

engine, and I immediately put the signals to danger. I had given no signal to the driver of the light-engine to start. I had no conversation with him at the time about the accident. I am quite certain that the engine was not foul of the crossing when I pulled off the signal for the train to start.

Conclusion.

This collision was clearly due to the mistake made by William Montgomery, driver of the light-engine, in taking the semaphore-signal which had been lowered for the Bridgeton Cross train, as being intended for him. Montgomery seems to have realised his mistake almost as soon as he made it, but before he could bring his engine to rest, it had fouled the cross-over road through which the train was passing and the mischief was done. Montgomery frankly admitted his mistake at the time of the accident, and again during my enquiry, and it is not therefore necessary for me to do more than record my opinion that he alone is to blame for the accident, which of course might have had much more serious consequences.

Montgomery has been in the Company's service 25 years, for 21 of which he has been a driver, and he had been on duty about three hours at the time of the mishap.

In the course of this inquiry, I had occasion to examine the signalling at St. Enoch station, which owing to alterations in and additions to the lines of rails, and to the exigencies of a constantly increasing traffic, cannot now be regarded as altogether consistent and satisfactory.

I would therefore suggest for the consideration of the Company, that the arrangement of the departure signals at St. Enoch station might be improved, and at the same time simplified, and that if this were done, mistakes, such as the one now under review, would be less likely to occur. It would, I think, be desirable to substitute, if possible, semaphore-signals for the ground discs leading out from platform lines Nos. 5 and 6. These discs are practically starting-signals, and should be easily recognizable as such. On the other hand, some of the semaphore-signals on the signal bridge are only required for shunting purposes, and therefore should be of some different form, so as to be readily distinguished by drivers from the running signals.

The Assistant Secretary,
Railway Department, Board of Trade.

I have, &c.,
H. A. YORKE,
Lieut.-Col., R.E.

A P P E N D I X.

DAMAGE TO ROLLING-STOCK.

Engine No. 77.—Steps on right side of engine torn off, front buffer beam bent, and side angle-iron rubbed, vacuum pipe broken, and injector pipe damaged.

Brake third No. 78.—End beam casting, top footboard and one hanger broken.

Third No. 215.—Two end beams and one top footboard broken, seven footstep hangers torn off, and gas gauge broken.

First No. 144.—Corner of two end beams, one top and one bottom footboard, six footboard hangers, one

solid buffer, one end and one side panel broken; side mouldings damaged.

Third No. 90.—One end beam, one top and one bottom footboard and footboard hangers broken.

Brake third No. 76.—One end beam, one top and one bottom footboard, one side-light and footboard hangers broken, corner post damaged.

DAMAGE TO PERMANENT-WAY.

27 chairs, three switch connecting rods, one switch tie rod, and one facing point lock, broken.

Printed copies of the above Report were sent to the Company on the 30th July.

LANCASHIRE AND YORKSHIRE RAILWAY.

Board of Trade (Railway Department),
8, Richmond Terrace, Whitehall, London, S.W.,
April 25th, 1896.

SIR,

I HAVE the honour to report, for the information of the Board of Trade, in compliance with the Order of the 11th instant, the result of my enquiry into the circumstances attending a buffer-stop collision, which occurred on the 1st instant at Dewsbury Station on the Lancashire and Yorkshire Railway.

In this case, as the 8.43 a.m. passenger train from Thornhill to Dewsbury was running into the latter station, it was not brought to a stop at the proper place, and the engine came into collision with the buffer-stops.

Three passengers are reported to have complained of being injured.

The train consisted of a six-wheeled coupled tender-engine, running tender in front, and three six-wheeled passenger-coaches. The engine and train were fitted throughout with the automatic vacuum-brake.

The leading wheels of the tender were off the rails after the collision, and the following damage was done to the rolling-stock, viz., one buffer-casting broken, buffer-planking splintered, vacuum-brake pipe broken, and a life-guard bent.

The buffer-stops were broken down.

Description.

Dewsbury is a terminal station with up and down platforms 100 yards in length.

The entrance to the station is controlled from Dewsbury station signal-cabin, which is situated about 58 yards from the end of the platform, and there is another cabin at Sands Lane level crossing, 200 yards from the station-cabin. The home-signal is as nearly as possible midway between the two cabins. The line between Sands Lane and the station is on a curve to the left, the radius of which, opposite to the station-cabin, is 11 chains, and it is on a slightly falling gradient of 1 in 528 up to near the end of the platform, the station being almost on the level.

The rule as to stopping trains in terminal stations laid down in the Lancashire and Yorkshire general rule book, is the same as that adopted by other companies who are parties to the Railway Clearing House, and it requires these stations to be entered at such a speed as to enable the train to be stopped "at the proper place by the application of the ordinary hand-brake only." Guards are also required to "watch the speed of trains and assist the engine drivers by the use of the hand-brake when necessary."

There is also a special instruction in the Appendix to the working time book as follows:—

"Trains must be brought to a stand in their proper position by the use of the hand-brake alone when entering all bay sidings and the under-mentioned terminal and junction stations.

"Engine drivers are prohibited (except owing to some emergency) from applying the automatic-brake after passing the end of the platform at which they have to stop.

"The guard will be held responsible for applying the hand-brake in his van.

"Should it be necessary, on any emergency, to apply the continuous-brake, after passing the end of the platform, both the driver and the guard must specially report the circumstances."

(Here follows list of stations, which includes Dewsbury.)

Evidence.

Joss Pearson states: I have been 12½ years in the Company's service, six years as signalman. On the 1st April my hours of duty were from 6 a.m. to 6 p.m., the same as usual, and I am now employed in Sands Lane signal-box. On the morning of the 1st the 8.43 a.m. train ex Thornhill was offered to me by Mill Street, at 8.43, and accepted at once. It passed my cabin at about 8.46 or 8.47. I should say the speed of the train would be about 25 miles an hour, which is not faster than some of them come in. As the train passed the steam was shut off, but no brakes were applied there. I saw the guard, who was standing by the side of the window (near the brake) of the rear brake vehicle. The guard I saw was in porter's uniform.

Thomas Mason states: I have been 34 years in the Company's service, all the time as signalman, and for 29 years at Dewsbury. On the 1st April I was employed as relief signalman in the station cabin, my hours of duty being from 6 a.m. to 6 p.m. On the morning of the 1st the 8.43 train ex Thornhill was given me on line at 8.47, my home-signal being already off for it. I saw the train before it arrived at my home-signal, and steam had then been shut off and I saw none given afterwards. The train passed the cabin at a speed of about 20 miles an hour, but I

did not notice whether any brakes were on. It had been very drizzly about 1½ hours before, and the rails seemed to be then getting a bit rusty. The speed of the train was much faster than usual passing my cabin.

George Hayes states: I have been one year and nine months in the Company's service, and for about six months a porter shunter. On the 1st April my hours of duty were from 5.30 a.m. to 5.30 p.m. with 1½ hours for meals. On that date I was employed as guard with the 8.25 a.m. passenger train from Dewsbury to Thornhill and back again at 8.43. On leaving Thornhill the train consisted of two third-class brakes and a composite carriage, and I rode in the rear brake; guard Waddington was in the brake with me. We were not stopped at all between Thornhill and Dewsbury, and we left Thornhill at the proper time. The speed passing Sands Lane was not faster than usual. I applied my brake there, but did not put it hard on; just before reaching the station-cabin I applied the brake fully. We passed the cabin at a greater speed than usual. The automatic brake was applied by the driver somewhere between Sands Lane and the station cabin, but he had taken it off before we got to the outer end of the platform. My brake is in the elevation of the van and I had got down on to the floor passing the cabin, but I got hold

of the brake-handle again before the collision with the buffer-stops occurred. I was not hurt. None of the wheels of the carriages left the rails. Three passengers have complained of being injured. Whilst running, the vacuum-gauge in my brake showed 20 inches, but I did not notice the gauge after we entered the station.

Thomas Waddington states: I have been 18 to 20 years in the Company's service, and about 12 years as passenger guard. On the 1st April, I rode as a passenger in the rear brake compartment of the 8.43 train from Thornhill to Dewsbury. Approaching Sands Lane, Hayes applied his hand-brake pretty hard, the speed being about the same as usual, viz., 15 to 20 miles an hour. Between the home-signal and the station-cabin the guard's brake was put hard on, by my advice. Passing the station-cabin the speed was certainly too fast. Whilst running, the gauge showed 20½ or 21 inches of vacuum, and the vacuum-brake was applied by the driver. Somewhere about the home-signal he put it on quickly, and I do not think he released it again. The indicator went to zero. The three vehicles all had six wheels, with four wheels braked.

John Jackson states: I have been 22 years in the Company's service, six years as a driver. On the 1st April my hours of duty were from 7.30 a.m. to 3.50 p.m. I have driven in and out of Dewsbury station lately for about a month. My engine, No. 142, is a six-wheeled coupled tender-engine, fitted with automatic vacuum and hand brakes, all wheels of both engine and tender being braked. On the occasion in question, I left Thornhill at 8.43 to run to Dewsbury. Approaching Dewsbury, I shut off steam at Mill Street, when the speed would be about 20 miles an hour. At Sands Lane my mate applied the hand-brake, but the wheels "picked up" owing to the rails

being greasy after rain. I did not think we passed the station-cabin any faster than usual, but as we ran along the platform, finding that we were not going to stop, I put on the vacuum-brake. The fireman opened the sand-boxes about the outer end of the platform before I applied my brake; his brake was hard on all the time. I reversed the engine as soon as I got the brake on. There was nothing wrong with the sand-boxes. I was running tender in front. It is a "shuttle" service between Dewsbury and Thornhill, and there is only a turn-table at Dewsbury. The leading wheels of the tender, as we were running, were off the rails after the collision. One buffer-casting was broken, the buffer-planking splintered, vacuum-brake pipe broken and a life guard bent (on the engine). Neither I nor my mate was hurt at all. I had steadied the train slightly with the vacuum-brake in the usual manner before arriving at the home-signal. I used the large ejector to blow off outside the station, and the small ejector remained throughout in the running position.

James Henry Webster states: I have been six or seven years in the Company's service, three and half years as fireman. On the 1st April I was firing for driver Jackson and my hours of duty were the same as his. Passing Mill Street cabin the driver shut off steam, and I applied the hand-brakes at Sands Lane. I do not think the wheels skidded until we got to the platform. The speed did not seem to me to be faster than usual passing Sands Lane and station cabins. The driver checked the train with the vacuum-brake between Mill Street cabin and the station home-signal. About the middle of the platform I thought we were not going to stop, and I opened the sand-boxes. I think the driver applied the vacuum-brakes somewhere about the end of the platform. I was not hurt at all.

Conclusion.

In this case it seems to be beyond doubt that the train was permitted to enter Dewsbury station at too high a rate of speed. Signalman Mason and guards Hayes and Waddington all say that the speed when passing the station cabin, 58 yards from the end of the platform, was exceptionally high.

The driver says he had shut off steam sometime before arriving at Sands Lane, which is 358 yards from the buffer-stops. At Sands Lane both the fireman and guard applied their hand-brakes, and the speed of the train was also reduced by the automatic-brake outside the station, but it is not quite clear whether the latter was used judiciously or not. Guard Waddington is of opinion that the vacuum-brake was put on very quickly, the effect of which might be to cause the wheels of the train to skid.

The usual excuse is made of the rails being greasy, owing to rain earlier in the morning, and evidently the brakes were not stopping the train to the extent the engine-men thought necessary at the platform, for the fireman opened the sand-boxes. As they were running tender in front the tender-wheels would not be affected by sanding the rails, and the full effect was therefore not obtained.

Driver Jackson eventually applied the vacuum-brake again, and reversed his engine, but too late to avert a collision with the buffer-stops; an error of judgment, for which he alone is responsible.

I understand that it is an ordinary practice to use tender-engines on the "shuttle" service between Thornhill and Dewsbury, but I must point out that it is contrary to the recommendations of the Board of Trade to run tender in front, and this can hardly be avoided unless a turn-table is provided at Thornhill as well as at Dewsbury.

The Assistant Secretary,
Railway Department, Board of Trade.

I have, &c.,
G. W. ADDISON,
Lieut.-Col., R.E.

Printed copies of the above Report were sent to the Company on the 9th May.