether the signal acts in accordance with the lever working it.

The fixing of the pulleys too small for the frames they worked in betokens want of proper care both on the part of the fitter superintending the work at Brierly and on the part of the person who issued these pulleys from the factory in London.

Though the driver of the passenger train was, of course, misled by finding the Brierfield distant-signal off for him, and was justified in concluding that the road was clear for him at any rate up to the home-signal, I do not think he is free from blame in having approached a station where the sight is so obstructed, at so high a speed as to have struck the van of the cattle train standing only 70 yards outside the home-signal, at a speed of some 20 miles an hour.

There was want of judgment on the part of the Brierfield station-master in allowing the cattle train to commence shunting when there was a margin of only 10 minutes between its arrival and the time of departure of the passenger train. Though there was not sufficient siding accommodation to have put the cattle train out of the way, he could have had it moved forward to the cross-over road on the Burnley side of the station, and have then been guided by circumstances as to what to have done with it; as it was, the passenger train would have been delayed some five minutes had it been punctual, and had no collision occurred.

It is almost needless to observe that had the block-system been in operation the collision would have been prevented.

Its effects would also have been much mitigated had the continuous breaks been under the driver's control.

For many years past the memorandum of requirements, issued from time to time by the Board of Trade to railway companies, has contained the following (among other) precautions recommended in the working of railways, viz.: "When drivers or other persons are permitted to travel with goods or cattle trains, suitable vehicles should be provided for their accommodation near the front of such trains." Had this precaution been attended to in the present instance, the fatal consequences of this collision would in all probability have been avoided.

I understand that the Company obtained powers in 1875 for acquiring additional land at Brierfield for the purpose of improving the goods accommodation. No unnecessary time should be lost in providing this increased accommodation, in order that, so far as possible, the necessity of shunting on the main line may be avoided; and, in so doing, the opportunity should be taken for widening the up-platform, which is now far too narrow, and for removing the warehouse siding from the level-crossing.

I have, &c.,

C. S. HUTCHINSON,  
Colonel, R.E.

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

Printed copies of the above report were sent to the Company on the 28th November.