

**Accidents appertaining to the Management.**

**Collisions between trains following each other on the same line of rails.**

this size; the time allowed in going to Birdingbury, the first station on the line, is nine minutes, the distance being something more than six miles, but the guard stated that it never was done with an ordinary train in less than twelve or fourteen minutes. Leaving Rugby there is an ascending gradient for two miles of 1 in 127, and when that is surmounted the line falls rapidly; the Birdingbury Station being at the foot of an incline nearly 2 miles in length, which falls 1 in 112, and, as the line curves rapidly a short distance from the station, the latter does not become visible until it is approached within 600 yards; it is protected only by a station signal.

The passenger train reached Birdingbury at 2 o'clock, having lost six minutes on the way; it was delayed three minutes at the station, and was slowly moving away, having proceeded only forty or fifty yards, when it was run into by a coal train from Rugby. This train was despatched at 1.55; it consisted of thirteen loaded waggons and a break van, and its weight might be 135 tons; it was drawn by a passenger engine; the coals were to be delivered at the Manton Station, the succeeding one to Birdingbury; the driver who was selected to take this train had never before been on the line, and his fireman stated that he (the fireman) had only been on the line twice before, once at night, and that six months had elapsed since he had been over the line. The driver stated that in going round the curve, which hides the view of the station, he was not going more than seventeen or eighteen miles an hour; that having then asked the fireman what distance they were from the station, he replied it is just through the bridge, and that he then immediately reversed and screwed on the break himself. The fireman says that they were going forty miles an hour, and that when the driver asked him how far they were from the station, he replied that he did not know, but he thought not far off; immediately after, they came in sight of it, the station, as I mentioned before, not being visible more than 600 yards off. The speed must undoubtedly have been much greater than what the driver states, as the collision was a severe one, the coal engine being thrown down the bank on one side, and a great number of waggons thrown off the line on the other side, and the van and some of the trucks of the passenger train smashed to pieces.

From the circumstances I have just detailed there will be little difficulty in assigning the collision to the proper causes, and in indicating the departments to which blame attaches.

The collision it is evident was caused by sending a driver on a line with which he was totally unacquainted, accompanied by a fireman hardly better informed in the matter, that line presenting features of difficulty in its gradients, curves, and in the position at least of one of its stations, that station being situated immediately at the bottom of a long incline of 1 in 112, and not visible more than 600 yards off, and unprotected by a distant signal which would point to the necessity that the driver selected to conduct a train over it should be well acquainted with its peculiarities, and the circumstances of a station, the position of which had nothing to indicate its nearness to a stranger. The driver said, and no doubt said truly, "If there had been a distant signal to indicate to me my nearness to the station I should not have run into the train."

The departments to blame are, the locomotive, which sent a driver over a difficult line, with the peculiarities of which he was perfectly ignorant; and the department in which rests the responsibility of erecting proper signals at the stations.

I was informed by the Superintendent of the southern division of the line that the Directors had inquired into the circumstances connected with this collision, and had punished the man who had despatched the coal train, not because he had disobeyed any order in sending it off within an interval of not more than eight minutes between the trains,—for, by recent instructions which have been issued, it appears that three or more trains are now allowed to travel at the same time between stations not three miles apart, which would involve intervals of time infinitely shorter, and which one is almost afraid to contemplate,—but because they considered he should have exercised a discretionary power, and allowed an interval of twenty minutes or more, the despatch of the coal train not being a matter of urgency. Now, as it is a rule on every line in the kingdom that trains may follow at intervals of five minutes, it appears a very unjust measure to visit with punishment a man guilty only of an error of judgment, if error it was, and to allow the really culpable parties to escape. Had the Directors been aware of all the circumstances of the case they could hardly have come to the decision they have done, and I am therefore glad to have this opportunity of making all the facts of the case known to them.

When single lines are worked, as ordinarily is the case, with one engine, the necessity for auxiliary signals is not so apparent, but with the system adopted by the London and North-western Railway Company on their single lines it is obvious that trains require to be protected by signals in the same manner as on double lines, and I know of no instance in which an auxiliary signal is more required than at the Birdingbury Station, and that the Directors in their investigation should have overlooked a question of such urgency would argue a very superficial investigation into the subject.

I have, &c.

GEO. WYNN,  
Lieut.-Col. Royal Engineers.

The Secretary of the  
Railway Department, Board of Trade.

**LONDON AND NORTH WESTERN RAILWAY.**

Railway Department, Board of Trade,  
Whitehall, October 25, 1856.

SIR,

IN compliance with the instructions contained in your letter of the 16th instant, I have 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 which attended the accident, that occurred on the 9th instant, near the Rugby Station of the London and North-Western Railway.

The Trent Valley Junction, about half a mile to the north of Rugby, where the Trent Valley and Birmingham railways meet, is provided with an excellent stage for the signalman, on which are his semaphore signals, and levers for working his distant signals in each direction. The auxiliary signal towards Stafford is on the further side of a bridge carrying a road over the railway, 70 yards from the stage, and is visible for about a mile.

At two o'clock on the morning of the 8th instant, two special cattle trains were approaching this junction along the Trent Valley line, with an interval of perhaps 1000 yards between them, the one from Liverpool and the other from Holyhead.

The spindle gland got loose on the engine of the Liverpool train when it was within about half a mile of the auxiliary signal, and the driver endeavoured to bring his train as well as he could within the protection of that signal, under the belief that the mail train from the north, due at Rugby at 2.9, was not far behind him. After passing the bridge, and when travelling at the rate of five or six miles an hour, the driver directed his fireman to jump off the engine, and to run back for the purpose of warning any following train. The fireman did so, and in passing the break van he called to the guard, and informed him of what had occurred. The guard, who was not a man of much experience, and who could not otherwise have known the reason for their slackened speed, then got his hand lamp, jumped out of his van, and ran back also.

These men, unable to go more than 50 or 60 yards from the van, were not, however, in time to stop the Holyhead train. The driver of that train could not have seen the Liverpool train after it passed the bridge, until he was within 250 yards of it, and he does not appear to have seen the hand lamps of the men who were running towards him any sooner. He came into collision with the van at a speed of eight or ten miles an hour; while the Liverpool train was still proceeding at the rate of four or five miles an hour. Two drovers who were riding with ten others in a second-class carriage next to the van, received contusions and internal injuries, and great havoc was made amongst the cattle.

Thirty cattle trucks, a carriage, and a break van, were attached to the engine of the Liverpool train; and 28 trucks and a van to that of the Holyhead train. The driver of the latter could not possibly have been expected to pull up in less time, if, as he states, the distant signal near the bridge was not turned to "danger" before he passed it. But there seems to be a little discrepancy on this point. The signalman at the Trent Valley Junction saw the lights of the two trains, as they were approaching his distant signal, with a mile, as he thought, between them; and he states that he turned his distant signal to "danger" as soon as the first train had passed under the bridge. Now, the Liverpool train may be stated to have travelled at an average rate of seven or eight miles an hour, if not more, from the bridge to the site of the collision, because it was still going at four or five miles an hour when it was struck, and had slackened rather suddenly to that speed; so that there would have been about a minute and a half for the distant signal to stand at "danger" before the collision, during which time the driver of the Holyhead train would have travelled about 600 yards, 300 yards outside the signal, and 300 yards after passing it.

Under these circumstances, it might be supposed that this driver ought to have seen the auxiliary signal turned to "danger" when he was 300 yards from it. The driver, fireman, and guard of the Holyhead train all agree, however, that this signal showed a white light up to the time of their passing it; and the guard, who paid particular attention to it, noticed after the collision, when he went back to protect the train and debris from the mail train, that it still showed a white light, and that it was not until between five and ten minutes after the collision that it was turned to "danger."

This latter portion of his statement is perfectly accounted for by some of the wreck having fallen on the wire, and prevented the signal from showing "danger" until the wire was liberated; but if the signalman's evidence be correct, it is certainly extraordinary that none of the servants of the company, who were with the Holyhead train, should have seen the auxiliary signal turned to "danger" before they passed it; and the circumstance can only be accounted for in one of two ways, viz., either that the trains must have been nearer to each other in passing the bridge than otherwise appears or that the signalman must have worked his lever some 40 or 50 seconds later than he says he did; and the latter is the more probable solution, as there is a bank at the side of the line which would partially, if not altogether, shut off the lights of a train, after it passed the bridge, from the view of the signalman.

I have thought it desirable to consider this question thus in detail, because it seems, at first sight, as if the driver must be to blame for not having obeyed the distant signal; whereas, when more carefully regarded, the evidence does not lead by any means to the conclusion that he was at all in fault in this matter.

After passing the auxiliary signal, and even before he arrived at it, the driver saw the main junction signal at "caution," because it had been lowered to allow the Liverpool train to pass; and he states that he believed that it was so lowered for his own train, and was preparing to pass through the junction accordingly, when he suddenly saw the Liverpool train in front of him.

He had waited at Tamworth for 20 minutes after its departure, to give plenty of time for the Liverpool train to get out of his way, as it was ordered to stop at Nuneaton; and, according to their own statement, neither he himself, nor his fireman, nor the guard, had seen anything more of it until just before the collision. The guard of the Liverpool train, however, says that he caught two glimpses of the Holyhead train following him upon the road, and that the second glimpse was a very distinct one, lasting for some little time along the straight line leading to the auxiliary signal. He certainly did not show the same anxiety to protect his train, when it slackened speed, as the fireman did, though he knew that the cattle train was behind him, and the fireman was unaware of it, but he says that he jumped from his van as soon as the speed of the train was sufficiently reduced to allow of his doing so safely. If the guard thus saw the Holyhead train, the driver of that train ought to have seen the Liverpool train, without doubt, though, even if he had seen it, he could not have conjectured that its engine was about to break down, and that it would slacken to so slow a speed just as it got out of his sight round the curve. It must be remembered, also, that the mail was very close at the heels of this driver, and that even if he had known what was going on in the train in front of him he was bound still to get on as far as he could out of the way of the mail. As it happened, the breaksmen of the Holyhead train had only just time to run back and stop the mail after the collision took place.

The Holyhead train had been gradually catching up the other after it left Tamworth. There was seven minutes between them at Nuneaton, and five minutes at Bulkington Crossing, 10 miles from Rugby, the last place where there was any one on the watch at that time in the morning. It was dark, but not foggy; and the atmosphere was therefore in a favourable state for seeing the signal lamps. The printed regulations of the Company direct that engine drivers, when travelling on the line, are not to approach nearer to each other than 800 yards, and there seems not the slightest reason to suppose that this rule was disobeyed until after the first engine broke down.

Having regard to all the circumstances of the case, there does not appear to be any proof of blame attaching to the driver of the Holyhead train, or to any of the servants of the company; but, the engine of the Liverpool train having accidentally failed, and the train having been reduced in speed upon an awkward curve, the accident, if such it can be called, would then seem to have followed as the natural result of the system in force for working the trains; and it was a most fortunate circumstance that the mail train was just stopped in time to prevent a further collision, and consequences of a far more serious nature.

It so happened that this collision occurred between an auxiliary signal and a junction, and in a position, therefore, where a semblance of protection was afforded to the disabled train. But it might equally well have taken place away from all signals, at any other curve, or on any other part of the line, where the view is obstructed, and this consideration leads to the reflection that the present system of working on the greater number of railways in the kingdom is insufficient to provide against such contingencies.

Under that system, trains follow one another at a greater or less interval of time according to circumstances; the interval allowed is insufficient even, in some cases, to admit of a slow train reaching its destination before a faster one runs into it, as I have had occasion to report in reference to some recent accidents on the Chester and Holyhead Railway, and is often not enough to give the guard of any train which becomes suddenly disabled time to run back to protect it from that which follows, as in the present instance; and the consequence is, that when from any unforeseen cause a train is stopped in one of the dangerous positions in regard to view with which railways abound, the chances are very much in favour of a collision taking place, more or less serious in its consequences according to the weight, speed, and nature of the trains implicated.

The answers that may be made to this proposition are,—firstly, that it is the duty of the station masters and signalmen not to start the trains excepting at such intervals as shall allow a reasonable time between them; and, secondly, that the different signalmen and gatemen along the line have instructions to exhibit a danger signal for five minutes, and a caution signal for ten minutes, after the passage of every train. But, unfortunately, these measures are by no means sufficient to secure the safety of the public; for the station masters and signalmen are prevented, sometimes by the want of more perfect judgment, and oftener by the exigencies of the traffic, from carrying out their part of them with safety to the trains; and the signalmen and gatemen can only at best preserve the required interval at the particular point of the line where they happen to be stationed. In the case of the present accident, the five minutes was preserved at nine miles from the site of the collision, without, as might be supposed, much good effect; and the only rule then in force was, that the drivers should keep a constant distance of 800 yards between their engines, which was equally useless.

Such being the system now generally adopted, and its risks being as constant as its nature is unsatisfactory, both to those who manage railways and to those who travel by them, it behoves the Directors of a great company like the London and North-Western to consider seriously in what way the system can be improved, and how comparative security can be obtained, in place of continual danger, or a mere chance of safety.

The plan of preserving an interval of space between the trains instead of an interval of time, by means of the electric telegraph, which has already been recommended by their Lordships, if properly carried out, offers immunity from this class of accident, and indeed from almost all collisions; and it is incumbent upon the Directors either to adopt it, or to substitute some other improvement of an equally efficient nature in the place of existing deficient arrangements.

The Secretary of the  
Railway Department, Board of Trade.

I have, &c.  
H. W. TYLER,  
Captain, Royal Engineers.

Railway Department, Board of Trade,  
Whitehall, November 4, 1856.

SIR,

I AM directed by the Lords of the Committee of Privy Council for Trade, to transmit to you the enclosed copy of the Report which their Lordships have received from Captain Tyler of his inquiry into the circumstances attending the collision which occurred on the 9th ultimo at Rugby on the London and North-Western Railway.

My Lords have already had occasion to point out to the Directors the necessity, on lines of large traffic, of adopting a system of working by which an interval of space shall be preserved between succeeding trains.

Had such a system of working been in force, My Lords are of opinion that the present accident would not have occurred, and they trust that the subject will again receive the careful consideration of the Directors.

My Lords are desirous of learning to what extent the electric telegraph is used for signalling trains on the London and North-Western Railway.

The Secretary to the  
London and North-Western Railway Company.

I have, &c.  
DOUGLAS GALTON,  
Captain, Royal Engineers.

#### LONDON AND NORTH WESTERN RAILWAY.

Railway Department, Board of Trade,  
Whitehall, November 22, 1856.

SIR,

I HAVE the honour to acquaint you, for the information of the Lords of the Committee of Privy Council for Trade, that I have inquired into the circumstances connected with the accident that occurred on the London and North Western Railway on the 3d November, at a place called Nash Mills, half way between the stations of Boxmoor and Kings Langley.

The London and North Western line is divided into telegraph stations placed at average distances of two miles apart, and though the system of telegraphing, which I have described at length in a former report, is in my opinion defective, yet every train as it passes a telegraph station is signalled back to the station previously passed; and though two trains going in the same direction may find themselves between two adjoining telegraph stations at one and the same time, which I consider to be wrong in principle, yet the driver of the last train always knows there that is a train but a short way ahead of him.

On the 3d November a special coal train was despatched from Tring at 3.13 p.m., three minutes after the express, due in London at 4 p.m. was due there; the policeman at the Boxmoor Telegraph Station was unable to say what time it passed him, he having no clock in his box and his watch not going well, but from observation of the times of other trains he was of opinion that it passed about 3.40; the policeman at Nash Mills Telegraph Station, two miles up the line from Boxmoor, having no clock in his box and his watch being out of repair, was unable to state the time of the coal train passing his box, but thinks it was about 3.45; when the coal train passed, he immediately according to his instructions, turned on his danger signal, until he should hear from the next up telegraph station (King's Langley) that the coal train had passed and then signalled back to Boxmoor "line clear;" the danger signal would therefore only intimate to an up driver between Boxmoor and Nash Mills that on the next length the message "all clear" had not been received, and it would then be his duty to stop or slow his train sufficiently to allow the policeman to tell him what distance of time the previously passed train was ahead of him. I beg attention to the nature and object of this signal, as I shall have to refer to it further on. When the policeman came out of his box he observed that the coal train had come to a stand-still 250 yards off, the engine having broken down; instead of instantly sending the message to Boxmoor that the line was blocked, he ran up the line (this was an error in judgment) before he got half way he was met by the guard, who informed him of the cause, and as soon as he could get back to his box, he telegraphed to Boxmoor "line blocked." From the statement of the policeman at Boxmoor this message must have arrived just as the express train was passing his box at 45 or 50 miles an hour. The driver of the express train states that he left Tring 28 minutes late, that was at 3.39, that he was travelling at the rate of from 45 to 50 miles an hour; that he saw the danger signal at Nash Mills nearly three-quarters of a mile off; that he whistled to the guards to put on their breaks; that he caused the fireman to put on the tender break, and that the signal still continuing against him he reversed his engine, and that he did all this as quickly as he could, and in this statement he is borne out by the two guards, so far at least as hearing him whistle as soon as the signal became visible, and

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