

for this purpose, and who shall have the means of passing from his van to the tender to communicate with the driver in case of danger.

Great Southern
and Western
Railway

The Secretary of the
Railway Department, Board of Trade.

I have, &c.,

H. W. TYLER, *Lieut. R. F.,
Inspector of Railways.*

MEMORANDUM of experiments on Great Southern and Western Railway (Ireland),
between Sallins and Straffan, on the 15th October 1853.

These experiments were conducted on a descending gradient of one in 636,
and with a train composed of—

	Tons.	Cwt.
Sixteen waggons with load - - - weighing	117	19
One break van - - - - -	5	13
Three first-class carriages in rear - - -	22	0
Weight of train - - - - -	145	12
Engine, twenty tons, and tender, twelve tons -	32	0
Total weight - - - - -	177	12

The break van and tender were, in the two last experiments, the same as those which were attached to the goods train which ran into the express passenger train near the Straffan station on the 5th October, but in the first experiment a different tender was used. The rails were watered, but could not be considered to be in a very unfavourable state for stopping a train.

1. At a speed of twenty miles an hour, the train was brought to a stand in 915 yards from the point at which the steam was shut off; there was a mistake, however, about the application of the tender break.

2. At a speed of twenty-five miles an hour, the train was brought to a stand in 637 yards from the point at which the steam was shut off, the breaks of the tender and van having been screwed on, and the engine having been reversed immediately after the signal was given.

At a speed of thirty-two miles an hour, the train was stopped in 804 yards after the steam was shut off, the engine having been reversed, and the breaks put on, immediately after the signal was given.

Great Southern and Western Railway,
Secretary's Office, Kingsbridge Terminus,
Dublin, November 14, 1853.

SIR,

I BEG to acknowledge the receipt of your letter of the 7th instant, enclosing copy of Mr. Tyler's report to the Board of Trade, on the subject of the accident which occurred near Straffan, on this railway, on the 5th ultimo, and am instructed to state that our directors are at present giving their best consideration to Mr. Tyler's suggestions, and to all the circumstances connected with that calamitous collision, with a view to the prevention as far as possible of any accident on our line in future.

I have, &c.,

James Booth, Esq.,
&c. &c.

WILLIAM TAYLOR,
Secretary.

LANCASHIRE AND YORKSHIRE RAILWAY.

SIR,

Railway Department, Board of Trade,
Whitehall, March 4, 1853.

I AM directed by the Lords of the Committee of Privy Council for Trade, to transmit to you for the information of the directors of the Lancashire and Yorkshire Railway Company, a copy of the report which has been received by their Lordships from the officer appointed to inquire into the circumstances which attended a collision, that occurred near the Chorley station on the 18th of January last.

Lancashire
and Yorkshire
Railway.

My Lords direct me to request that you will bring to the attention of the directors, the observations in the report as to the necessity of adopting some measures in addition to those now in force for the protection of the trains passing over their line between Euxton and Chorley, which according to the report appear at present to be insufficient to secure the safety of trains.

My Lords desire me to state that it is with much regret that they learn, that notwithstanding the representations which have been made to the company by their Lordships, with reference to previous accidents that have occurred upon their railways, pointing out the necessity of the men being supplied with the means of knowing the time, when the performance of their duties depends upon a knowledge of time—the directors have not thought proper to see that these men are supplied with timekeepers.

My Lords also desire me to observe, that the regulations issued by the directors with reference to the coal trains being kept out of the way of passenger trains, appear to be altogether insufficient to provide for the safety of the traffic.

My Lords have on previous occasions remarked on this subject to the directors.

My Lords regret that they are compelled to address these observations to the company, at the same time that with reference to another accident, and to a like disregard by the company of other suggestions made to them by their Lordships, it has been their Lordships' duty seriously to warn the company, and to intimate to them the probability that it may become their Lordships' duty to direct the attention of Parliament in some especial manner to the risks to which passengers are subjected on the Lancashire and Yorkshire Railway.

I have, &c.,

Secretary to the
Lancashire and Yorkshire Railway.

J. L. A. SIMMONS,
Capt. Royal Engineers.

SIR,

February 2, 1853.

I HAVE the honour to inform you that, in conformity with the instructions contained in your letter of the 24th ultimo, I have inquired into the circumstances which attended the accident which occurred near the Chorley station, on the Lancashire and Yorkshire Railway, from a collision between a passenger train and a cattle train.

The Chorley station is situated on the line between Preston and Bolton, and is about eight miles from Preston; the first six miles of this distance, as far as Euxton Junction, lies on the line between Preston and Warrington. On the portion, two miles in length, between Euxton and Chorley, the gradients are severe, rising towards Chorley at 1 in 127, and 1 in 133. At about three-quarters of a mile from Chorley there is a short tunnel, which is the remains of what was originally intended to be a very much longer tunnel; the prevalence of water in the strata having obliged the company to convert the greater part of it into an open cutting. It is stated that the line at this part is usually slippery. The accident occurred at a spot about a quarter of a mile south of this, where the line is curved, and crossed by an over-bridge near the end of the cutting. I have annexed a plan of the line near the place of the accident. An engine driver approaching this over-bridge from Preston cannot see to a much greater distance than 200 yards ahead, until he has passed under the bridge.

It appears that on the day on which the accident occurred, a cattle train left Preston at about 4.35 P.M., and passed the Euxton Junction at 4.55 P.M. At this junction the rule is observed of showing the danger signal for five minutes after the passage of a train, and the cautionary signal for the following five minutes.

The train consisted of nineteen waggons, drawn by a six-wheeled goods engine of the following dimensions.

Diameter of cylinder, sixteen inches; length of stroke, twenty-one inches; diameter of wheels, five feet. The four leading wheels were coupled.

Weight of engine on leading wheels	-	-	8
Driving or centre wheels	-	-	11
Trailing wheels	-	-	3
			—
	Total	-	22

Weight of tender, twelve tons.

A guard travelled in the last waggon.

The distance from Preston to Euxton is six and a quarter miles, and the goods train travelled therefore over that part of the line at something over eighteen miles per hour. The servants of the company attached to this train state, that they got up the bank pretty well until they reached the tunnel, when the engine slipped a good deal, and so detained them in it for five minutes. The train then moved on, and it is stated was acquiring some speed, when the passenger train, which is due to leave Preston at five o'clock, overtook it, and ran into it, at about 180 yards on the south side of the over-bridge. This latter train consisted of four carriages, and a break van in rear in which the guard travelled. It appears to have left Preston within a minute of its proper time, and to have passed the Euxton Junction at 5.15. The driver states, that at the time of the accident he was travelling at the rate of about thirty miles per hour; and that, on coming under the over-bridge above-mentioned, he came in sight of the tail-light of the cattle train; but that all his endeavours to stop the train were of no avail. The guard appears to have seen the red light at the same time as the engine driver, and immediately to have applied his break. I am inclined to think that the engine driver of the passenger train was a little overrunning his time, and that his speed was much greater than thirty miles per hour, as the accident appears to have occurred at about 5.17. The time at which the passenger train was due at Chorley Station, distant nearly half a mile, was 5.20; and the time at which the passenger train passed Euxton Junction, about two miles off, was 5.15. But I do not think that any blame can be imputed to the engine driver, as a very slight discrepancy between the various timepieces would give a different version to this question; and for a train travelling at a speed of from thirty to forty miles per hour, or perhaps more, a distance of 200 yards is a very short distance to stop in, although on an ascending gradient of 1 in 133; for it must be remembered, that even under the most favourable circumstances, a few seconds would be lost in applying the means of stopping. The cattle train was not a particularly heavy train for an engine of the dimensions of the one attached to it, even upon the gradient in question. The line, however, at the tunnel, and deep cutting above mentioned, is stated to be often very slippery, and the gradients are heavy all the way from Euxton to Chorley—besides which the curves in the cutting prevent the line in places from being seen far ahead; and the fact of the cattle train (of no extraordinary weight) having passed Euxton twenty minutes before the arrival of passenger train, was not sufficient to secure safety. Hence, it would appear the only modes by which an accident of this description could be avoided would be—First, to work the line for trains passing from Euxton to Chorley by the electric telegraph, and not allow one train to pass Euxton till the previous train had reached Chorley; or, secondly, to appoint a signal man at or near the tunnel, to signal trains passing within ten minutes of each other; or, thirdly, to work the train by means of a pilot engine, which should hook on in front of every train going up the incline. This method would have the advantage of giving assistance to the trains over the slippery parts of the line near the tunnel.

It is stated as an objection to the first method, that inasmuch as the line descends from Chorley to Bolton, the trains after they have passed Chorley, get away very rapidly, and there is no further danger of interference; and hence, that a great deal of unnecessary time would be lost by detaining trains at Euxton.

Before concluding this report I would offer the following remarks upon certain facts which bear partly upon this accident. It appears that by the regulations of the Lancashire and Yorkshire Railway Company, the engine driver and train are under the control of the guard as to stopping, starting, &c. And although the twenty-second Regulation for *enginemen* states, that luggage, coal, and ballast trains are to give way to passenger trains by going into the nearest siding, yet it would appear from the eleventh Regulation for guards of luggage trains that the responsibility of avoiding such trains rests with the guard. The regulation is as follows:—"The guard or breaksman is to make himself acquainted with the time of the passenger trains passing all parts of the line; and when likely to be overtaken, remind the engineman immediately to shunt into a siding out of the way of a passenger train, and, in passing, warn the signal man of such intention."

Lancashire
and Yorkshire
Railway.

The guard sent with the cattle train in question was not provided with a watch, and hence would have been unable to comply with this regulation.

It would also appear, from the regulations of the Lancashire and Yorkshire Railway Company, that all trains on arriving at stations are under the inspection of porters in charge, who give orders to the guards as to the stopping, starting, &c.; there is not, however, among the regulations for *inspectors* or *porters in charge* any allusion made to the shunting of goods, &c., trains to make way for passenger trains. The only regulations on the subject are those quoted above for engine drivers and guards; and no time is anywhere mentioned for the line to be clear of a goods train before the expected arrival of a passenger train. It was stated by the officers of the company that the circumstances of each station were so different, on account of the gradients on the line, that what was suitable for one station would not be so for another, and that special instructions were required for each. The station master at Chorley, however, was not supplied with any written or printed special instructions; and I would remark, that the argument in question would appear to be equally applicable to regulations as to trains which arrive at stations within a limited time after other trains have started; and since it has been considered advisable by the Lancashire and Yorkshire Railway Company to issue a general instruction to inspectors of stations on this subject (see No. 17, *inspectors* or *porters in charge*), one on the subject of the shunting of trains would also appear to be advisable.

I have, &c.

DOUGLAS GALTON,
Captain Royal Engineers.

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

LANCASHIRE AND YORKSHIRE RAILWAY.

*Railway Department Board of Trade,
Whitehall, January 12, 1854.*

SIR,

I AM directed by the Lords of the Committee of Privy Council for Trade to transmit to you the enclosed copy of a report which they have received from their inspecting officer upon the accident which occurred at the Newton Heath station on the 29th ultimo, from a collision between two passenger trains, and to request you to call the attention of the directors to the remarks of the inspecting officer on the subject of the interval allowed between trains following each other and upon the same line of rails.

I have, &c.,

J. BOOTH.

*The Secretary of the
Lancashire and Yorkshire Railway Company.*

SIR,

Manchester, January 10, 1854.

In compliance with the instructions contained in your letter of the 30th ultimo, I have now the honour to report for the information of the Lords of the Committee of Privy Council for Trade, the result of my inquiry into the circumstances attending the collision which occurred between two passenger trains on the 29th ultimo, at the Newton Heath station of the Lancashire and Yorkshire Railway.

The Newton Heath station is about two and three-quarter miles to the north-east of Manchester, and was only opened as a station on the 1st December last. There is no station signal at Newton Heath, but there is a distant signal in each direction; that towards Manchester being upwards of 500 yards from the station, and being visible 480 yards further. The only station between Manchester and Newton Heath is at Miles Platting, about half-way between the two.

It appears that on the 29th ultimo, a passenger train, stopping at Miles Platting and Newton Heath, left Manchester at 9.45 a.m. for Rochdale; and that a