

sight at 11 40 A.M. on its way towards Manchester, and stopped at the Ardwick platform for the collection of the tickets. A goods engine and seven waggons, three of them loaded with coals for the supply of the locomotive department, and four empty for the goods yard, followed it five minutes afterwards. The driver of this engine found the distant signal from the junction at "danger," and he whistled and drew slowly within it, coming to a stand about 100 yards from the hind van of the excursion train, which was nearly 300 yards long, and bringing his own waggons 280 or 300 yards inside of the distant signal. This driver, after taking his waggons to their destinations, was to start from Manchester at noon with a goods train for Macclesfield.

He had hardly stopped his train in the above position, when his brakesman and an extra fireman, who had been riding together in the hind waggon, an empty high-sided waggon, came running towards him, and shouting to him to go a-head. He turned on his steam as quickly as he could, and, indeed, without sufficient deliberation, for his engine, in springing forward, fractured the coupling by which it was attached to the leading waggon, and therefore left its waggons behind it. Immediately afterwards he heard a crash, and he found that a following train had come into collision with them.

This was the 10.50 passenger train from Macclesfield to Manchester, which left the former place at 11.4, fourteen minutes late. It stopped at all stations, according to the time-tables, up to Heaton Norris, and was due to run forward, without further delay, from that place to Manchester. It left Heaton Norris at 11.42, two minutes after it ought to have been in Manchester, and was composed of a tank engine, six carriages, and a van, all fully loaded.

The driver ran, according to his own account, at a speed of 25 or 30,—by the fireman's evidence at 30 or 35,—by that of the guard at 30 or 40 miles an hour, through Longsight. He saw from the north of the works at that place that the distant signal from Ardwick was at danger, and he then shut off his steam, and did his best to pull up, as appears to have been the case from the statements of all parties. The guard heard the break whistle, and applied the break of his van as he passed a wooden bridge near those works. He saw that the steam was shut off when he was near the Longsight steam shed, and the driver and fireman state that the engine-break had been applied, the former before they came in sight of the Ardwick signal, and the latter as they passed the coal-yard at Longsight.

But the rails were in a very slippery condition; the gradient was a falling one of 1 in 480; and the driver was unable, with the break power at his command, to do more than reduce his speed to 10 or 12 miles an hour before he struck the goods waggons. He and his fireman jumped off the engine just before the collision occurred; the two men who were in the last of the waggons fortunately jumped out of it in time to save themselves before it was

smashed to pieces, and ran forward towards the engine, as I have already described; and 32 of the passengers in the train were more or less hurt.

The driver of this Macclesfield train no doubt ran through Longsight at a greater speed than was prudent under the circumstances, as can now plainly be perceived. He was the more induced to do so, apparently, partly because his train was late, and partly because it would have been an advantage to him, with reference to his duties for the remainder of the day, if he could have reached Manchester in time to leave it again with another train at noon. It appears, also, that he was deceived in two respects. He had no notion, from the condition of the line further to the southward, that he should find the rails in so slippery a condition to the north of Heaton Norris, and that he should therefore experience so much difficulty in stopping his train; and he did not expect to find this long excursion train at the ticket-platform, with the goods train so far behind it.

At the same time he should have had his train in command, so as to be able to obey the distant signal from Ardwick, instead of running into another train 300 yards inside of it, half a mile after he received the warning which it afforded. For neglecting his duty in this respect, he has paid the severe penalty of the loss of his situation. He had passed nearly thirteen years, eleven of them as a driver, in the service of the London and North-Western Railway Company, and had earned a good character during that period.

The pointsman at Longsight states that he held up his arm to this driver, as he passed him, to intimate to him that the goods train was in front, and that he saw the driver shut off his steam immediately afterwards; but this action of the pointsman was not observed by either the driver or the fireman, any more than by the guard of the train.

Looking to the enormous traffic that is carried on over this portion of the line, it would clearly be a great advantage that the electric telegraph should be brought into play, as an auxiliary means of decreasing the risks which the public encounter in the working of it. There is no reason, for instance, why in this case positive information should not have been afforded from Ardwick to Longsight, and have been communicated to this, partly unfortunate, partly culpable driver, of the obstruction that was in front of him; and I may add, that if the guard had been able, by means of a good system of continuous breaks, to apply breaks to 3 vehicles instead of one, the train would not then have dashed at a speed of 10 or 12 miles an hour into the goods waggons, after the two breaks on the engine and van had been retarding its speed continuously over a space of half a mile, but would easily have been brought to a stand, in spite of the slippery condition of the rails, in a shorter distance.

I have, &c.

*The Secretary to the  
Board of Trade.*

H. W. TYLER,  
Capt. R.E.

## LONDON AND NORTH-WESTERN RAILWAY.

*Railway Department, Board of Trade,  
Whitehall, 24th January 1861.*

SIR, I AM directed by the Lords of the Committee of Privy Council for Trade to transmit to you, for the careful consideration of the directors of the London and North-Western Railway Company, the enclosed copy of the report made by Colonel Yolland, R.E., of his inquiry into the circumstances attending the collision which occurred on the 16th November last, at the Atherstone Station between a special cattle train and the up Scotch limited mail train.

I have, &c.

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

JAMES BOOTH.

*Railway Department, Board of Trade,  
Whitehall, 14th January 1861.*

SIR, I HAVE the honour to report, for the information of the Lords of the Committee of Privy Council for Trade, in obedience to your Minute of the 19th November, the result of my inquiry into the circumstances which attended the lamentable collision that occurred at the south end of the Atherstone Station on the Trent Valley Section of the London and North-Western Railway, on Friday the 16th November, between a special cattle train and the up Scotch limited mail, by which ten persons were either killed on the instant, or received such injuries as caused their deaths a short time afterwards, and thirteen other persons were injured, but it is believed

that with one exception the injuries received are all of a slight nature.

Atherstone Station is situated between Tamworth and Nuneaton,  $7\frac{1}{4}$  miles from Tamworth, and  $5\frac{1}{2}$  miles from Nuneaton. It is approached from Tamworth on an average rising gradient of 1 in 637, and at a distance of near a mile on an S curve successively of 80 and 57 chains radius extending past the station.

It is provided with sidings off the up and down lines, but lying south of the station platform, and it is protected by semaphore main or station signals at each end of the platform, and by semaphore auxiliary or distant signals in each direction. The up main signal is placed at the north end of the up platform, close to a level crossing of a public road (the ancient Watling Street), and the down main signal is at the south end of the down platform. A policeman or gatekeeper attends to the up main and auxiliary signals, and to the opening and shutting of the gates at the level crossing, and a pointsman attends to the down main and auxiliary signals, and to certain points leading into the sidings. Thus two men, relieved at regular intervals of time, have to attend to the signals, and are on duty night and day.

The up auxiliary signal is placed 433 yards north of the up main signal, and the lever for working the up auxiliary signal is close to the post of the up main signal. The lamp at the up main signal is lit with gas, and the change from "all right" to "danger" is effected by causing the lamp casing, (in which different coloured glasses are fixed) to revolve; the lamp at the up auxiliary signal is of oil, and the change in the character of the light from white to red, or, in other words, from "all right" to "danger," and vice versâ, is made by raising or lowering different coloured glasses, which are termed spectacles.

There is a second level crossing, called Merivale's crossing, 266 yards north of the up auxiliary, or 699 yards from the up main signal; and a third level crossing, called Whittington, is situated 626 yards north of Merivale level crossing.

These level crossings are provided with semaphore signals to be seen during the day, and with lamps during the night, and the Whittington crossing is protected by a distant signal placed about  $\frac{1}{4}$  mile north of the crossing, while the Merivale crossing is protected from the south by a down distant signal, which works on the same post as the up auxiliary signal.

The points for entering the siding lying north of the up main line are 481 yards south of the up main signal at the north end of the station platform.

The up main signal can be seen at night, during favourable weather, a quarter of a mile north of the Whittington level crossing, or one mile from the signal. I saw it on the 29th November, in company with the Marquis of Chandos (Chairman), Mr. Cawkwell (General Manager), and Mr. McConnell (Locomotive Superintendent) under very unfavourable circumstances of heavy rain and a good deal of smoke from the engine, about 60 yards north of Whittington crossing. The up auxiliary signal can be seen under similar circumstances about 200 yards more distant from the station than the up main signal.

The lights at the signals at Merivale and Whittington level crossings are left burning, but the gates are closed and locked across the public roads, and the gatekeepers do not remain up on duty during the night.

Intermediate between Tamworth and Atherstone there is a station called Polesworth, but it is not provided with distant signals to cover any operation of shunting, and the sidings are not sufficiently extensive to take in a long train.

Having thus described the locality, I may state shortly, that the collision occurred between a special cattle train proceeding from Holyhead to Lynn, which was permitted to leave Tamworth for Nun-

eaton Station at or about 1h. 30m. a.m., when the up limited mail, according to the Time Tables, was not due until 1h. 56m. a.m., and the cattle train stopped at Atherstone Station, and was in the act of shunting into the up siding, when the up limited mail arrived and ran crashing into it. The engine of the limited mail is described as having gone right over the guards van at the tail of the cattle train, over the next van in front of it, in which a party of drovers and their men were sitting, and also over the next waggon filled with cattle, and then fell over on its left side on the embankment. The fireman of the limited mail and nine persons in the second van were the parties who were killed. The two vans and two of the waggons of the cattle train were broken all to pieces, and four other waggons were a good deal damaged.

The leading and trailing axles of the engine of the limited mail were bent, the framing was bent, steam chest cover broken, chimney bent, suction pipes broken, life guards and hand rails broken, brass dome bent, waste water cocks and gearing broken, side plates and foot plates bent, ashpan bent, bottom stays to framing broken.

The whole of the eight vehicles which made up the limited mail were all more or less damaged; they required new buffer blocks, and one of the break vans, the leading one, required a new side and end, and the composite carriage next to it also a new end. I enumerate these details because they evidently prove that the collision must have been a very violent one, and occurring when the limited mail was still travelling at great speed. Strange to say none of the passengers of the limited mail received, it is hoped, any very serious injury, and the permanent way was scarcely at all damaged, the leading wheels of the front break van being the only wheels off the rails. A long inquiry, extending over four days, into the cause of the deaths of the persons who were killed in this accident, took place before the coroner, and I have been supplied by the London and North-Western Railway Company with a copy of the depositions taken by the coroner, and also with a copy of the short-hand writer's notes of the whole of the proceeding, together with any additional information I wished for. I also subsequently examined nearly every witness who appeared before the coroner, and some that did not appear before him, so that I have had every facility afforded me for arriving at a correct appreciation of all the circumstances connected with the accident.

Special notices were issued by the District Superintendent to the officials at the several stations respecting the running of this special cattle train, but these notices were not communicated to the engine drivers or guards in charge of trains. According to these notices the cattle train was timed to pass Stafford at 12h. 30m. a.m., Tamworth at 1h. 28m. a.m., Atherstone at 1h. 47m. a.m., Nuneaton at 2h. 0m. a.m., and Rugby at 2h. 30m. a.m., giving an average rate rather exceeding 25 miles an hour, the stations at which this special train was to be shunted to allow fast trains to pass it, being left to the discretion of the several station masters, or persons acting for them.

As I have already stated this special cattle train is said to have left Tamworth at 1h. 30m. a.m., according to the foreman on night duty (Moorcroft) acting for the station master, but the driver (Matts) of the cattle train (which consisted of engine and tender, three vans of sheeted goods, three waggons with horses, and twenty waggons of cattle, and a drovers' and a guard's break van arranged in the order in which they are here written), states, that "he arrived at Tamworth at 1h. 25m. a.m., and remained there full ten minutes in attending to the train, and in taking in water, and he believes he left at 1h. 35m.; that he asked the foreman (Moorcraft) what he was to do, who told him to 'get out of the road' which he understood not to mean shunting 'but to go on'; that he told

“ the foreman that he would go on as soon as his fireman brought some sand, as the rails were slippery, and do his best ; that the foreman told him to go on to Nuneaton, and to shunt the train there for the limited mail to pass ; that the foreman told him that he had twenty-two minutes to spare, and that he started after getting two shovel-fulls of sand ; that the cattle train engine slipped for about a mile and a half, and after that she took to the rails, and went very well till they arrived at Atherstone station ; that the first three miles from Tamworth occupied about twelve minutes ; that he reached Atherstone at 2h. 5m. a.m. by his watch, which was right by Tamworth time ; that he saw three white lights on the same side on approaching Atherstone station, one at the crossing, one at the auxiliary signal, and one at the up main signal ; that he did not notice whether the policeman (Meakin) who stood by his post, at the up main signal, did anything to the signals as he passed, neither did he notice whether the auxiliary signal was changed as he passed inside it ; that as he was drawing through the station he shouted to the policeman (Meakin) that he would shunt the train for the limited mail to pass, but he could not hear the reply ; that he then blew the whistle to let the pointsman (Jenkins) at the south end of the station know that he was going to shunt for the mail to pass, and the pointsman signalled ‘ all right ’ with his hand lamp, and followed after the train to turn the points ; that he then ran past the points, drew up, and stopped the train and looked out for the signal for the pointsman to come back ; that he received the signal, and was in the act of backing towards the siding points when he observed the mail train coming and in an instant a violent collision occurred ; that he was not so far down the line as to be enabled to notice the state of the up auxiliary signal after the accident occurred.”

The fireman of the cattle train states, that “ the signals were all right, that is ‘ white lights ’ as they approached Atherstone Station, but he was unable to say positively what these signals were. The breaksman of the cattle train stated that the foreman at Tamworth directed the driver to get out of the way and shunt at Nuneaton ; he did not see the up auxiliary signal, but the up main signal at Atherstone was at ‘ all right,’ as they approached the station.

He confirmed the driver as regards the stopping at Atherstone and with reference to the proceeding to shunt at that station, and that “ before the last van of the cattle train had reached the siding points the limited mail came round the curve and into collision with his train ; that he jumped out into the six-foot space, and before he could pick himself up he heard the crash ; that he did not hear the whistle from the engine of the up limited mail.”

The policeman at the up main signal at Atherstone Station (Meakin), states, “ that he went on duty at 6 o’clock on Thursday evening the 15th November, and when he went on he examined the workings of both the auxiliary and main signals and found both of the lamps lighted, and the working apparatus all right ; that it is not his duty to trim or light the auxiliary signal, but in the event of its not burning properly to call another man to go and attend to it ; that he signalled the various trains as they came up ; that at about five minutes past two o’clock on the Friday morning he saw a train approaching when it was about 800 yards distant, and as soon as the train had passed the auxiliary signal he put on a red or ‘ danger ’ signal at the auxiliary by means of a lever connected with a wire ; that up to that time there were white lights at the up auxiliary and up main signals, and as soon as the driver of the train got opposite to him, he heard him say something, but could not hear distinctly for the noise of the train ; that he put down his hand lamp, and turned the up main signal on to ‘ danger ’ ; that after the train (this was the cattle train) passed

“ through the station he said to the pointsman on duty at the south end (Jenkins), ‘ The mail is coming.’ The pointsman replied : ‘ They,’ meaning ‘ the cattle train,’ are going to shunt ; that he could not see the mail train, but he heard it coming, and he waved his white light to the pointsman, and said, ‘ All right, the line is blocked ’ ; that he stood there and saw the mail coming ; that the auxiliary signal light was burning when the mail passed it ; that it was about five minutes between his hearing the mail train and his seeing it ; that the pointsman (Jenkins) was at his box more than 100 yards from him when he spoke ; that he saw the mail come by the auxiliary signal with the steam on ; that he then stepped on to the 4-feet of the up line, and waved his hand lamp with a red light ; that the steam was on when the train was about 20 yards from him, and as soon as the engine got opposite to him he shouted to the driver ‘ that he would be into them ; ’ that the driver took no notice, and that when the train passed him he thinks it was going at 40 or 45 miles an hour, the ordinary speed ; that he heard a break applied directly the train passed, but is not certain that any was on when it passed ; that he watched it and saw no sparks from the wheels, but he did not notice the guard’s van, and he did not notice the beat of the engine after it passed ; the collision then took place ; that he stood on the crossing till the pointsman (Jenkins) came to him, and said that the mail had run into them full speed ; that he asked if anyone had gone back to block the down line, and the pointsman said, ‘ Yes ; ’ that he told the pointsman to go and block the up line, and he replied, ‘ No,—you go, and I will go for assistance ; ’ that he went down to Merivale’s crossing, 300 or 400 yards beyond the auxiliary signal (266 yards is the correct distance) ; that he ran by the up auxiliary signal and did not touch the lamp, and that it was burning, but not so bright as he had seen it ; that the up auxiliary signal stood white towards Atherstone and red towards Tamworth, when he passed it ; that he put down four or five fog signals on the rails between his post and Merivale crossing, that he walked in the 4-feet of the up line, and the second portion of the mail passed him, and he got out of the way on the right hand side ; that it passed him as near as he could tell when he was half way between the auxiliary and Merivale’s crossing ; that he is sure he was on the Tamworth side of the auxiliary, and that he had a hand lamp with a red light in it, and he waved the lamp ; that he put on the ‘ danger ’ signal at the Merivale crossing, and called up the gatekeeper, and told him to stop all up trains ; that he then went on to the Whittington crossing and put on the ‘ danger ’ signal there, and also called the gatekeeper up ; that he then returned to the station on the engine of the Liverpool mail ; that the up limited mail is not timed at the Atherstone Station, but it generally passes about 2.10. ; that he had spoken to the breaksman of the cattle train before he went back, who told him that the mail had run into them full speed.”

He also informed me “ that the light at the auxiliary signal had gone out two or three times since he had been at the crossing (12 months) and then he had to send a man out with a lamp beyond the auxiliary ; that it had gone out in frosty weather, but it was no part of his duty to light it again.”

The pointsman on duty at the Atherstone Station (Jenkins) confirmed the evidence of the driver of the cattle train and the policeman (Meakin) regarding the arrival and intended shunting of the cattle train at that station, and he went on to say “ that he saw that the main signal was put on at ‘ danger ’ before the cattle train passed him, but he could not see what was done at the auxiliary signal ; that he followed the cattle train down towards the points at the south end of the station, and when he got there the last vehicle of the cattle train stood about 20 yards south of the point ; that he could then hear

“ the limited mail coming, and he signalled the driver  
 “ of the cattle train to come back into the siding; he  
 “ thinks the cattle train was stationary at the time,  
 “ and it began to put back slowly; that while this  
 “ was going on, he listened for the limited mail to  
 “ whistle, but it did not; that he was surprised at  
 “ this as he knew that the main signal was at  
 “ ‘danger’; that he heard the train approach at  
 “ what he considered to be full speed, and when it  
 “ was at 130 or 140 yards from him, he saw the  
 “ sparks of fire from the funnel of the engine as if at  
 “ full speed; that he stepped four or five yards from  
 “ the points and waved his red light (hand lamp);  
 “ that the driver gave no intimation that he saw him,  
 “ and he then ran towards the station; that he was  
 “ about 18 yards from the engine when it struck the  
 “ last carriage of the cattle train about seven yards  
 “ from the points.” He also informed me “that  
 “ there were some waggons standing in the sid-  
 “ ing, into which he was about to put the cattle  
 “ train, which prevented him from seeing the mail  
 “ train before it had got to about 100 or 120 yards of  
 “ the points; that he could not say whether any  
 “ breaks were on or not, and saw no sparks flying  
 “ from the wheels of the mail train.”

The preceding is the statement of the servants of the company belonging to Atherstone Station and the special cattle train. I shall now proceed to give those of the driver and guards of the up limited mail, which ran into the cattle train at Atherstone Station.

The engine driver (Barber) has been driving for nine years on the London and North-Western Railway, and is described by the Locomotive Superintendent of the Southern Division, Mr. McConnell, as a first-rate driver. He states, “that he left Stafford with the up  
 “ limited mail at 1.23 a.m. (the proper time), and was  
 “ not informed before he left that there was a train in  
 “ advance of him; that when arriving in sight of the  
 “ Tamworth Station a red signal was exhibited, but  
 “ before he got to the main signal a white light was  
 “ shown for the train to draw up to the station, and  
 “ he stopped the train at the station; that the up  
 “ limited mail always stops at Tamworth Station; that  
 “ they stopped about three minutes to take in water,  
 “ and he received a signal from the guard to go on;’  
 “ that he spoke to no one at the station, and no one  
 “ spoke to him; that he started the train at 1.58, or  
 “ one minute before time; that he proceeded on, and  
 “ received no signals till approaching Atherstone,  
 “ when, coming round the first curve, he perceived  
 “ no light at the auxiliary signal; that there was a  
 “ white light at the Merivale level crossing, and also  
 “ on the up main signal, but there was no light be-  
 “ tween these two; that he did not notice how the  
 “ arms of the auxiliary signal stood when he found  
 “ that there was no light at it; that when approach-  
 “ ing the station, within about 40 yards from the  
 “ station, the main signal was turned on; it was the  
 “ red signal; that the policeman at the up main  
 “ signal also waved his hand lamp, showing a red  
 “ light, and the fireman, James Cherry, who was  
 “ among those killed, immediately applied the break,  
 “ and he, the driver, reversed the engine; that the  
 “ steam was on up to the moment when the up main  
 “ signal was turned to red, and then he shut it off,  
 “ but did not sound the whistle for the guard’s  
 “ breaks; that he held the reversing lever in one  
 “ hand and the regulator in the other; directly he  
 “ turned the curve he saw the three red lights of a  
 “ train just in advance; that he could not stop the  
 “ train—there was only a space of 100 yards between  
 “ the trains—and a collision instantly took place;  
 “ the engine went over the guard’s van, the next van  
 “ in front, in which the drovers were sitting, and also  
 “ over a cattle waggon, and then the engine fell over on  
 “ its left side on the embankment, and he found him-  
 “ self beneath the fire-hole door, and amongst some  
 “ cattle and broken waggons; that they were going  
 “ at about 30 miles an hour when the collision  
 “ occurred, and before he saw the first signals they  
 “ were going at the rate of 45 or 46 miles an hour;

“ that they are generally told when a train is in  
 “ advance of them, but on this occasion they were  
 “ not.”

The head guard of the up limited mail (Garlich) con-  
 firmed the statement of the driver, as regards the arrival  
 of the train at Tamworth, and he states, “that they  
 “ waited to take in water, and to pick up and deliver  
 “ the mail bags; that the platform inspector or fore-  
 “ man (Moorcroft), who has charge of the station at  
 “ night, was on duty, but he made no communication  
 “ whatever to him of a train being in advance; that  
 “ he received a signal from the foreman (Moor-  
 “ croft) to start the train, and he signalled to the  
 “ driver, and they started; that he rode in the van  
 “ next to the tender, and everything went right until  
 “ approaching the Atherstone Station; that he looked  
 “ out for the auxiliary signal and did not see it, but  
 “ he saw the light at the up main signal, to the best  
 “ of his judgment, when he might be the length of  
 “ his van inside the auxiliary signal, and he also saw  
 “ the policeman swinging his hand lamp; that imme-  
 “ diately on seeing the red signals (up main signal  
 “ and hand lamp) he applied his break, and had it on  
 “ 50 or 60 yards before he got into the station; that  
 “ he saw what he concluded to be the auxiliary signal  
 “ post or a telegraph post on the left side of the line,  
 “ but he did not notice the position of the arms, nor  
 “ observe when the steam was shut off; but when in  
 “ the act of putting on his break, his van was bumped  
 “ up against the tender—not exactly a bump, but a  
 “ resistance or check in front; that he thinks the  
 “ bumping up arose partly from his break and partly  
 “ from the engine; that the whistle for the breaks  
 “ was not sounded.”

He also states that the policeman (Meakin) was  
 near his post, either in the 4 feet or 6 feet; that it  
 was a very dark night without any fog; and he  
 noticed the white lights at the level crossings. This  
 guard was hurt in the collision. The under guard  
 of the up limited mail, who rode in the break van at  
 the tail of the train, states “that on approaching  
 “ Atherstone, he was on the look out for the signals,  
 “ and he saw the main signal on at red, and the  
 “ policeman waving his hand lamp; that he saw a  
 “ white light, about half a mile from the main  
 “ signal before he saw the main signal; that on see-  
 “ ing the red signals he applied his break as they  
 “ were passing the station; but the collision oc-  
 “ curred before he could get it fairly on, that the  
 “ whistle was not sounded, and that he was not ac-  
 “ quainted with the signals on the line, and did not  
 “ know exactly where to look for them as it was  
 “ only his second week of working on the line as  
 “ under guard, having previously been employed 9  
 “ years as a porter.” He also informed me, that “as  
 “ soon as he recovered himself after the accident  
 “ occurred, he took his lamp, got out of his van and  
 “ went back 70 or 80 yards past the up main signal,  
 “ but saw no one; then he heard a train coming, and  
 “ he put a fog signal down on the rails, and then the  
 “ Manchester mail passed; that he heard some fog  
 “ signals (he thinks two) explode before the mail  
 “ reached him.” (The fog signals were evidently  
 “ those put down by policeman Meakin.) “And as  
 “ soon as these exploded the mail came in sight; he  
 “ thinks that the fog signals were not more than  
 “ 100 yards in front of him; that he did not go  
 “ further back, and did not see any light as he  
 “ walked back; that he cannot say whether there  
 “ was any light burning at the auxiliary signal as he  
 “ walked towards it; he saw no light; that he is  
 “ not certain whether the Manchester mail carried a  
 “ light in front or not; that the whistle was sounded  
 “ but he heard the noise of the train before he heard  
 “ the whistle sounded.”

The main question as to the actual cause of this  
 sad accident is thus manifestly centred in the state of  
 the up auxiliary and up main signals at Atherstone  
 Station. If they were both burning and properly put  
 on, there must have been great neglect on the part of  
 the driver of the up limited mail. If they were not

burning, or, if burning, not properly put on, the neglect must rest on the policeman at Atherstone (Meakin). The driver of the up limited mail maintains that there was no light at all at the up auxiliary signal, and also that the up main signal was only turned on to danger against him, just as he reached it. The two guards of this train state that they did not see any light at the auxiliary signal—but they would not swear that there was no light. Corroborative evidence is, however, afforded on this point by the driver of the Manchester mail (Tinkler), who states “that his train was shunted at Litchfield to allow the limited mail to pass, and he then followed it on to Tamworth, where he arrived about 2 A.M., and took water and oiled the engine, which occupied about six or seven minutes, and he then proceeded at 2.7 A.M. on to Atherstone, where they were stopped; that the rails were slippery, especially on the inclines between Stafford and Atherstone; that he can see the auxiliary signal at Atherstone from a quarter to a half mile before he can see the up main signal, and three quarters of a mile is the outside distance at which he can see the auxiliary signal; that he can see the up main signal at the second level crossing from the station (Merivale’s); that he was stopped by the main signal, and he did not discern any light at the auxiliary signal, when they were stopped at 2h. 19m. A.M.; that he looked out for the auxiliary signal; that it took him from the Merivale crossing to the platform to stop (699 yards) and when he first began to stop he was going about 35 miles an hour; that he returned to Tamworth about 3 A.M., and arrived back at Atherstone about 4 A.M., and was two hours standing by the auxiliary signal and there was no light in it then.”

He also informed me that “the signals at Whittington and Merivale crossings when he arrived there at 2h. 19m. A.M. were white, and that at the main station the signal was red—that the first person he saw belonging to the station when he arrived at Atherstone, was the pointsman at the south end (Jenkins) and that he also saw either the guard of the limited mail, or the policeman at the north end (Meakin) with a hand lamp between the up auxiliary and the up main signal; that the guard had his hand lamp, waving it back and forward with a red light; that he ran over two or three fog signals, and he thinks the man he saw was standing still; that he can’t say how the arms of the auxiliary signal were when he passed it; that he was sent back to Tamworth, and when he came to Atherstone again the auxiliary light was still out, but the arm stood at danger. He also says that the man with the hand lamp was not outside the auxiliary signal when he passed him; that he saw the main signal on passing Merivale’s crossing, and he shut off the steam, applied the tender break, opened the whistle, and reversed the engine on noticing the hand lamp, and put the steam on again. He had seven or eight vehicles belonging to his train.”

The fireman of the Manchester mail (Watson) states that there was “no light at the auxiliary signal as they approached Atherstone Station, and that he said to the driver, “Tinkler, that lamp is out.”

He also informed me, that they met the guard of the limited mail between the auxiliary and the main signal—it might be 100 yards inside the auxiliary signal; that he saw the policeman (Meakin) and the guard of the limited mail about the same time; that they were near “together, coming up the line; that they got back from Tamworth about half past three or four o’clock; that there was no light at the auxiliary when they went to Tamworth about twenty minutes to three o’clock, but the lights at Merivale and Whittington crossings were red lights; neither was there any light at the auxiliary when they came back; that he saw the auxiliary post when they passed it—and the arms of the auxiliary were at danger when they stood under it.”

The guard of the Manchester mail (Hart) states, “that when they approached Atherstone Station, at about half a mile distance from it he observed a red hand lamp waved, and the person who waved it was the guard of the limited mail, and he put his break on, and strapped it down, and put the window down on the off side; that he could not say whether the auxiliary signal was lighted or not; that his van was at the end of the train, and his attention was directed to other matters, but the main signal showed a red light.”

He also subsequently informed me that “he was not certain whether the hand lamp was held by the guard of the limited mail or by some one else; that it was too dark a night; that as soon as he saw the hand lamp the driver whistled and then they ran over fog signals; that the guard was on his off side (i. e. the six foot) and they had run over,” he thinks, “two fog signals before they passed his light; that he does not remember running over more than two fog signals, and he only saw one hand lamp.”

The under guard of the Manchester mail stated “that the main signal at Atherstone showed a red light, but he did not see any light at the auxiliary; and as he was looking over his parcels, he did not see the lights at Whittington or Merivale crossings; that he saw a red hand lamp close to the main signal; he went back after the train stopped, but not so far as Whittington crossing; the red light was on at Merivale crossing as he went back; that he passed no man as he went back to Merivale crossing; that he was not prepared to say that the auxiliary light was out, but thinks he should have noticed it if it had been burning.”

The evidence in favour of the auxiliary signal being lit and properly directed at the exact time when the limited mail approached Atherstone is confined to the positive testimony of the policeman at the up main signal (Meakin); and that regarding the nature of the light shown from the up main signal, at the same moment, is supported by the testimony of the said policeman, by that of the pointsman at the south end of the station (Jenkins), by that of the head guard of the limited mail (Garlich), who saw a red light from it as he passed the auxiliary signal, and by the testimony of a market gardener (Robinson) who resides near the spot, and who, being ill, was up on the night in question before the accident occurred, and observed the light revolve as the cattle train passed the station, but who did not give any special attention to the lamp till after the limited mail had passed, and then he observed a red light.

I should probably have had great difficulty in forming a correct opinion on these conflicting statements, respecting the lights, if the evidence of the driver and fireman of the Manchester mail had been confined to the state of the auxiliary lamp when that train arrived and was stopped at Atherstone Station; but it will be observed that they profess to speak to its state when the engine of that train was sent to Tamworth for assistance a little before three o’clock, when it returned from Tamworth with a number of people on the engine about four o’clock, and for two hours after while the engine stood near the auxiliary signal; and as their testimony on these points is completely negated by that of a large number of persons not directly interested in endeavouring to screen the policeman at the north end of Atherstone Station (Meakin) from any neglect of duty, I am forced to reject their testimony on this point altogether, and to look at their evidence, corroborative of that of the driver of the limited mail (Barber), with the utmost suspicion.

I have already mentioned that the policeman at the north end of Atherstone Station (Meakin) went down the line, and successively put on the danger signals, and called up the gatekeepers at Merivale and Whittington crossings. The gatekeeper at Merivale crossing (Stevens) states, “that he was called up by the policeman (Meakin), and in about two minutes

“ he ran out to listen for an up train and look at the signals, and found that his own was turned to red ; that the up auxiliary signal was at red, and he got on the ladder, and saw that the up main signal also was at red ; and, when he went into the house again his clock was at half past two, but it was 12 minutes fast : that he was not awake when the Manchester mail passed, but after being called he remained up at the crossing all night ; that the first train that arrived after he got up was the Liverpool mail, in about 10 or fifteen minutes, and then a Manchester goods train arrived in about 15 or 20 minutes after the Liverpool mail ; that he went in to light a fire just before the Manchester goods train arrived, and the signals at the station were at red until he went to light his fire ; that the breaksman of the Manchester goods train came back to his crossing some time after the train arrived, but, he believes, before the engine went to Tamworth for assistance, and he certainly was with him when the engine came back from Tamworth ; that the signals at the station were all at danger when the breaksman came, and also when the engine came back from Tamworth ; that the breaksman stood by him as he took some fog signals off the line as the engine from Tamworth had nearly come to a stand, and the breaksman's hand lamp showed a white light, and Inspector Cole who was on the engine, called out to know why he showed different coloured lights, his own signal light being at red ; that the breaksman remarked that the auxiliary lamp gave rather a dim light, and he replied, ‘ Yes, it has been burning many hours, but it can be seen a long way off,’ and the breaksman said, ‘ Yes ;’ that the auxiliary lamp got worse and worse after that, and when it got light he could not discern whether it was burning or not.” He also stated that “ the policeman at the north end (Meakin) returned from Whittington crossing on the engine of the Liverpool mail ; that he called out ‘ be careful, draw within the distant signal towards the station,’ and the policeman said, ‘ All right, I am here.’ ”

The gatekeeper at Whittington crossing confirmed the policeman's statement respecting his being called up, and said that the “ Liverpool mail stopped at his crossing as he got out of his lodge ; he also stated that his signal had been turned on red, and so also were the three others, i. e. at Merivale crossing, the up auxiliary, and up main signal.” The breaksman of the Manchester goods train speaks positively to the auxiliary signal lamp burning at the time when the engine went to Tamworth, and also when it returned from Tamworth, and to its still burning when he left the station at daylight, as his break van stood just inside the auxiliary.

The Tamworth Station Master (Mr. Cosgrove), an inspector of railway police (Cole), the incline breaksman at Tamworth (Tebbutt) all travelled on the engine which was sent back from Atherstone for assistance, and all speak positively to the fact of red lights being shown from the up auxiliary and up main signal lamps as they approached the Atherstone Station.

The man at Atherstone Station who looks to the repair of the signals was called up on the morning of the accident, and he states that the auxiliary lamp was burning brightly, and the mechanical arrangements were in good working order at 2.32 a.m.

A porter at Atherstone Station, who assisted to carry one of the injured persons from the scene of the accident between half-past two and a quarter to three o'clock, saw that the auxiliary was burning at that time.

The landlord of the White Hart Inn at Atherstone saw the auxiliary signal lamp burning brightly at about half-past two a.m., and again, as near as he could judge, at half-past three o'clock it was still burning.

With such an amount of testimony bearing on the fact of the light at the auxiliary signal continuing to burn for hours after the Manchester mail arrived at

Atherstone, I am forced to the conclusion that the driver and fireman of the Manchester mail, who asserted that it was out, were either mistaken, or stated what was incorrect ; and this necessarily throws great doubt on the first part of their testimony. There is just a possibility that the policeman at the north end (Meakin), as he went back to Merivale and Whittington crossings, relit the lamp ; but he asserts that he met the Manchester mail between the auxiliary and Merivale crossing, and that he had passed the auxiliary signal at the time, and did nothing to it ; and it seems probable that the hand lamp which was observed was in the hands of the under guard of the limited mail, who did not go far back from the up main signal. It must also be recollected that the driver of the special cattle train states that he found white lights on his arrival at Atherstone, both at the auxiliary and main signals, about five minutes or perhaps rather more before the limited mail arrived.

On a very careful consideration of the whole of the evidence I have formed the opinion that the signal lights at the up auxiliary and up main signals at Atherstone Station were burning, and properly put on as soon as the special cattle train arrived, and that the accident was solely occasioned by the neglect of the engine driver in failing to keep a proper lookout. Were it admitted for an instant that the auxiliary signal was not burning, still the up main signal was certainly lit, and, according to the evidence of the head guard of the limited mail (Garlich), showed a red light against them, as he passed the auxiliary signal. The imputation of neglect against the driver, as regards the signal, cannot be got rid of ; and I have no doubt that, taking it for granted that there was no train before him, he was running with full confidence towards Rugby, and probably did not see anything before him until he passed round the curve at the station, and possibly saw the three red lights on the special cattle train. The engine was found with the regulator shut, and in forward gear, but the driver stated that the shock of the collision had thrown the engine into forward gear, and that he must have closed the regulator as he fell over with the engine on to the embankment. This is quite possible. The damage done to the rolling stock, as I have already remarked, is clearly indicative that the limited mail was travelling very fast when the collision took place.

There is a discrepancy in the statements as regards the time at which the special cattle train was permitted to leave Tamworth, those connected with the station asserting that it was at 1.30 a.m., and those connected with the locomotive department maintaining that it was at 1.35. Evidence was also adduced to prove that the foreman (Moorcroft) had frequently and invariably refused to allow a goods or slow travelling train to leave Tamworth for Nuneaton, after 1.30, in front of the mail. I am unable to say which is right, and it is possible that the foreman committed an error of judgment in allowing the special cattle train to leave in front of the mail, if the time of leaving was 1.35 ; still, it is probable that no accident would have occurred if the driver of the limited mail had been told by the foreman that this special cattle train was ahead of him. This was a grave neglect on the part of the foreman, but it should not and would not have produced an accident if a vigilant lookout had been kept by the driver of the limited mail. The foreman informed me that he gave no order for the limited mail to start.

The practice of cautioning drivers, either by word of mouth or by the establishment of telegraph stations and ordinary signals at short intervals of space apart, that a train is only a short distance in front is undoubtedly productive of increased safety in railway travelling, but it is attended with one disadvantage—it causes the drivers to keep a less vigilant lookout for anything that may be on the line in front of them, and the accidental omission to inform a driver may, as it has done in this case, tend

to produce an accident; still the advantages so far preponderate over this disadvantage, that the practice should be continued, and it would also be very desirable if the directors of the London and North-Western Railway were to extend their system of working by telegraph, which has now been in use for some considerable time on the main line between London and Rugby, and with, I believe, one or two exceptions, when it was first commenced, and when the regulations did not provide for the contingency of a train breaking down shortly after passing a telegraph station, has been found to work very satisfactorily.

It is an approach towards a system which has been urged by the inspecting officers for years, viz., the desirability of always keeping a clear interval of space between two following trains, which recommendation has been usually met by railway companies with the plea that they could not work their traffic under such a system.

There are other points connected with this unfortunate accident on which it is my duty to remark, although it is not likely that anything that I can say will produce any effect, as the same points have been repeatedly brought by their Lordships to the consideration of the directors of the London and North-Western Railway Company.

I allude especially to the insufficiency of break power attached to the limited mail and to all fast travelling passenger trains, and to the absence of any means of communication between the guards and engine drivers, and between the passengers and the guards. These are decidedly great blots on the railway arrangements for quick travelling in this country, but they are by no means limited to the London and North-Western Railway Company.

Apparently the directors of railway companies prefer, or submit, to pay very heavy sums for damage and compensation rather than to direct their officers to give more attention to the two points to which I have referred, by which it is certain that the number of accidents would be sensibly diminished, and the severity of those that do occur would be materially mitigated.

As regards the question of break power, I may observe that the limited mail consisted of engine, and tender, six vehicles, and two break vans—one next to the tender and the other at the tail of the train, that the total weight of the train, including the mailbags, would rather exceed 97 tons, and that the weight on the wheels of the vehicles to which breaks could be applied, was somewhere about  $24\frac{1}{2}$  tons, or 25 per cent. on the whole weight. The evidence of the head guard, riding in the van next the tender, is, that he saw the up main signal at "danger," as he passed inside the up auxiliary signal which is no less than 921 yards distant from the spot at which the collision actually occurred, and that he immediately with hand and foot combined, began to put on his break. Now, if this man's statement is to be relied on (and I can see no reason whatever to doubt it) then I say, if his break-van had been connected by continuous breaks with the two or three adjacent vehicles behind, the check of putting these on would have been sufficient to have attracted the driver's attention, and the probability is, he would at once have taken steps to reduce the speed, and ten lives might have been saved. Similarly, if the under guard of the train at the tail of the train, had had his break connected with two or three vehicles in front by continuous breaks, and his statement be a true one, that he saw the main signal at danger, and applied his break as he was passing the station, 488 yards from the scene of the accident, the result which I have stated to be probable would doubtless have been reduced to a certainty.

It is useless to object to my argument, that all the continuous breaks which have as yet been invented, and introduced on any lines of railway, have some defect or other. Suppose they have defects, and that, in addition for the sake of the argument, that I ad-

mit them to be expensive. Still, these continuous breaks are in actual use and doing good service on lines with very bad gradients and sharp curves, according to the statements of the officers of various railways on which they are employed. The ordinary screw break itself is not perfect, and frequently gets out of order.

I am quite prepared to bear testimony to the comparative safety with which railway travelling is conducted; but with the very large number of accidents which are constantly occurring, very many of which might be prevented by improved arrangements, it is impossible to rest satisfied with the existing arrangements.

Is the largest railway company in the kingdom, with receipts very nearly double those of any other, to wait until something *perfect* in the shape of a break is produced from their own workshops? And are the public still to be carried on this line at express speed in trains that cannot be stopped in less than three-fourths of a mile, and in many places not under a mile, where at any moment, from the breaking of a leading axle, the straying of cattle onto the line, or the sudden break down of a train travelling in the opposite direction, or from various other causes, thousands of pounds must be expended in compensation for lives lost, injuries inflicted, or damage done to rolling stock—to say nothing of the sacrifice of human life, because no adequate steps are taken to increase the proportion of break power to such trains, by which the three-quarters of a mile might be reduced to one third of that distance which I maintain is perfectly practicable?

I am by no means the advocate of every new invention that is brought out regarding breaks, and I have reported strongly against many, including several continuous breaks; but I am satisfied that a very much larger proportion of break power is required to be attached to all trains than at present—as is now done on the Continent, where they travel at much lower speed—and I advocate the adoption of steam breaks on tender engines, and continuous breaks (as the most economical and efficient) on carriages; there is not the slightest necessity for making the steam breaks on engines so powerful as to enable the driver to skid the wheels.

An opinion is entertained by some of the officers of the London and North-Western Railway that continuous breaks are no longer much used on the Lancashire and Yorkshire railway, and, in consequence I have made recent inquiries on the subject, and I learn that since the terrible accident which occurred at Helmshore last autumn, no train is permitted to travel on the East Lancashire section of the Lancashire and Yorkshire Railway, without a set of Newall's breaks, consisting of three vehicles continuously coupled together (as regards the breaks), being attached to it, and some trains have two sets. I am also informed that the directors of the Lancashire and Yorkshire Railway have determined that the same principle of an increased amount of break power shall be carried out on the eastern section of their line. These continuous breaks are slowly making their way, but they are, generally speaking, except on the East Lancashire Railway, employed where they are least wanted, viz., on trains running for short distances between stopping stations, and not where they are most required, where trains run at very high speed—from seventy to ninety miles on a stretch without stopping.

I have before me at the present time a letter from Mr. Newall, the patentee of one of the continuous breaks, in which he states that he is prepared to fit up a set of continuous breaks for any railway company, and to take them off again at his own expense, if on trial they are not approved of, and that he has recently made this offer to the Midland Railway Company. Now the limited mail is just such a train, running for 300 miles on the London and North-western Railway, as such an experiment might be advantageously tried upon. It consists of three vehicles that go through to Glasgow with one guard;

two that go to Aberdeen, one with a guard that travels to Edinburgh; one that is dropped at Preston, another at Newton Bridge, and two at Rugby for the Midland Railway. The vehicles for Glasgow might have continuous breaks on them worked by one guard at one end of the train, and the three other vehicles for Scotland to have continuous breaks on them worked by the other guard at the other end of the train. And, here I may remark, that the practice of placing vehicles behind the last guard's break van is fraught with danger, and should, in my opinion, be discontinued. Now this limited mail makes fewer stoppages by appointment between London and Carlisle than a North London train fitted with another and more simple description of continuous break, constructed in the London and North-Western Railway Company's workshops is obliged to make when competing with the omnibus traffic between Camden Town and Fenchurch Street. One great use of this continuous break to the North London Railway Company, irrespective of the increased safety to the public travelling on their line incident to its use, is to effect a saving of time in stopping at the various stations; but the limited mail, with the amount of break power at present afforded to it, is obliged and does shut off the steam at from one to two miles distance from many of the stations, and thus loses much time in stopping, which might be saved and devoted to the attaching or detaching the carriages which have to be left or picked up at the places which I have mentioned in or from their proper place which is not the tail of the train.

I submit that there are sufficiently numerous accidents to prove to the directors that the present system is not successful, and I urge that it may be carefully reconsidered and revised. If it be admitted that additional break power is required on fast trains, but that there are differences of opinion as to the mode in which it should be applied, offer a premium for the best plan that can be devised, and refer the consideration of the schemes which may be sent in to a committee of practical men, who are not themselves inventors of any kinds of breaks.

The second point connected with the Atherstone accident is that there was no means of communication on the limited mail by which the guards could call the attention of the driver to the absolute necessity for stopping, instead of continuing to run at undiminished speed towards the special cattle train. If the guards had had a much larger proportion of break power at their control, the putting it on would have answered the purpose, or a simple cord or wire, would have sufficed in this case, such as is now used on many of the principal lines of railway throughout the kingdom, which simple expedient has been the means of preventing many an accident from taking place. It may be asked what extraordinary influence it can be, that prevents a railway company that runs several express trains, 80 to 90 miles on a stretch without stopping, from adopting so simple a contrivance? Is it that the

mode of communication usually adopted is not approved, or that the London and North-Western Railway will not try anything that is not *absolutely perfect*? It does not require the opinion of a scientific man, the question is so simple that every man of ordinary common sense is perfectly competent to say that a means of communication should exist on every train. If one method does not answer, try another. I am altogether at a loss to understand why something of the kind is not adopted, or why that which is successfully carried out on the Great Northern, North-Eastern, North British, Midland, London, Brighton, and South Coast, London and South-Western, and other railway companies, and which is found practically to be advantageous and conducive to the Public Safety, should not answer on the London and North-Western Railway. It cannot be that the officers and servants of this great company are less efficient and less zealous than those of other companies; and it must be that the directors and those concerned in the management, think the point is not worth attention.

A third subject for consideration, suggested by the allegation of the engine driver of the limited mail that there was no light at the up auxiliary signal, is that instructions should be issued to all engine drivers to regard the absence of a signal light at night, where a light should be seen, as a positive danger signal unless the position of the arms of the signal can be seen to be at "all right."

It is all very well to make a report on the subject in accordance with the printed instructions when the journey is completed, but if a driver takes no step to place his train under control when a signal light is not seen in its proper position, he may not live to reach the end of his journey, and the lives of the public may be placed in extreme peril.

Lastly, I would suggest that the up distant signal at Atherstone station should be removed to a greater distance, and I think it might advantageously be exhibited at the Merivale crossing—but I must add that there can be no increased safety to the public travelling on railways, no matter to what extent the position of signals can be changed for the better, or the arrangement for making up the trains or conducting the traffic be improved, unless proper discipline be maintained on the line, and the engine drivers are made to keep a constant and vigilant look out, and to obey promptly the indications of the signals exhibited to them.

The station master at Atherstone was absent from his residence and could not, therefore, afford any information connected with the accident. I have no doubt that the directors of the company will specially inquire into the circumstances connected with his absence.

I have, &c.  
W. YOLLAND.  
Col. R. E.

The Secretary,  
Railway Department,  
Board of Trade.

#### LONDON AND NORTH-WESTERN RAILWAY.

Railway Department Board of Trade,  
Whitehall, 10th January 1861.

SIR, 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 London and North-Western Railway Company, the enclosed copy of the report made by Colonel Yolland, R.E., of his inquiry into the circumstances connected with the accident which occurred on the 26th November last, from a goods train getting off the rails between the Leigh and Atherton Stations.

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

I am, &c.  
JAMES BOOTH.

Railway Department, Board of Trade,  
Whitehall, 7th January 1861.

SIR, I HAVE the honour to report for the information of the Lords of the Committee of Privy Council for Trade, in obedience to your minute of the 12th ultimo, the result of my inquiry into the circumstances which attended the accident that occurred to a goods train on the Bolton Branch of the London and North-Western Railway, between Atherton and Leigh Stations, on the 26th November, when an engine driver was killed on the spot, and two other servants of the company were injured.

The Bolton Branch of the London and North-Western Railway is a single line, with sidings only at the several stations. The regular goods train ap-