

him to determine whether it was necessary to signal the driver to look out or to stop the train or not. A communication of this kind is the more necessary from the very great distance (83 miles) which certain trains now run without stopping.

It is quite possible that in many instances trains might be unnecessarily stopped, but that would arise from railway companies not providing their servants with a safe and ready means (such as I have adverted to) of passing along the train to the particular car-

riage from which a signal had been given, and thus obliging the guard to decide without proper information. The abuse of the power of communicating with the guard unnecessarily might be provided for by the company's byelaws.

I have, &c.

W. YOLLAND,

Lt.-Colonel, R.E.

Captain Galton, R.E.

§c. §c. §c.

LANCASHIRE AND YORKSHIRE RAILWAY.

*Railway Department, Board of Trade,
Whitehall, October 30, 1857.*

SIR,

IN compliance with the instructions contained in your letter of the 14th 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 10th ultimo, near the Knottingley Station of the Great Northern Railway.

All the portering and shunting connected with the Lancashire and Yorkshire Railway Company's goods traffic at this station is carried on by the servants of the Great Northern Company.

At twenty minutes past seven o'clock on the evening in question, a Lancashire and Yorkshire goods waggon, laden with merchandise, was taken out of the goods shed, and moved by horse power into a siding to the west of the main line, ready to be taken on towards Wakefield. A goods porter held the points for it to pass into the siding, and the horse-keeper, detaching the horse while it was in motion, allowed it to run in with such impetus as it had received. These men then went away to their other work, without waiting to ascertain whether the waggon had been placed sufficiently far up the siding to be clear of the passing trains, which it was more particularly the duty of the horse-keeper to do.

As the 6.45 p.m. passenger train from Goole to Wakefield was passing the spot, on its way into the Knottingley Station, at its proper time, about five minutes afterwards, it came into collision with this waggon. It consisted of an engine and tender, and three carriages, a composite carriage in the centre, and a third class break carriage on each side of it. The leading carriage was thrown off the line and caught in the goods waggon, so that the train was brought to a stand almost immediately. It is stated that none of the passengers were injured, though some of them were shaken.

The siding is on a gradient descending from the main line, is nine feet from the main line, and is provided with a chock block; and the accident appears to be attributable solely to the carelessness of the horse-keeper. This man has been subjected to a fine, and will no doubt be more careful for the future.

It was a dark evening, and the driver of the passenger train could not discover the position of the waggon in time to enable him to stop his train before reaching it.

I have, &c.

H. W. TYLER,

Captain, R.E.

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

LANCASHIRE AND YORKSHIRE AND EAST LANCASHIRE (MANCHESTER AND CLIFTON JOINT LINE).

*Railway Department, Board of Trade,
Whitehall, November 19, 1857.*

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 made by Lieut.-Colonel Yolland, R.E., the officer appointed by them to inquire into the circumstances which attended the collision that occurred on the 21st ultimo near Winsor Bridge on the Manchester and Clifton joint line of the Lancashire and Yorkshire and East Lancashire Railway Companies.

My Lords direct me to state that they trust that the observations of the inspecting officer upon the apparently habitually permitted breach of regulations will receive the serious consideration of the joint committee appointed by the Lancashire and Yorkshire and East Lancashire Railway Companies to manage the Manchester and Clifton line.

My Lords also trust that the committee will adopt the system of working the line by means of the electric telegraph recommended by Lieut.-Colonel Yolland, and that they will take steps to ensure that in working this portion of railway proper discipline be enforced, and the regulations laid down be strictly observed.

I am, &c.

DOUGLAS GALTON,

Captain, R.E.

*The Secretary of the
Joint Committee of the Lan-
cashire and Yorkshire and
East Lancashire Railway
Companies, Salford.*

*Railway Department, Board of Trade,
Whitehall, November 10, 1857.*

SIR,

IN compliance with the instructions contained in your letter of the 28th ultimo, 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 a collision that occurred on the 21st October, at Winsor Bridge, on the Clifton and Manchester Railway, between an express passenger train and an engine.

Winsor Bridge is situated between Pendleton and Oldfield Road Station, Salford, and it is about 1160 yards from the former, and 600 yards from the latter station. The line is a joint line made by the Lancashire and Yorkshire, and the East Lancashire Railway companies; and it is managed by a joint Committee from the two companies, with a distinct superintendent to look after the permanent way and the pointsmen at Winsor Bridge, and in the goods yard at Salford Station. This joint line is four miles in length.

At Winsor Bridge there are cattle sidings on each side of the main lines, from which cattle trains are fetched away by the East Lancashire Company on Wednesdays at uncertain periods of the day. These sidings are in charge of one signalmen, and they are protected by distant signals on the up and down lines, distant respectively 450 and 380 yards from the handles by which they are worked; these handles are 109 yards apart, and the signalmen's cabin is placed close to one of the handles.

The regulations under which the traffic is worked provide, among other matters, under the head of stationary signal 8, p. 16:—"The red or danger

"signal is to be shown while a train is stopping at a station, and for FIVE MINUTES after its departure." And, again, 11, page 17 :—"At most of the stations junctions, &c. DISTANCE OF AUXILIARY SIGNALS ARE fixed, which when turned to 'danger' will always indicate that the station or junction signal is also turned on, and that the main line is obstructed. Engine-drivers in such cases must always stop at such auxiliary signals, and then proceed within them cautiously, and at such a speed as to be able to bring the train to a stand before reaching the point of obstruction."

There are, however, no station signals at Pendleton Station; but I was informed, that when that is the case at stations along the line, the distant signals are considered as representing the station signal.

When engines or trains are leaving or passing Pendleton to proceed to the Winsor Bridge sidings, the practice has been established for the driver to give the signalman at Pendleton a signal that he is about to stop at Winsor Bridge; and when a train follows another intended for Winsor Bridge, the signalman shows the driver of the following train a green flag and calls out "Winsor."

On the morning of the 21st October an East Lancashire stopping train arrived at Pendleton at its proper time 9.40. According to the records in the time arrival and departure book, it left at 9.41. Before it had quite got entirely inside the distant signal at Pendleton, the signal was turned to "danger" to protect the rear of the train. The next entry in the register is that of an engine on its way from Bury to Winsor Bridge; it followed the East Lancashire train, and *did not stop* at the distant signal as enjoined by the regulations (the signal being at "danger"), but ran down to the station, and in passing, the signalman asked the driver where he was going, and was told Winsor Bridge. This engine passed at 9.42.

This engine proceeded on towards Winsor Bridge, and the driver states that he whistled for the signalman before he stopped, and as soon as he got in sight of the signalman's cabin, he observed him coming towards the distant signal handle, and that he had just got to it, and let the handle go, as he stopped his engine; that the signalman then came towards the points to let the engine pass over to the down line, these points being 45 yards from the signal handle; and according to the driver's statement, when he had brought his engine to the points, he saw another train coming on the up line; that after stopping at Winsor Bridge he reversed his engine for the purpose of going across to the down line, and had put the steam on the reverse way, and when he saw the other train coming, he reversed again and put on the steam again and was moving, but this is contradicted by the signalman, who says the engine was not moving; that he was travelling tender first, and just before the engine of the other train struck his engine he shut off the steam, and both he and his fireman jumped off and were unhurt.

The train which ran into the engine at Winsor Bridge was the Southport express leaving Bolton at 9.30. and due at Oldfield Road Station at 9.45. It consisted of four carriages and one break van, and is not appointed to stop between Bolton and Oldfield Road Station. The driver stated that he whistled off the signals at the Clifton Junction (four miles from Manchester), but the signalman showed a green flag, signifying that a train was in front, and that he must go cautiously; that he saw the Pendleton distant signal against him 3 or 400 yards before he reached it; but that it was turned off as soon as he saw it, that as he advanced to the Pendleton Station, he saw the signalman on the platform with a green flag, and he shut off his steam and whistled for the guards' breaks, which were duly applied; and he had reduced the speed to about 10 miles an hour when he came in sight of the Winsor Bridge distant signal, 450 yards before it was reached; that the Pendleton signalman held out his flag, but did not wave it; that he also held up his hand or two fingers, but it was not clear

whether it was two fingers or one; that when he showed his fingers, he (the driver) thought it was the East Lancashire stopping train that was ahead; that when he got sight of the Winsor Bridge signal it was off, and he then put on the steam again, and the signal remained off when he passed it; that he proceeded on, and then saw the engine, but in consequence of the cattle sidings being full of waggons, there were cattle trucks between him and the engine, which he could not see until he was within 160 yards of it; that when he saw the engine, he whistled for the guards' break, shut off the steam, applied the tender break, reversed his engine, and put the steam on the other way, and that he thinks he was running eight or nine miles an hour only when the collision took place. The train had the regulated amount of break power recommended by the Board of Trade, but it is probable that the collision would not have taken place if it had been supplied with Newall's break.

The driver also states that he did not hear the Pendleton signalman shout out "Winsor," although there is no reason to doubt that the signalman had called out and held up one finger.

It is understood that *three* of the passengers in the Southport express train were hurt, but fortunately none of them seriously.

The driver, fireman, and guard of this train jumped off just before the collision occurred.

The engines received some damage, and the bodies of some of the carriages were shook.

The Pendleton "time arrival and departure book" had an entry of 9.43 as the time on which the Southport express passed, but the signalman on being told of the accident, and that there was only one minute of an interval between the engine and the express, altered it to 9.44; but, as it seemed to me, without any sufficient grounds. And thus it appears, that in about two minutes after the departure of the East Lancashire stopping train, an engine going only as far as Winsor Bridge, and an up express train to Manchester, whose average speed between Bolton and Manchester exceeds 36 miles an hour, are permitted to pass Pendleton Station. I was inclined, in the first instance, to attribute the collision to misconduct on the part of the signalman at Pendleton, but further inquiry made it evident that the man had done his duty in accordance with the practice followed on the line; that the two regulations to which I have referred had been totally set aside, and no defined rules substituted in lieu of them. In proof of this I need perhaps only state that the station master at Pendleton informed me that the traffic was worked at the time of the accident as it was worked when he went there last April; that he had previously been clerk in charge at Oldfield Road; that a printed order issued while he was there, directing that trains should not follow each other at less than a five minute interval was not observed more than three months, although it is still in the book of regulations. If any fatal casualty had resulted from this accident, the signalman would probably have been prosecuted for manslaughter at the instance of the joint committee of the two companies, notwithstanding that the times of the departures from Oldfield Road of the East Lancashire up stopping train and the Southport up express train for Manchester, given in the time tables of the two companies for the month of October, are identical, viz. 9.45. The superintendent over this four miles of joint road informed me that he was not aware that the regulations had been broken, and I saw no reason to doubt the statement, as he appeared to be in complete ignorance of their meaning.

I think the driver of the Southport express was not proceeding with sufficient care, as he had certainly been cautioned by the "green" flag at Pendleton. It is quite possible that the distant signal at Winsor Bridge may not have been turned to "danger" when he first saw it, or even when he passed it; but there are sharp curves on this part of the road, and that fact, coupled with the exhibition of the green flag

and the holding up the signalman's hand, should have made him cautious. He had no right to assume that it was the East Lancashire stopping train that was before him.

The joint committee of management had determined, in consequence of the accident, to make certain alterations at Winsor Bridge, such as bringing the handles of the two distant signals together, and erecting a repeating signal to enable the signalman to know that the up distant signal (which could not be seen from his box) worked properly; they had also determined on placing two signalmen at Winsor Bridge instead of one; but it did not seem to me that they had made up their minds to work the traffic in a satisfactory and safe manner. Considerable differences of opinion appeared to prevail between the officers of the two companies, the advisers of the joint committee, as to the possibility of working the traffic in accordance with the printed regulations without serious accidents occurring; and no determination had been arrived at, even to preserve the five minute interval of time between following trains; and I must remark that this five minute interval is of itself by no means sufficient to ensure the public safety on a crowded road.

I was informed that between 6 a.m. and 10 p.m. from 100 to 120 trains passed over this joint line in the course of each day; the stations appeared to be very close to each other, and the line is much curved, and the sight a good deal obstructed, so that not much more than 200 yards can, at certain places, be seen ahead of the engine. Under such circumstances I am of opinion that the public safety would be much more effectually provided for if the electric telegraph were established, and the traffic worked so that no two trains going in the same direction should be between two adjoining stations at one and the same time. I should also add, that even the telegraph properly worked will not provide for the public safety, unless proper regulations be established and proper discipline be maintained.

I have, &c.

Captain Galton, R.E.
&c. &c.

W. YOLLAND,
Lt.-Colonel, R.E.

Joint Stations' Committee,
Salford, December 1, 1857.

SIR,
THE Joint Committee of the Lancashire and Yorkshire and East Lancashire Railway Companies appointed to manage the Joint Line between Clifton Junction and Manchester have had under consideration your letter of the 19th ultimo, enclosing report from Lieut.-Colonel Yolland, R.E., dated the 10th ultimo in reference to an accident at Winsor Bridge on the 21st October.

The management of this portion of the railway has had the particular attention of the Joint Committee, and they are of opinion that the existing arrangements, with the alterations already effected and referred to by Lieut.-Colonel Yolland in his report, with some that are contemplated and in progress, but not yet completed, are calculated to ensure the working of the trains over this line with safety.

The committee have made a special inquiry since the receipt of your communication, and they think there must have been some misunderstanding as to the evidence given before Colonel Yolland, as they do not find any difference of opinion between the officers of the two companies "as to the possibility of working the traffic in accordance with the rules and regulations without serious accidents occurring."

The entire distance from Clifton Junction to Salford is so completely covered by signals, that, with very limited exceptions, one is visible from the other, and from Pendleton it must be looked upon as a station the whole way to Salford; therefore, with the special instructions in operation for working the trains within those limits, the five minutes' interval is

not necessary; in fact, the committee are of opinion it would, under the circumstances, tend to create danger, and sometimes considerable delay, to the passenger traffic.

The committee have also made a change in the superintendence of the line by transferring it from the person recently in charge to the traffic superintendent.

The telegraph has not been laid down upon this part of the line, but the committee have the question under their consideration.

I have, &c.

JOHN THORLEY,
Secretary,
To the Secretary of the
Railway Department,
Board of Trade,
Whitehall.

Railway Department, Board of Trade,
Whitehall, December 8, 1857.

SIR,

WITH reference to the letter from the Secretary of the Joint Committee of the Lancashire and Yorkshire and East Lancashire Railway Companies, dated the 1st instant, I beg to observe, that there is no misunderstanding whatever as to the existence of considerable differences of opinion among the officers of the two companies, "as to the possibility of working the traffic in accordance with the rules and regulations without serious accidents occurring," and Mr. Thorley's letter supplies a complete confirmation of my statement, if any be necessary.

When I inquired into the circumstances connected with the accident, I asked for the instructions under which the traffic was conducted over the Joint Line between Manchester and the Clifton Junction; and was informed, that it was worked under the ordinary rules and regulations of the two companies, which were identical, and I was furnished with a printed copy of those rules and regulations. No allusion whatever was made to the fact of there being any "Special instructions in operation," and I know nothing of them, and hear of them now for the first time.

In my report of the 10th ultimo, I quoted from the printed book of regulations the rules that govern the passage of following trains, preserving a five minute interval between them at stations; and Mr. Blakemore, the Superintendent of the Lancashire and Yorkshire Railway, informed me that he was not aware, until the accident at Winsor Bridge occurred, that the rule was not at all observed on the joint line; and further, that he thought it ought to be observed for the future. On the other hand, Mr. Shaw, the Passenger Superintendent of the East Lancashire Railway, appeared to be perfectly aware that the rule was not observed, and maintained that the traffic on the line could not be carried on without causing accidents, if the rule were observed. Both these gentlemen will, I have no doubt, bear out my statements.

Now their Lordships are informed by Mr. Thorley, that it is the opinion of the Joint Committee that "the five minute interval is not necessary," and that "it would tend to create danger, and sometimes considerable delay, to the passenger traffic;" and the printed regulations of the two Companies are thus set aside.

I think I have shown that I have not laboured under any misunderstanding as to the nature of the information communicated to me.

I have, &c.

Captain Galton, R.E.
&c. &c.

W. YOLLAND,
Lt.-Colonel, R.E.

Railway Department, Board of Trade,
SIR, *Whitehall, December 11, 1857.*

With reference to your letter of the 1st instant on the subject of the collision that occurred at Winsor Bridge on the 21st October last, I am directed to transmit to you the enclosed copy of Lieut.-Colonel Yolland's observations with reference thereto.

My Lords trust that the arrangements of the Joint

Committee for managing the Joint Line between Clifton Junction and Manchester will secure the safe working of that line.

I am, &c.

The Secretary to the DOUGLAS GALTON,
Lancashire and Yorkshire and Captain, R.E.
East Lancashire Railways
Joint Stations' Committee.

LONDONDERRY AND ENNISKILLEN RAILWAY.

Railway Department, Board of Trade,
SIR, *Whitehall, November 12, 1857.*

I AM directed by the Lords of the Committee of Privy Council for Trade to transmit to you the enclosed Copy of the Report made by Captain Tyler, R.E., the Officer appointed by them to inquire into the circumstances connected with the accident which occurred to a mail train on the 9th ultimo, near the Carrigans Station on the Londonderry and Enniskillen Railway.

My Lords direct me to state that they trust that the directors will put the line in an efficient state of repair without delay, with regard to the keys in the chairs by which the rails are secured, as well as the complete fencing in of the line.

I am, &c.

DOUGLAS GALTON,
Captain, R.E.
The Secretary of the
Londonderry and Enniskillen
Railway Company.

Railway Department, Board of Trade,
SIR, *Whitehall, October 20, 1857.*

IN compliance with the instructions contained in your letter of the 14th 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 Carrigans Station of the Londonderry and Enniskillen Railway.

The 7 p.m. mail train to Omagh, which was composed of an engine and tender, a break van, and two carriages, left Londonderry as usual on the evening referred to, and was travelling at the ordinary speed employed upon this line, about 25 miles an hour, at 4 miles and a half from that station, when the driver suddenly saw a cow immediately in front of his engine. The moon had not risen, and the night was very dark, and the driver had no time to check the progress of the train before his engine was thrown off the line. The break van was turned round, and thrown upon its side, and the second class carriage behind it was partly upset, and was supported by the wheels of the van; but the last vehicle, a first-class carriage, did not leave the rails.

The cow was found afterwards lying between the rails, with its horns cut off on one side, and its tail and feet cut off on the other side. It also had its ribs broken and its body crushed, in consequence of the water-tank, which was suspended below the boiler of the engine, having come in contact with it.

The driver remained on his engine, and was unhurt. The fireman either jumped off or was thrown off, and was unfortunately killed on the spot. His body was literally cut in two, the lower half having been found some yards in rear of the first-class carriage, and the upper half between one of the wheels of the van and its adjacent break block, so that the guard must have crushed him as he screwed on the break. The guard himself was thrown out of his van, but was uninjured, though a platelayer, who was riding with him in the van, received a cut on his head. The passengers escaped unhurt, and those who were in the first-class carriage in the rear appear to have felt but little of the shock.

There were six other cows on the line, besides the one that was run over. They are stated to have been placed in a field on the east of the line at 1 p.m. on the same day, rather more than six hours before the accident occurred, and they appear to have had no ostensible means of making their escape. The fence was composed of a hedge next the railway, in which there were numerous gaps, and a series of posts and rails, in a rickety condition, on the outside of it. The posts and rails are said to have been complete the next morning, and the evidence goes to show that the gate was not open; but the cows disappeared from the line in the same mysterious way in which they encroached upon it, and it is to be supposed that they must have had some means of ingress and egress. They are described as having been wild young cattle, recently brought from the mountains, and they are said to have been removed upon the day in question from a richer pasture on the opposite side of the line, to which they may have desired to return. There was a gap, when I visited the spot, in the hedge which separated this latter pasture from the railway, and other portions of the fencing appeared to require renewal or repair.

The engine which was attached to the mail train on this occasion was one of a class in common use upon the Londonderry and Enniskillen Railway, known as Adams' patent. It is a light four-wheeled engine, with perhaps $4\frac{1}{2}$ tons on the leading wheels, and 7 tons on the driving or trailing wheels. The diameter of the former is five feet, and that of the latter three feet. The diameter of the cylinders is 16 inches, and the stroke 10 inches. The wheel base is 10 feet, but it has an overhanging fire-box behind the driving wheels, and it would therefore be liable to leave the rails on meeting with an obstruction which an engine with more weight on the leading wheels, and without overhanging weight in the rear, might pass over with impunity. But the main cause of its being thrown off the line on this occasion was the collision which took place between its tank, which is suspended below the boiler, at a distance of nine inches above the level of the rails, and the body of the cow.

It may certainly be said that the proper mode of preventing accidents of this description is to keep cows off the railway; but it would appear from this accident to be also desirable to allow a greater height above the level of the rails to the lowest parts of the engine than was afforded in the case of this water tank; and this remark particularly applies to such a country as that through which this railway passes, where there is unfortunately a dread of enforcing penalties against the farmers for leaving gates open, for fear of stones being placed upon the line, or of other means of retaliation being resorted to.

It will have been observed that no blame can be attached to the permanent way on account of this accident; but it is my duty to remark upon the bad state of the keys by which the rails are secured in the chairs, which was very evident as I walked over portions of the line. They were of inferior material, cut from a species of willow, and were in various stages of decay, and in some places there was hardly anything left of them, while in others they were out altogether. I fortunately had the pleasure of meeting the engineer in chief of the railway on the spot, and