WHITEHAVEN JUNCTION RAILWAY.

Railway Department, Board of Trade,
SIR, *Whitehall, September* 21, 1860.

I AM directed by the Lords of the Committee of Privy Council for Trade to transmit to you for the consideration of the Directors of the Whitehaven Junction Railway Company, the enclosed copy of a report which their Lordships have received from Captain Tyler, R.E., the officer appointed by them to inquire into the circumstances connected with the collision that occurred near the Harrington Station on the 14th August.

I am, &c.

The Secretary to the Whitehaven Junction Railway Company. T. H. FARRER.

SIR, *Whitby, September* 11, 1860.

IN compliance with the instructions contained in your minute of the 18th 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 the accident, that occurred on the 14th ultimo, near the Harrington station of the Whitehaven Junction Railway.

This is a single line 12 miles long, running from Corkicle, near Whitehaven, to Maryport. It is worked by the aid of the electric telegraph. A separate wire has been provided for signalling the trains from station to station, and special telegraph instruments have been connected with it at Whitehaven, Harrington, Workington, Workington Iron Works, Flimby, and Maryport. In the "instructions for signalling the trains" it is directed, that "no train or "engine is to be allowed to proceed from one station "to another on the main line, until a signal has been "sent to the station next in advance, and the reply "'line clear' received."

The signals which it is the duty of the signalmen to make to one another in each particular case are all precisely laid down in these printed instructions. The station masters are directed not to start a train until they are satisfied that the signalman at the station in advance has received notice of its approach, and has blocked over his needle. Any alteration in the crossing places of the trains, from those appointed in the service time table, are to be arranged between the station masters, on the ordinary telegraph instruments; a written order is to be given to any driver proceeding in such a case out of his regular course; and the regular signals are to be exchanged on the train-telegraph instruments also, in the usual manner.

Too much discretionary power is given to the station-masters by these printed regulations, but all contingencies are otherwise judiciously provided for except one. No particular mention is made of the case of a disabled train; and it appears to be understood, that, in the event of the main line being obstructed in this manner, it then devolves upon the station-masters or clerks-in-charge for the time, to make the best arrangements that they can under any particular circumstances that may occur, and that it is even their duty, when they themselves consider it necessary, to disregard the provisions of regulations which it is no longer in their power precisely to obey.

On the 14th ultimo, a heavy train consisting of an engine and tender, 51 waggons loaded with iron ore, and a break van, started punctually at 1 p.m. from Corkicle for Workington. After it had gone about 4 miles, the valve-spindle on the left side of the engine gave way, and the train came to a stand. The driver and fireman remained with their engine, whilst the guard went forward to Harrington, to telegraph to Whitehaven for assistance. After he had sent the necessary message to Whitehaven, the guard returned to his train, and they all remained with it until an assisting engine arrived, at 8 minutes to 3 o'clock.

When he reached the disabled train, the driver of the assisting engine first inquired of the regular goods-driver whether he could help with his engine to take the train towards Harrington; but he found that the goods engine was quite useless, in consequence of the valve-spindle having been fractured inside the steam chest, and of the driver having been unable to close the valve, for the purpose of working with a single cylinder; and he was therefore compelled, as the only means left of clearing the line, to divide the train, and to return in the first instance with part of it to Whitehaven. The guard of the goods train asked if all was safe for such a measure, as they travelled towards Whitehaven, and the driver replied that it was, because he had left word at that place before he started, that no engine or train was to be allowed to leave it until he returned to Whitehaven, or until his arrival at Harrington was reported by telegraph.

The message from Harrington, to announce the failure of the goods engine, reached the station-master in one of the Company's offices, near the station at Whitehaven, at 1·50. It was as follows:— "iron engine broken down this side of Graham's "works, send an engine to take her train." The station-master went out to the station yard, and finding the pilot-guard there he told him what had happened. The pilot-guard said that the pilot-engine was not sufficiently powerful to push this heavy train forward to Harrington, and recommended him to send to the locomotive department, at the other end of the town, for a new engine which was there, and which would be better able to do the work. The station-master sent accordingly to the locomotive superintendent, returned to the office which he had left, and remained there, busily employed, till twenty minutes to 3 o'clock, when he again went down to the station platform.

The locomotive superintendent duly received the message from Harrington, which had been forwarded to him by the station-master, but he was unable to send out the "new" engine, as he was requested to do, because that engine was in the shed with its steam damped down, and the driver and fireman had gone away to their dinner. He therefore sent back word to the station, that the pilot engine was to start to the assistance of the broken-down train; and the porter who brought back this reply, delivered it to the booking clerk at half-past two. The booking clerk sent to look for the station-master, and searched for him himself also for some little time; but, being unable to find him, he at length directed the driver of the pilot-engine to go and push the broken down train forward to Harrington. The driver replied that his engine was not capable of doing this, and the booking clerk told him to go and do the best he could.

The driver states that he said then to the booking clerk, and repeated it a second time, "be sure you "allow nothing to leave Branstey (the Whitehaven "station) until you get a message from Harrington, "or until I return"; and that the booking clerk replied that he would not allow anything to start until he heard of him. But the booking clerk does not remember having heard the driver say anything about his return, and only understood him to say "keep the passenger train until you get a signal."

The booking clerk then went, about 2·35, to book the passengers for the train due to leave Whitehaven at 2·45; and as the time arrived for starting that train, he ran out of the office "to see about a signal "from Harrington." He found the station-master on the platform, getting a second engine coupled on in front of the passenger train. Not having seen him previously, since he despatched the pilot engine, he told him that he had sent it off; and the station-master replied "that is all right." He then added "are you going without a signal;" and the station-master again replied, "yes, the engine that is gone is of no use.

The statements of the station-master and booking-clerk agree pretty well together, with one exception. The latter says that the former was in a great hurry, getting the second engine coupled to the passenger

train; that he had scarcely time to speak to him; and that if he had had more time he should have told him what had passed between himself and the driver of the pilot-engine. The former says that he was not in such a hurry as the booking-clerk represents; that he acted with all due deliberation, taking the advice of the pilot, the pilot-guard, and the signalman; and that the booking-clerk might have said more to him if he had been so inclined.

Nothing passed between them, at all events, with regard to what Wilson, the driver of the pilot-engine, had said: the booking-clerk supposed that the station-master must have received another message, or obtained some further information: it never occurred to the station-master for a moment that Wilson would return towards Whitehaven: he heard from the signalman that Wilson had gone to Harrington; and he determined to ride, himself, on the second engine, which he had placed in front of the passenger train, and thus amply provided with locomotive power, to push the broken-down train before him into Harrington.

The passenger train, consisting of two engines and tenders, one break-van, and eight passenger-carriages, proceeded forward in due course for nearly two miles, winding along the sea-shore; and it then approached a headland, which obstructed the view to the front. The station-master inquired of the driver how far he could see after he passed that point, and was informed that he would then have a pretty good view. He had only just rounded it, however, when he saw the pilot-engine before him, travelling in the opposite direction, on its way to Whitehaven with half of the "iron train."

When the two trains thus suddenly came in sight of each other, they were not much more than 100 yards apart. The passenger train is stated to have been travelling at a speed of 8 or 10, the iron train at 11 or 12 miles an hour. The gradient was a rising one, though not a severe one, against the passenger train. The drivers and firemen of both trains, after doing their best to reduce their speeds, all jumped off their engines; and the station-master was not the last to take this precaution. The two trains met with some violence, though without very much damage to the rolling stock. The engines were none of them thrown off the line. They were simply jammed into one another. The cylinders and framing of the leading engine of the passenger train, and the buffer-beam and smoke-box of the pilot engine, were broken. Sixteen of the passengers were unfortunately more or less injured, and two out of that number severely.

The proceeding of the driver of the pilot engine, in returning towards Whitehaven with half of the iron train, was a very natural one; and, in fact, it was the only one which it was open to him to adopt. He was sent from Whitehaven to do his best, after stating, what appears to have been well understood by all parties concerned, that his engine was not sufficiently powerful to push forward the broken-down train to Harrington. The locomotive superintendent, when he sent word to say that the pilot engine was to proceed to the assistance of that train, intended that it should first bring half of it to back to Whitehaven, and then, either push the remainder forward to Harrington, or bring it back also to Whitehaven, as might be most convenient. The proceeding was such an obvious one, and one which is so commonly adopted on railways in such cases, that it is most singular that it should not have suggested itself at once on this occasion both to the station-master and the booking clerk, as naturally almost as to the driver of the pilot-engine and the guard of the iron-train.

It appears, however, that the booking clerk did not hear one part of the caution which the driver of the pilot-engine addressed to him before he started to perform his bidding, and that he did not heed the other part of it sufficiently to induce him to repeat it to the station-master, which he should have done, whether the latter was hurried in starting, as he alleges, or whether he was not. It is certain that the station-master himself, who was really the responsible officer in the matter, exercised very little consideration or forethought when he started off with the passenger train, in ignorance of what the pilot-engine might be doing, and in the face of a danger which ought to have been so clearly evident to him.

At the same time, there is a most important warning to be derived from this accident,—one which has been before afforded in many cases,—but one which it appears to require a lesson of this description to enforce upon each separate railway company. It is, that in order to ensure safety in the working of a single line, it is necessary that certain stringent regulations should be adopted, by which it shall be rendered impossible for two engines or trains to be travelling in opposite directions at the same time upon that single line, or upon any portions into which for the purposes of working it may be divided; and that these regulations shall not leave any discretion with the booking-clerks, the station-masters, or with any other officers of the company, in the exercise of which they may be able to give orders that are capable of leading to accident. When discretion is given, even to an officer of a company, to act without being restrained by strict rules, there is always a liability, either of his making a mistake himself, or of others misunderstanding him, or wrongly interpreting the orders which he issues. When discretionary power is left with all the station-masters of the different stations, and their representatives, then the chance of accident is still further increased.

The driver of the pilot-engine laid down, in the present instance, the precaution that ought properly to have been adopted, when he requested that nothing should be started from Whitehaven, till he was heard of at Harrington or till he returned to Whitehaven. If that warning had been attended to, the collision would not have occurred.

The Company are now engaged in doubling their line, and they have already made considerable progress towards completing their 2nd line of rails, in consequence of the continued increase of their traffic. When that is finished, they will be relieved from the delays and inconveniences incidental to the working of a single line; but in the meantime it is desirable that they should adopt, in an additional regulation, the principle of the precaution above referred to, the regulation to be somewhat to the following effect.

When an engine or train fails upon the line, and is
" unable to proceed, assistance is to be sent for, either
" by messenger, or by telegraph from the nearest
" telegraph station. If a messenger be sent, he is to
" return with the assisting engine to the spot. In
" any case, the disabled engine should remain in the
" same place, (in the event of its defects being rectified)
" until the arrival of assistance. When a second en-
" gine has once been asked for, either by telegraph or
" by messenger, no engine or train is afterwards to
" proceed on this portion of the line, until it has
" been reported to be 'clear,' or until the assisting
" engine has itself returned for further assistance."

The only other remarks, that I have to offer in regard to this case, are, that there was no break van, as there ought to have been, for the greater security in other respects, of the passengers, at the tail of the passenger train; that the Company appear to be in the habit, at present, of running their passenger trains without a break van behind them; and that, whether the line be single or double, it is highly desirable, that they should cause a working break van to be attached in future to the rear of all their trains.

I have, &c.

H. W. TYLER,
Captain, Royal Engineers.

The Secretary of the Board of Trade, Whitehall.

WHITEHAVEN JUNCTION RAILWAY.

Railway Department, Board of Trade,
Whitehall, 18th Dec. 1860.

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 Whitehaven Junction Railway Company, the enclosed copy of Captain Tyler's report upon the condition of the viaduct near Harrington, complained of by the road surveyor and other persons residing at Harrington.

I am, &c.
JAMES BOOTH.

The Secretary of the Whitehaven Junction Railway Company.

Railway Department, Board of Trade,
Whitehall, 18th Dec. 1860.

SIR,

WITH reference to the letter of the 5th instant, signed by you and other inhabitants of Harrington, complaining of the condition of the wooden viaduct of the Whitehaven Junction Railway near that place, 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., of his inspection of the viaduct in question.

I am to add that my Lords have forwarded a copy to the Directors of the Company for their careful consideration.

I am, &c.
JAMES BOOTH.

Thomas Farrow, Esq.,
Road Surveyor, Harrington.

Carlisle, 15th Dec. 1860.

SIR,

I HAVE the honour to report, for the information of the Lords of the Committee of Privy Council for Trade, that, in compliance with the instructions contained in your minute of the 12th instant, I have inspected the viaduct on the Whitehaven Junction Railway which has been complained of by Mr. Thomas Farrow and other inhabitants of Harrington.

I had the pleasure of meeting on the spot this morning several of the gentlemen who signed the memorial, dated the 5th instant, in which their Lordships' attention was called to its condition, as well as the secretary and manager, and the engineer of the railway.

This viaduct is immediately to the south of the Harrington Station, and is about 400 feet in length. It crosses one important, and two inferior public roads. It is constructed almost entirely of timber, with openings of various dimensions, and is situated on a sharp curve. Having been standing for about 16 years, it is worn out; and the company are now engaged in renewing it.

The planking is thoroughly rotten; the cap-sills have, in some cases, been crushed by the weights of passing loads; the vertical timbers are more or less in a state of decay; and the sole-pieces appear to have but a small proportion of sound wood left in them. It is evident, from the construction of the viaduct, that the deflection in parts of it must always have been considerable, and it now yields, as a maximum, about an inch and five-eights under a heavy engine.

This viaduct appears to have been a subject of anxiety to some of the inhabitants of Harrington for a considerable length of time; and they have now been induced to appeal to their Lordships, in consequence of one of the upright timbers, upon which the road way was supported, having given way during the passage over it of a goods train on the 4th instant. This beam had at length become so weakened by decay, that it was crushed down for a short distance, at a height of two or three feet above the level of the ground, under the weight of the goods engine. The train was not, fortunately, thrown off the line.

The company are engaged, as I have already stated, in re-building the viaduct; and I need hardly add, that it is desirable that the work should be completed with all possible despatch. Additional timbers have been placed, in the meantime, under some of the horizontal beams; and I recommend, that, as a further temporary precaution, during the progress of the work, all the other openings should be carefully supported in like manner; as well as, that additional stays should be placed on the outside of the curve, to check the lateral vibration which is caused by the passage of engines and trains.

I learn that iron girders are about to be added, on masonry abutments, over the principal road which passes under the viaduct; and that the northern portion of it is to be renewed with masonry arches; but I observe, also, that a large proportion of it is being renewed in timber, and that the memorialists draw attention to the sappy nature of the timber which is being employed for the purpose.

I would therefore remark, in conclusion, in reference to this part of the subject, that the directors are not acting wisely in renewing the viaduct with timber at all, and that they would do better, even now, if they were to employ materials of a less perishable nature. It is in the present day well understood, that the expenses of maintenance and renewal, and the necessity for constant care and watchfulness, are so great in the case of timber structures upon railways, as to render it highly desirable, with a view to ultimate economy as well as to public safety, when the money can be found, to incur the expense of structures of a more permanant charater. In pursuance of this conviction, the timber work upon existing railways is being constantly replaced, as opportunity offers, by earth, stone, and iron, and on some of the lines constructed of late years in which economy in first cost is most an object, the use of timber has been judiciously avoided.

The continued employment of this material in the present instance, by the directors of a company in such good circumstances as that to which I now refer, and whose receipts, as I see by the last returns, are at the rate of 53*l.* per mile per week, is quite inexcusable.

I have, &c.
H. W. TYLER,
Capt. R. E.

The Secretary,
Railway Department,
Board of Trade.