The

VIRTUAL MUSEUM

of the

LANCASHIRE & YORKSHIRE RAILWAY

Accident Reports.

25 January 1873

BoT Report into Accident at

Wrenthorpe Junction GNR.

(2 Pages).

The L&YR Society ARCHIVE

Board of Trade.
(Railway Department),
24th February 1873.

SIR,

In compliance with the instructions contained in your minute of the 4th inst., 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 collision between a Great Northern and a Lancashire and Yorkshire Company's train that occurred on the 25th ult., at Wrenthorpe junction, on the Great Northern Railway.

About 30 passengers are reported to have been cut, bruised, and shaken. Two of them had ribs broken.

Wrenthorpe junction is situated about 1,000 yards to the north of the Westgate station, at Wakefield. It is the place where the Ossett branch joins the railway from Wakefield to Leeds. Balne Lane junction, which is the junction with a goods yard, and the Wakefield north junction, where the platform lines and some goods sidings join the passenger lines, are situated between Wrenthorpe junction and Westgate station. Westgate south junction and the West Riding junction are situated at the south side of the station. The signals at all these junctions work in connexion with each other, to the extent that the home-signal at one junction answers as the distant-signal for the adjacent junction; and these signals are interlocked, so that the signalman on duty at Wrenthorpe junction cannot lower the signal at Balne Lane junction, which acts as the distant-signal for Wrenthorpe junction, unless the signalman at Balne Lane allows it, and vice versâ. This arrangement is carried out from Wrenthorpe junction to the West Riding junction for the down line, and from West Riding junction to Wrenthorpe junction for the up line.

There is, however, this defect in the arrangement, that if any one of these signalmen, either by accident or by intent, neglect, after the passing of a train, to put back the lever that works his distant-signal, and thereby fails to lock the home-signal at the adjacent junction-cabin, the safety and object of these arrangements is made null and void.

Westgate station is the joint property of the Great Northern, Midland, and Manchester, Sheffield, and Lincolnshire Railway Companies. The railway from Westgate north cabin to Wrenthorpe junction, and thence to Leeds and Ossett, belongs to the Great Northern Railway Company. The Lancashire and Yorkshire Railway Company have running powers over the line from Wakefield to Leeds.

On the day in question, there was a very thick fog, and fogmen were employed on the line.

One fogman was stationed at each junction-cabin, and there were two additional fogmen at the distant-signals at the north side of Wrenthorpe junction, one on the Ossett branch and the other on the line to Leeds.

The Lancashire and Yorkshire Company's train, which is due to leave Kirkgate station, Wakefield, for Leeds at 9.20 a.m., did not leave till 9.37 a.m. It was late, owing to the fog.

This train stopped at Westgate, and left that station about 9.43 a.m. It consisted of an engine and tender and five coaches. A guard was travelling in the break compartment of the last coach, which was coupled to all the others with continuous breaks.

The signals at the north junction and at Balne Lane junction were lowered to "all right" for the train to pass, and the engine-driver was approaching Wrenthorpe junction at a speed of about six miles an hour, when he ran over three fog signals. He shut off steam and his fireman applied the tender break, but he did not reverse his engine until he got close to the junction and observed that the home-signal for the Ossett branch was standing at "all right." The engine-driver of the Lancashire and Yorkshire train observed a Great Northern train, which was coming off the Ossett branch, and was only a few yards from him, at the same moment that he observed the state of the junction signals, but he could not stop his train before he ran into the Great Northern train. This latter train was approaching at a speed of about ten miles an hour.

The front wheels and one trailing wheel of the engine of the Lancashire and Yorkshire train were knocked off the rails, but none of the coaches left the rails. The buffer-beam of the engine was broken and the carriages were damaged.

The Great Northern train consisted of an engine, with its tender in front, and five coaches. A guard was riding in the break compartment of the last coach.

This train left Ossett at 9.32 a.m. It was four minutes late in starting. The engine-driver found the Wrenthorpe distant-signal at "all right." A fogman, who was standing close to the signal-post, gave the engine-driver an "all right" signal with his hand-flag, and the train proceeded towards the junction at the usual speed. When the engine-driver got about 80 yards from the junction he passed another fog signalman, who also gave him an "all right" signal to proceed. The fog was so thick at the time that the engine-driver could not see the junction signals before he ran into the Lancashire and Yorkshire train on the junction crossing. He then observed that the junction signals were at "all right" for the Great Northern train to proceed. The tender of the Great Northern train was thrown off the rails and the buffer-beam was broken, but none of the carriages left the rails. Some glass in the carriages was broken. The engine-driver of the Great Northern train was knocked down and stunned.

The signalman at Wrenthorpe junction stated that his signals were at "all right" for the Great Northern train to approach from the Ossett branch, and that the main line signals were at "danger" against the Lancashire and Yorkshire train from Wakefield. The signals are arranged on the locking principle, and there is no doubt that the junction-signal was at "danger" against the Lancashire and Yorkshire train from Wakefield, but it is also certain that the home-signal at Balne Lane junction, which answers as a distant-signal for Wrenthorpe junction, was lowered to "all right" for the train from Wakefield to proceed to Wrenthorpe junction.

The home-signal at Balne Lane being lowered to "all right" may have occurred from the man at Wrenthorpe junction not putting back his lever, so as to allow the signal to go to danger, and by that means lock it, so that the man at Balne Lane could not lower it; or by the man in the Balne Lane cabin not having put back his lever into the notch, and by that means prevented the man at Wrenthorpe junction from locking the signal. The line is worked on the block-telegraph principle, and not more than one train is allowed to run between Balne Lane junction and Wrenthorpe junction on the same line of rails at the same time; but a train has been allowed to approach Wrenthorpe junction from Ossett at the same time that a train has been allowed to approach from Balne Lane junction. The signals have been considered sufficient to protect the trains meeting at the junction.

An empty engine had proceeded from Wakefield to the goods yard at the Leeds side of Wrenthorpe junction a few minutes before the Lancashire and Yorkshire passenger train left Westgate station. The signalman at Wrenthorpe junction stated that he had put back the lever that works his distant-signal at Balne Lane as soon as he had taken the empty engine "on line," and the signalman at Balne Lane confirmed this statement; but the latter added, that the signal

was again released when the signalman at Wrenthorpe junction telegraphed "line clear," after the empty engine had passed. The signalman at Wrenthorpe junction denies this. It is impossible to decide which of these men made the mistake, but I am inclined to believe that it was the man at Wrenthorpe junction.

The fogman who was employed at Wrenthorpe junction had put down three fog signals, by the order of the junction signalman, to stop the Lancashire and Yorkshire train. This fogman stated that the fog signals were placed on the rails 160 yards from the junction points, and that he was standing at the place with a red flag to stop the train, but the guard of the train stated that he picked up the fog signals after the accident, and that they were only about 75 yards from the junction.

The fogman appears certainly not to have been on the main line where the fog signals were placed, as no fogman was seen by any of the servants of the Lancashire and Yorkshire train, but a fogman was seen on the Ossett branch, about 75 yards from the junction, by the servants of the Great Northern train, and as only one fogman was posted at the junction, he cannot have been in the two places at the same time. The accident was caused by the mistake of one or other of the two signalmen at Wrenthorpe or Balne Lane junctions.

The engine-driver of the Lancashire and Yorkshire train does not appear to have used all the means at his disposal to pull up, as soon as he ran over the fog signals. He stated, that owing to the fog, he did not think that he was so close to Wrenthorpe junction.

The Great Northern Railway Company propose to adopt in the several junction-cabins at Wakefield the improved method of slotting the signals that are intended to act as home-signals and distant-signals. By this means each signalman has the power of putting back the signal to "danger," but it requires both the men to act in concert, to lower it to "all right."

I recommend, further, that the system of blocking by telegraph be extended, and that two trains which are to cross each other should not be permitted to approach Wrenthorpe junction at the same time.

I have, &c.,

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

F. H. Rich,
Colonel.

Printed copies of the above report were sent to the Great Northern and Lancashire and Yorkshire Railway Companies on the 10th March.

GREAT SOUTHERN AND WESTERN RAILWAY OF IRELAND.

Sir, *Cork, 9th February,* 1873.

In compliance with the instructions contained in your minute of the 21st ult., 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 7th ult., near Dundrum station on the Great Southern and Western Railway of Ireland.

No persons are reported to have been hurt.

On the day in question, the mail train from Cork to Dublin left the Limerick junction at 2.2 p.m. It was three minutes late in leaving the junction.

The train consisted of an engine and tender, a break-van with an assistant guard, a post office carriage, two second, two first, one composite carriage, and a break-van at the tail of the train, in which the guard in charge of the train was travelling. As the train reached the distant-signal at the south side of Dundrum station, the leading wheels of the post office carriage got off the rails.

The signals were at "all right" at Dundrum station, and the train, which was not timed to stop there, was running at a speed of about 35 miles an hour, when the engine-driver felt a sudden jerk as he reached the siding at the south end of the station.

The engine-driver stated, that when he felt the jerk he looked round and saw that the front end of the second-class carriage, next behind the post office carriage, was depressed. He thought that the front axle of this carriage had broken, but he did not think that any part of the train was off the rails at that time. He shut off steam, whistled for the guards breaks, the fireman applied the tender break, and the train was brought to a stand, at the north side of Dundrum down distant-signal, about one mile from the spot where the first marks of a pair of wheels being off the rails, were found on the ballast and sleepers. When the train was stopped the whole of the vehicles were on the rails, but the front buffer of the post office carriage was locked under the hind buffer of the break-van in front of it; and the hind buffer of the post office carriage was caught above the front buffer of the second-class carriage which was next behind it.

The front draw-bar of this second-class carriage was bent and the hind draw-bar of the post office carriage was broken, but the coupling chains held on and the train was not divided.

On examining the line after the accident a piece of rail about two feet long was found to have been broken off the end of one of the outer rails, near the Dundrum up distant-signal, so as to leave a gap, about two feet wide, between the rail that had broken and the rail next to it. The rail that broke was 15 feet long. It was of the bridge pattern and weighed about 89 lbs. per lineal yard. It had been in use 24½ years.

The rails are fastened to sleepers laid transversely at an average distance of 2 ft. 6 in. apart. The sleepers at each side of the joint sleeper are only 12 inches apart.

The greater number of the joints of the rails are fastened to the sleepers with four fang bolts, which pass through a 12-inch chain, but a steel clip, secured to the sleeper by a 9-inch fang bolt, was substituted for the chair at the joint adjacent to where the fracture occurred. The sleepers are of various sizes and form. The largest are 9 feet 6 inches long, 12 inches × 6 inches, and the smallest 9 feet 6 inches long, 6 inches × 6 inches.

The rail was probably broken before or by the engine of the mail train passing over it, and the broken piece at the end of the rail, was knocked out of its place by the action of the engine, tender, and break-van next to the tender, as they passed over it. The front wheels of the post office van left the rails at the two feet gap, which was left between the two rails by the end of one rail breaking off. The centre and hind wheels of the post office carriage, and the rest of the train, kept the rails until the train reached a crossing at the south end of Dundrum station.

The point of this crossing was struck heavily by the off-side front wheel of the post office carriage, which had run along the sleepers, on the inside of the rail, from the place where it got off, until it struck the crossing, when the centre wheels of the post office carriage also left the rails. The post office carriage was then dragged about 40 yards further, with its front and centre wheels off the rails, until these wheels met the rail of a siding that joins the up line at the south end of the station, near to the up line platform, and were turned by the rail of the siding back again on to their proper line of rails; the post office carriage proceeded then with its front and hind buffers locked with the buffers of the coaches next to it, until the whole train was brought to a stand at the north side of Dundrum station.

The rail of the siding, that turned the post office