

has been put in as near the foot of the incline as possible. The points leading into this catch siding, which is only about 30 yards in length, are about 110 yards from the junction signal box, and they are locked open to the catch siding whenever any signal is taken off, for a train to enter or leave the station, in either direction.

On the day of the accident, the 1 h. 45 m. p.m. coal train from Oldham to Mossley, situated between Greenfield and Staleybridge, arrived at Greenfield at 2 h. 17 m. p.m., and it was shunted into the goods yard, east of the junction signal box, for the 1 h. p.m. passenger train, from Leeds to Manchester, to pass. The 2 h. p.m. passenger train from Delph to Oldham, consisting of a tank engine and four carriages, one of which had a break compartment fitted to it, reached Greenfield at 2 h. 15 m., and after stopping at the up platform, east of the junction signal box, to put down passengers, it then ran on to the Oldham branch, which is west of the junction signal box, so as to be out of the way of the 1 h. p.m. train from Leeds, and it stopped on the incline of 1 in 75, just above the points leading back into the catch siding, in readiness to put back again to the platform as soon as signalled to do so.

The up train from Leeds to Manchester is said to have left Greenfield at 2 h. 28 m., and the down express (1 h. 55 m. p.m. from Stockport) to have passed in the opposite direction without stopping, at 2 h. 30 m. p.m., according to the books kept at the station and according to some of the evidence; and the signalman on duty says that about this time he shifted the points and turned off the disc signal to allow the coal train to follow the Leeds train towards Manchester; and as the driver was not paying any attention to the signal, he went to the window of the signal box furthest from the station and coal train, took his green flag in his right hand, waved it twice, from right to left, and called out to the driver to follow the passenger train.

The driver of the 2 h. passenger train from Delph to Oldham, which, as already stated, was standing on the line to Oldham just above the points leading into the catch siding, thought this hand signal (the green flag) was a signal for his train to be taken back to

the platform, and he got on his engine and told his fireman to take off the break, and the train at once began to descend the incline by the force of gravity, and ran into the catch siding and against the stop-blocks at the end of it. The engine had a buffer knocked off, and the smoke-box was slightly damaged, while the end of the third-class carriage, fitted up as a break, had the end knocked in.

The driver and fireman of this train assert that the signalman held the green flag in his left hand, and waved the flag from left to right; and, as usual in such cases, the evidence is very conflicting. The distance which the train ran back was so short that the driver had no time to do anything to prevent the mishap after the train had started.

The accident was certainly caused by the signalman having improperly made use of a hand flag to call the coal train out of the siding, when there was no necessity for doing so, as a specific signal had been provided for the purpose, and he could have sent the ground pointsman, who was in his box, to tell the driver of the coal train to proceed. The driver of the passenger train thought the hand signal was intended to call him back to the station platform, in accordance with the usual practice; no specific signal interlocked with the other signals and the points leading into the catch siding having been provided.

The primary cause of this accident is the absence of a bay off the up line, into which the 2 h. p.m. passenger train from Delph to Oldham could be shunted, out of the way of the main line train; and this has led to its being sent forward on to the branch line, and then called back by hand signal after the up main line train has gone by.

Either such a bay should now be provided, which would be the better arrangement, but difficult and expensive to construct, or the train should be called back from the Oldham branch by a specific signal, instead of as now by hand signal; or it should be shunted into the bay on the north side of the station.

I have, &c.,
W. YOLLAND,
Colonel.

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

Printed copies of the above report were sent to the company on the 23rd June.

LONDON AND NORTH-WESTERN AND LANCASHIRE AND YORKSHIRE RAILWAYS (PRESTON JOINT STATION).

SIR, *Manchester, 3rd May 1870.*

IN compliance with the instructions contained in your minute of the 27th ultimo, I have now the honour to report, for the information of the Board of Trade, the result of my inquiry into the circumstances which attended the collision that occurred on the 18th April at the Preston joint station.

An excursion train, 6.25 p.m., from Blackpool, reached the north end of the tunnel, north of Preston station, about 7.40 p.m. on the afternoon in question. It consisted of an engine and tender and 21 carriages, of which 13 were coupled together, on the system of Mr. Newall, as break-carriages. The train was not intended to come to a stand in the Preston passenger station, but the engine-driver intended to take water at the south of the station. After a short delay, he received a signal in due course from the usual signal post, and another from a hand lamp, authorizing him to proceed through the tunnel and the station. When he entered the station he blew his whistle three times, as a warning to the pointsman on duty, that his engine might be turned at the south of the station from the North Union line to the East Lancashire line for Blackburn; but, as he approached the points leading to the East Lancashire line, he observed that, instead of being held over for his train, they remained open for the direct line to Wigan and the south; and

he further observed that a goods train was in motion near him, which would probably pass down, and which he would, in that case, meet upon, the south line. He therefore whistled for the breaks, reversed his engine, turned on his steam again, and did his best to pull up. He had reduced his speed from about four to two miles an hour before his engine struck the waggons of the goods trains which he had thus noticed, as about to pass down the line across which he was improperly allowed to run.

The passenger engine was not damaged by the collision, but two footsteps were pulled off from it as it was being disengaged from the waggons. None of the carriages were damaged; and none of the passengers have complained of injury. The guard who rode in the van next behind the tender did not feel any shock, and the collision must, therefore, have been a very slight one.

The goods train was passing through the station in its customary course, and was travelling very slowly, having only moved forward 100 yards, after starting from the passenger platform, when it was struck. Three of the goods waggons were lifted off the rails, but their loadings (of pig iron) were not disturbed, and they proceeded on their journey as soon as they could be placed on the rails again.

It appears that the pointsman who would in the

ordinary way have held the facing points to turn the passenger train down the East Lancashire line, had been told by the station-master to watch a signal at the south of the station, and to act according to its indications, in turning certain trains expected from the East Lancashire section into the lines which might respectively be ready to receive them. In obeying these instructions he necessarily omitted to attend to the points above referred to, which he would otherwise have worked, though it was not, of course, contemplated by the station-master that he should neglect them; and the points remaining thus without being attended to, the passenger train ran along the wrong line, and across the path of the goods train, as already described.

The old modes of working points and signals from the ground, and in an inconvenient manner, still exist

at this important joint station, and they will no doubt continue to exist until a general re-arrangement and improvement, now so long expected and so frequently contemplated, have at length happily been carried into effect. It would be hopeless and useless to recommend any partial alterations, though such might, of course, be effected, for greater security in working this particular pair of points; and the Board of Trade have sufficiently often remonstrated with the London and North-western and the Lancashire and Yorkshire Railway Companies in regard to the general condition of the station.

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

I have, &c.,
H. W. TYLER.

Printed copies of the above report were sent to the London and North-Western and Lancashire and Yorkshire Railway Companies on the 14th May.

NORTH BRITISH RAILWAY.

SIR, *Edinburgh, 27th May 1870.*

I HAVE the honour to report, for the information of the Board of Trade, the result of my inquiry into the circumstances which attended the accident that occurred on the 25th instant, at the Queensferry Junction, between the main line of the Edinburgh and Glasgow section and the Queensferry branch of the North British Railway.

This junction is $7\frac{3}{4}$ miles from the Waverley station at Edinburgh. The main line is level past the junction, which is provided with a signalman's cabin; and the floor of that cabin is about 15 feet above the level of the rails. There are the usual home-signals and distant-signals for the protection of the junction. The junction points and home signals are worked by levers from the cabin, and their levers are interlocked on the system of Messrs. Stevens and Sons; but the distant-signals, which are also worked from the cabin, are independent of the locking frame, having been so placed upon a system which was more in use when the junction was formed, about five years ago. Telegraph-instruments have been supplied for this cabin, with a view to the introduction of the block telegraph system of working on this portion of the line; but, pending the completion of certain arrangements for signalling the sidings, and crossing the trains, so as to secure greater safety, the orders for bringing the block telegraph into operation have not yet been issued.

The signalman at the Queensferry junction (which is closed at night) came on duty, as usual, about 5.30 a.m. on the 25th instant; and his duty would extend in the ordinary course until about 6.15 p.m. At 4.21 p.m. he heard the whistle of an engine approaching from Edinburgh, which he recognized as proceeding from the 4.0 p.m. express train from Edinburgh to Glasgow; and he lowered, first his distant-signal, and then his home-signal for the passage of that train through the junction, according to custom, before the train came within sight of his cabin. He had no sooner lowered his down signals than he saw a mineral train coming along the main line in the opposite direction towards his cabin. As the junction was clear for the passage of both of those trains, he lowered his distant and main signals for the mineral train also, and the two trains would, if nothing had happened to either of them, have passed through the junction without any interference with each other.

But, as the engine of the mineral train was passing the junction cabin, and while the passenger train was passing under a bridge over the line, 420 yards on the east of the junction, on its approach to the junction, the signalman observed a waggon of the mineral train, about the sixth from the van at the rear of the train, suddenly leave the rails and swerve towards

the down line. It then appeared to him that the coupling between that waggon (which he now believes to be No. 15) and the waggon next behind it (No. 14) gave way; and that while No. 15 waggon was drawn forward with the train, No. 14, which was behind it, ran across, and came to a stand on the down line, followed by two others. He further noticed that the three other waggons and the van which formed the tail of the mineral train remained on the rails of the up line, and were stopped by the three waggons in front of them, which thus obstructed both lines.

After first lowering his signals for the passenger train, as above described, the signalman had turned his down distant-signal to danger as the passenger train passed it; but seeing that the down line was thus suddenly obstructed, he at once threw up his down home-signal as a warning to the engine-driver of the passenger train. The speed of that train was therefore reduced as it approached the junction to about 15 miles an hour; but the passenger engine came into collision at that speed with the truck (No. 14) of the mineral train, and knocked it to pieces, and the two trucks behind No. 14 were, the one very much, and the other slightly, damaged.

The passenger train left the Waverley station at Edinburgh at 4.9, nine minutes late, and was not due to stop between the Haymarket (Edinburgh) station, a mile and a half from the Waverley station, and Cowlairs, 44 miles from Edinburgh and $1\frac{1}{2}$ miles from Glasgow. It consisted of an engine and tender, six carriages, and a break-van. It left the Haymarket station at 4.14, and approached the Queensferry junction at 4.23, at a speed of about 30 miles an hour. The engine-driver whistled for the junction as he approached the distant-signal, and he noticed that it was turned to "all right," to allow him to pass. After emerging from the bridge on the line above referred to, at 420 yards to the east of the junction, he saw that the home-signal also was at "all right;" but when he had gone a short distance beyond the bridge he noticed that the home signal applying to the down line was suddenly thrown up to "danger." He at once gave two sharp whistles for the guard's break, shut off his steam, reversed his engine, and re-applied the steam, while his fireman turned on the two breaks of the tender. The speed of the passenger train was thus reduced to about 15 miles an hour before it struck the goods waggon, which the driver of the passenger train only came in sight of after he had passed the mineral engine and the waggons which were still attached to it; the steam from the mineral engine, which was blowing across the down line, having prevented him from seeing the obstruction until he was within 50 or 60 yards of it.