

Appendix No. 8.
Hull and Selby
Railway.
(Accident of 21st
February.)

been an engine-driver about a fortnight." The resident engineer says, "Bulman is a clever and intelligent man, and we seldom meet with so efficient a driver." Mr. Locking, inquired of Mr. Cabrey, whether the engine, No. 63, from its construction, did not run particularly steady. Mr. Cabrey replied in the affirmative. It has been stated on good authority that that the engine, No. 63, rocks very much and is very unsteady, especially when going fast. Sharp, who drove it, said, "The first intimation I had of the accident was, that my engine gave a bit of a click and jumped off the line." The engineer stated that Sharp was about to leave them, and was going on the London and Brighton line, because the salaries were better. It has also been remarked, that when this line first came under the management of the York and North Midland Company, the engine-drivers all left because their salaries were reduced, and they have since been employed on the London and Birmingham line. Mr. Cabrey stated that one of the rails was very much bent; evidence can be brought to shew that a portion of one of the rails was very much bent, and that when observed some little time after, it had been straightened. As to speed, Bulman says, "We were going at the rate of from 35 to 40 miles an hour." Sharp says, "I believe our speed was at the rate of 35 miles an hour: we were going about the regular speed." Mr. Spicer, the only passenger examined, says, "I thought we were going at a very quick rate; I have travelled before with the London express train, and I thought we were going at a greater speed than on other occasions. I attribute the accident to the speed and the curve in the line." William Harvatt, in the employ of Mr. Cussons, bookseller, who was a passenger, if examined, can give some valuable information regarding the speed. He has been in the habit of travelling frequently by trains, and has amused himself often in counting between the posts of the telegraph: he usually counted up to 20; on the night of the accident, thinking they were going unusually fast, he began to count and could reach only to eight. He could also depose that the train started out of the yard at a great speed, not increasing it by degrees as is invariably the case.

The coroner has been blamed for not adjourning the inquest, as no evidence had been given before him to account in any way for the accident: he puts out of the question the evidence of the only passenger examined, and contents himself with paying compliments to the secretary upon the excellent management displayed, and the experience and high qualifications of the engine-drivers.

Hull, February 22, 1847.

MEMORANDA respecting the Train, which left Hull at 6 P.M. on Sunday evening, Feb. 21.

The particulars of the train are as under:—

Kingston engine and tender in front; No. 63, engine and tender.

Carriages, &c., viz.—

1. York and North Midland van, fish for Leeds.
2. Waggon with fish for Manchester, &c., York and North Midland, 526.
3. Ditto ditto ditto (25) 392.
4. Ditto ditto ditto for London, Midland, 2237.
5. First class for London, &c. No. 15, York and North Midland.
6. Composite for Manchester, Manchester and Leeds, No. 116.
7. Third class for Leeds, York and North Midland, No. 3.
8. Second ditto Hull and Selby, No. 2, mail.
9. Second ditto York and North Midland, No. 16.
10. First ditto Ditto ditto No. 33.
11. Composite for York Ditto ditto No. 30.
12. Third class ditto Ditto ditto No. 4.
13. Waggon with fish for ditto ditto No. 297.

Appendix No. 9.

The Preston and
Wyre and Lan-
caster and Preston
Railways.
(Collision of 16th
March, 1847.)

APPENDIX No. 9.

THE PRESTON AND WYRE AND LANCASTER AND PRESTON RAILWAYS—(Collision of 16th March, 1847.)

29, Great George-street, Westminster,
April 17, 1847.

SIR,

I HAVE to report, for the information of the Commissioners, that in pursuance of my instructions, I proceeded on the 3rd instant, to Preston, to enquire into the circumstances attending a collision which occurred on the 16th of March, at the crossing on the level of the Preston and Wyre, and the Lancaster and Preston Railways, at Preston.

The circumstances were as follow. A train of cattle belonging to the Lancaster and Carlisle Railway Company, was proceeding southwards, and had arrived within about 70 yards of the crossing, when an engine driven by a lad in the employment of the Preston and Wyre Company, came out of their station, and stopped exactly on the crossing preparatory to backing into a siding in the station, he had not time to set his engine in motion again, before he was run into by the Carlisle train; that train was proceeding at a slow pace, the collision was not violent, and no person received any injury, but both engines were much damaged.

I annex the minutes of evidence which I took at Preston, and I also transcribe the description of the spot, as given in a report I made on the 28th of August, 1845, upon a similar collision which occurred there.

EXTRACT.

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2ndly. *The dangerous nature of this crossing.*—"On proceeding to the spot I found that the lines crossed each other in a cutting; that, except at the actual crossing, neither line can see 100 yards of the other; that, both lines are on curves.

Standing at the crossing, and looking north, towards Lancaster, there is a bridge 58 yards off, under the arch of which you see the line curve off to the right, the cutting is about 20 feet deep, and at the most salient point is a coal store, with loaded waggons at it which restrict the view to 320 yards. Looking east, a bank hides the station, which is only 130 yards off, and the line is not seen more than 50 yards. Looking west towards Fleetwood, the view is entirely obstructed by a bridge at the distance of 230 yards, and looking south, the line winds through the town of Preston, and a train is first perceived by the steam between the houses."

I also stated in that Report, that additional precautions were absolutely necessary to the public safety.

The precautions adopted by the companies have been the erection of a fixed signal post, with semaphore arm, which when extended, closes the line from Lancaster; and the appointment of a signal-man to the exclusive charge of that crossing; the duties of points-man, which were previously combined with it, having been separated and given to another person. Up to the 16th ultimo, this arrangement has been sufficient to provide for the public safety, but the recent collision shows still further precaution to be necessary.

A perusal of the evidence shows the following facts.

1st. The engine-house of the Preston and Wyre Company is situated so near to the crossing of the two lines, that it is necessary in removing one engine to make way for another, to enter on the main line of the Lancaster and Preston Railway.

2ndly. That if the signal-man remains in a given spot, beside his signal post, he can see sufficiently to stop the different trains in time, but that if he moves but a dozen yards on either side of the line, he loses his view of the line. On this occasion he had crossed from one side of the line to the other, and the collision was the consequence.

It would be difficult to pronounce this a dereliction of duty, as there was no train due at the time, and that the cattle train from the north, which is only an occasional train, varies in its arrival as much as three hours.

I conceive it would be very difficult for any company to procure a servant on whom they could rely to remain fixed to one spot for hours together when there might be no claims upon his attention.

Under these circumstances I conceive that a different arrangement of the signals is required.

That the signal post should be provided with arms and lamps, sufficient to apply to both the railways.

That these arms should remain constantly extended, or lights exhibited so as to stop all trains arriving from whatever direction, until by altering the signal for one particular line, it is pronounced clear, the other remaining closed.

The engine drivers should be instructed to approach this crossing at such rate as will enable them to stop before reaching it, should the signal not be moved to pass them as they come up.

If this arrangement be followed, even should the attention of the signal man be otherwise directed, the public safety will be provided for. This is the system adopted at the junction of the Brighton and Croydon lines near Croydon; at the Junction of the Ely and Peterboro', with the Northern and Eastern, near Ely; and several other places, and is found to work successfully.

I have, &c.,

J. CODDINGTON, *Capt. Royal Engineers,*
Inspector of Railways.

Hon. F. W. A. Bruce,
&c. &c.

Preston, April 3, 1847.

INQUIRY into the COLLISION which occurred on the 16th March, at the crossing of the Lancaster and Preston and the Preston and Wyre Railways.

Present:—

Mr. CHAPMAN, Secretary to the North Union.

Mr. BOLDEN, Secretary to Lancaster and Carlisle.

Mr. GREGSON, Clerk to Lancaster Canal Company.

Mr. BIDDER, Engineer to Preston and Wyre.

Mr. WORTHINGTON, Resident-engineer to Lancaster and Carlisle.

Mr. COULTHARD, Engineer to North Union.

Mr. PROCTER, &c., &c.

The collision occurred at about 2 P.M. by a cattle train of the Lancaster and Carlisle Company, while proceeding south, running against an engine of the Preston and Wyre Company, which was in the act of passing over the crossing coming out of the Maudland station.

Both engines were overset, and nearly knocked to pieces; the drivers escaped by getting on the tenders.

Charles Hodges, an engine-driver, in the service of the Lancaster and Carlisle Railway

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Company.—Has been a driver about three months, and was previously an extra engine-man and fireman on the London and Brighton for 2½ years.

I had a train, consisting of 34 waggons of cattle and sheep, to take up at Penrith, on the 16th March, with the exception of ascending Shap incline, when I got an assistant engine; my engine drew the train; we went all safely till we reached the Fleetwood crossing; I blew my whistle when within half a mile of the crossing, and again at the viaduct; the whistle remained open till I saw the signal post; there was nothing displayed, which means all right. I had shut off my steam when I began to whistle; when I saw all right I eased the tender brake to let the train on. I saw the signal man standing on the east side of the line; he made no signal to stop; at that time the line was clear, and just as I was passing under the bridge, about 70 yards from the crossing; I saw an engine slowly enter on the line in front of me; it was coming out of Maudland station; I immediately sounded my whistle sharply, reversed the engine, and put on the steam, at the same time waving my hand to the other driver to pass out of the way. I saw him reverse his engine, but it stopped on the line, and we ran into it.

There were two breaksmen, and the fireman of my train, to stop it. It would require 150 yards to stop such a train at the rate we were going (some 3, 4, or 5 miles an hour).

My orders, with regard to that crossing are, not to approach it quicker than 10 miles an hour. The signal at the station is a post with moveable arm, my instructions with regard to it are, to stop if the arm be extended, and to go on slowly if it be not.

If the signal man shows a white flag in addition, we may go as quickly as we please, but must go slowly again a little farther on, crossing Dock-street.

The white flag was not shown me on the 16th, but I saw the man standing before me, after which I lost sight of him again, he appeared to have gone towards the Maudland station.

The cattle trains are timed regularly, like passenger trains, but the time is not so well kept; detentions arise sometimes from cattle not being loaded at the stations in readiness.

I conceive I was a little before my time at Preston, on the 16th, that is to say: I am allowed one hour and thirteen minutes from Lancaster, and I did it up to the collision in one hour and six or seven minutes.

I have not been accustomed to the semaphore signal before joining this line. I have seen them, and know their meaning.

When I first saw the signal-man I was about half way between the viaduct and the bridge.

James Pearson, a fireman in the service of the Lancaster and Carlisle Company; I was with the cattle train on the 16th March; on approaching the Fleetwood crossing the driver sounded his whistle at the bridge over the line, about half a mile off; he sounded it a second and a third time, giving each time a long loud whistle; we saw the signals "all right," and just as we were coming to the bridge at the station, we saw an engine coming slowly out of the Maudland station and stop on the line; we had no chance to avoid it, we were so close, but if a signal had been made to us 100 yards further back we might have stopped, we were going so slowly, not faster than I could walk. The signal man generally shows a white flag in addition to the fixed signal, but I did not observe it that time; I saw the man, he was standing about midway between the boxes; we were then between the coal waggons and the bridge.

William Brooke.—I was one of the brakemen with the cattle-train on the 16th March. I was about 16 or 17 waggons from the engine, as is customary; as soon as the driver began whistling I began to apply the brakes. I had two pinned down, and was going to pin a third when the collision took place. The driver whistled three times; that train commencing about the bridge half a mile from the crossing, the second whistle was about crossing the canal bridge.

Robert Dunderdale, a cleaner in the engine shed at the Maudland station, in the service of the Preston and Wyre Company.—I remember the 16th March. I was cleaning the engine "Thomas Clifton," which was standing in the engine shed, nearest the entrance. The fireman of a goods' engine behind me told me to take my engine out to make way for him to go on his duty, I looked to the signal man, who was standing about 30 yards from his post, and on the side of the line nearest to me, and opposite from his post. I proceeded on; he did nothing to prevent me, or show danger. It is necessary, in order to pass the points and get on another line, so as to allow the goods' engine to pass out, that any engine should go on to the crossing of the Lancaster and Preston Railway. I had intended to cross the line entirely, but the brakeman called to me to go back up the siding, so I was going gently and stopped on the crossing preparatory to backing in; at that moment the Carlisle engine was coming under the bridge (70 yards off) I immediately reversed my engine and put on full steam to get back out of the way; but before I could get clear was run into. There was no one on the engine besides myself. I have never driven a train but have shifted an engine in the station in a similar manner, several times before. I am 18 years of age. I have been as fireman with a driver. In answer to a question from Mr. Higgins. I was 18 on 26th March.

The signal man appeared to be talking with two breaksmen when I saw him.

When the Carlisle engine appeared under the bridge he waved his hand and cried out to me to stop, and then to go on.

The danger signal is a red flag, which he displays to stop an engine, he did not show it as I was going out.

I am about 13 or 14 months in the service of the Company, and was a factory boy before that.

James Martin, a pointsman on the Preston and Wyre Railway.—My station is on the Preston side of the crossing of the two lines, I was standing near my points, on the Maudland side; I saw the engine come out of the shed, the signal man and two or three others were standing near me, I heard one of them say, "Tom," (the name of the signal man) "there is a train coming." The boy on the engine was then shouted to to stop. I immediately after heard a whistle, and saw the train come through the bridge, and in an instant the collision occurred; it was the first whistle I had heard, the signal man had not any signals in his hands when he was standing near me.

Thomas Carter, signal man at the Maudland crossing, in the service of the Lancaster Canal Co.—I remember the 16th March, I had just passed some goods-waggons, from the North Union into the Maudland Station over the crossing, and was looking at some men who were shifting the goods. I was then about six yards from the main line on the Maudland side; I saw the lad on the engine coming out; when he got opposite me, I shouted out to him to hold on with that engine, for I believed the Carlisle train was coming. I then ran on to the crossing, when I saw the train about 50 yards beyond the bridge; I waved my hand to the driver; I saw him apply his brake. At this time the lad's engine was on the crossing, the lad was in the tender at the brake, the engine did not move. The driver of the train sounded his whistle in passing under the bridge; it was the first whistle I heard.

I have been about 18 months in charge of that crossing. I have a white and a red flag (hand), lamps for night, and a fixed signal, consisting of a post with an arm.

The permanent position of the signal, is with the arm down, which means all clear; when anything is crossing into or out of the Maudland station, I raise the arm, which closes the line from Lancaster. I raise the arm for an engine and four carriages, but not for an engine alone. Single engines pass and repass frequently in the day.

I use my hand-flag to keep the line clear for the Lancaster trains.

I first knew that the Lancaster train was coming, by hearing the beat of the engine; I was not told by any one, but several folks heard it the same as I did, and called to him. I think he might have stopped sooner than he did, if he had tried. I think so, from the rate he was going, not above a mile an hour, and he had a lever break; but the boy was frightened, and had not strength.

If the driver of the Carlisle cattle train had blown his whistle at the proper time, I could have stopped him 300 yards off; I knew it was due that day, but it sometimes varies as much as three hours.

If I had been on the other side of the line at the moment, I might have seen the Carlisle train sooner, but I had no reason to expect it at that moment, it is so irregular.

If two trains of the different Companies were to approach the crossing at the same time, I would allow the train from Lancaster to pass, and stop the one going to Maudland; that station is only used for goods. I would stop a goods train five minutes before the Lancaster train were due, and retain it till they were passed.

I have a book of instructions; I got it with my flags on appointment.

APPENDIX No. 10.

EDINBURGH, LEITH, AND GRANTON RAILWAY.

SIR,

16th April, 1847.

I HAVE to report, for the information of the Commissioners of Railways, that on Saturday last, the 10th instant, I inspected the Edinburgh, Leith, and Granton Railway prior to its being opened for traffic with locomotive engines.

The notices given by the company bear date the 5th December, 1846, and 4th March, 1847, respectively.

I was accompanied over the line by Mr. Sandford, the chairman; Mr. Field, the secretary; Mr. Grainger, the engineer; Lord Borradaile, and several other gentlemen.

The line commences in the city of Edinburgh, in Princes-street Gardens, at a station adjacent to and forming a connexion with the Edinburgh and Glasgow Railway. Its course is northerly, until it reaches near to the south shore of the Firth of Forth, opposite Trinity Suspension Pier, a distance of 1 mile 74 chains. It then turns westerly along the shore to Granton Pier, a distance of 69 chains.

A branch to Leith leaves the main line at one mile from the Edinburgh terminus, and proceeds north-east to the docks, a distance of 1 mile 18 chains. The total length of the railway is four miles.

Gradients.—After a short level portion of 4·8 chains in the Edinburgh station, the line descends at 1 in 27½ through a tunnel under the New Town of Edinburgh. (This plane is to be worked by a stationary engine.) The gradients are then moderate to Trinity, but severe (1 in 100) from thence to Granton. On the Leith branch they are also severe, varying between 1 in 117 and 1 in 170.

Curves.—Extremely sharp. One curve in the Edinburgh station has only eight chains radius, and another at Trinity 7½, and there is no curve on the main line of a greater radius than 16 chains.

The junction curve of the Leith branch is of 9 chains radius, the others being more moderate, from 25 to 40 chains radius.

Cuttings and Embankments.—The amount is very considerable, exclusive of one short em-

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