

## LANCASHIRE AND YORKSHIRE RAILWAY.

Board of Trade (Railway Department),  
8, Richmond Terrace, Whitehall, London, S.W.,  
March 10th, 1902.

SIR,

I HAVE the honour to report for the information of the Board of Trade, in compliance with the Order of the 5th March, the result of my enquiry into the causes of the collision, which occurred on the 28th February, between the rear vehicles and the front portion of a goods train in Millwood Tunnel, near Todmorden, on the Lancashire and Yorkshire Railway.

In this case, as the 11.5 p.m. goods train from Rose Grove to Burnley was descending the steep gradient between Copy Pit and Portsmouth signal-boxes, the guard's van and fifty rear waggons broke loose from the three leading waggons and engine, and after running in two parts for over 4 miles the rear portion caught up and collided with the three waggons attached to the engine.

The train in question consisted of a six-wheels-coupled engine with six-wheeled tender, fitted with the automatic vacuum brake on all wheels of engine and tender, and with the hand brake on the six tender wheels, and of 22 loaded and 31 empty waggons, and a 10-ton brake van.

The collision was a very severe one, 13 waggons being broken up and 21 badly damaged. The engine was driven forward through the tunnel, but did not leave the rails.

The fireman and guard were both injured; the former by being knocked off the engine when the collision took place. The driver escaped unhurt.

The accident occurred at 1.30 a.m., and the night was dark and misty, and the rails very greasy.

Details of damage to rolling stock and permanent way are given in the Appendix.

*Description.*

The up line on the Burnley branch, on which the goods train was travelling, falls very sharply from the summit, about five chains beyond Copy Pit Siding signal-box, down to Stansfield Hall signal-box. The following distances and gradients may be noted:—

Copy Pit signal-box to Portsmouth Station box, 1 mile, 394 yards, and the gradient varies from 1 in 68 to 1 in 123, falling.

Portsmouth Station box to Stansfield Hall box, 2 miles, 1,594 yards, and the gradient varies from 1 in 51 to 1 in 78, falling, except for the last 330 yards, where it is falling 1 in 123 for 4 chains, falling 1 in 550 for 3 chains, rising 1 in 587 for 8 chains.

From Stansfield Hall box to the junction with the main line at Todmorden No. 4 box, 454 yards, and the gradient varies from 1 in 429 to 1 in 145, falling.

From Todmorden No. 4 box to the entrance to Millwood Tunnel is 257 yards, and the gradient 1 in 193, falling.

The tunnel is 225 yards long, and the gradient 1 in 193, falling.

Before reaching the summit at Copy Pit box the up line is on a very steep rising gradient of 1 in 67 for a distance of over a mile.

There is a notice board, lettered "Goods train stop to pin down brakes," just at the summit at Copy Pit.

The following are the Rules in the Company's Appendix regarding descending inclines:—

## DESCENDING INCLINES.

Engine drivers and guards of cattle, goods, mineral, and coal trains must have their trains well under control when descending inclines, and, when necessary, before entering upon inclines, must stop and pin down a sufficient number of waggon brakes. Care must be taken that the brake levers are not fastened down so tight as to prevent the wheels from revolving.

A point indicated by a conspicuous notice board, lettered "Goods train stop to pin down brakes," will be fixed near the commencement of steep inclines (1 in 65 or steeper), where all goods and mineral trains must be brought to a stand.

Before starting again the fireman must pin down tightly a few waggon brakes nearest the engine. The train must then be drawn slowly on to the falling gradient, and while this is being done the guard must continue putting down brakes until the whole of the vehicles are on the incline. On reaching the bottom the fireman must lift the brakes in the front portion, and the guard those in the rear portion, of the train.

The engine driver must always use steam to pull the whole of the train on to the incline, in order to be thoroughly satisfied that a sufficient number of waggon brakes have been applied,

when he must give two short, sharp whistles, to indicate that sufficient brake power is in operation.

The engine and van brakes must in all cases be off when the train commences to descend the incline, so that they may be held in reserve, and ready for use when required to steady the train down the incline, or to stop it if necessary at any point.

The guard must closely watch the train while descending the incline, and must, if necessary, assist the driver by every means to keep the train under proper control.

In the case of a train starting on, or picking up waggons from, a siding on a steep gradient, the fireman must, before starting the train, put down sufficient waggon brakes to necessitate the driver using steam to start, and, as the train is slowly moving, the guard must continue to put down more waggon brakes until the driver intimates by two short, sharp whistles that a sufficient number has been put down to require his train to use steam down the gradient, the engine and van brakes being off and in reserve as directed above.

### *Evidence.*

*Wm. Crabtree*, signalman, Portsmouth Station Box, states: I have been a signalman for 20 years, 17 of which I have been at Portsmouth. On February 27th I came on duty at 10 p.m. to work until 8 a.m. on the 28th, having booked off duty at 8 a.m. on the 27th. I received "Is line clear" signal for the 11.5 p.m. Rose Grove to Wakefield goods train from Copy Pit at 1.7 a.m. I acknowledged it same time, received "Train entering section" signal at 1.15, and the engine passed my cabin at 1.24. I noticed when the engine passed my box that it had only about three waggons, certainly not more than four attached to it. I could not see the rest of the train, and I immediately gave "Train divided" signal to Stansfield Hall, which he acknowledged at the same time. I also went to the telephone and gave the circuit call "Train divided" to Todmorden, Nos. 3 and 4, and to Stansfield Hall boxes; after which I got some fog signals in my hand, but on looking out of the window I heard the broken loose waggons approaching. I knew I should not have time to put any fogs on the rails, but I showed a red light to the guard, and as he passed he shouted "What's up," or words to that effect, and I replied "You are broken loose." There was an interval of about one minute between the first and second portions of the train passing me. The broken loose waggons would be travelling about 15 to 20 miles per hour at my box, and the engine would be going about the same rate. I do not think that the driver was aware that he had broken loose at the time he passed me. I could not see any sparks flying, and if there were any brakes down they were not taking much effect. It was a misty night, and the rails would be very greasy.

*Geo. Brooke*, signalman, Stansfield Hall, states: I have been in the service five years, and a signalman three years, two years of which I have been in Stansfield box. On February 27th I booked on duty at 10 p.m. to work until 6 a.m., having booked off duty previously at 10 p.m. on the Wednesday night. I received the "Is line clear" signal for the 11.5 p.m. Rose Grove to Wakefield goods train at 1.15 a.m., and I acknowledged it same time. I got "Train entering section" signal at 1.24, and at the same time I offered the train to Todmorden No. 4 box, but it was not accepted till 1.28, and immediately afterwards I received "Train divided" signal from Portsmouth, and also a telephonic message that the train had broken loose. I sent the "Train divided" signal immediately I got it from Portsmouth to No. 4 box, at 1.24 a.m., and I think the entry in my book in which I state I sent it at 1.28 must be wrong. I got on the telephone to Todmorden No. 4, and told him he must give the train a clear road. He said he could not as he had all his signals off for Salford to Hull express goods. I then asked Todmorden No. 3, but he gave the

same answer. After this I went to the window and saw the engine approaching. I waved a green light from side to side and shouted out to the driver to keep out of the way as he had broken loose and the second portion was following on. Immediately the engine passed I put my signals to danger and placed a red light out of the window. I ran down the cabin steps and put three fog signals on the rails about 15 yards away from the box. Before I could get back the second portion exploded the fog signals. I gave "Train entering section" signal to Todmorden No. 4 when the engine passed me at 1.29. I calculate the second portion would be about half-a-minute behind the first, and I think it would be running at least 50 miles an hour. Shortly afterwards I heard from Todmorden No. 4 that the train had come together in the tunnel. The train engine passed me travelling about 10 to 15 miles per hour. My distant signal was against it. I did not notice anything about the brakes of the 1st portion, but I observed that the brake of the guard's van was throwing sparks and that the wheels were skidding. I could not tell what breaks were down on the waggons next to the van. There were either three or four waggons attached to the engine, but I am not quite sure, certainly not more than four. It was a dark and greasy night.

*Thos. S. Berry*, signalman, Todmorden No. 4, states: I have been in the service 20 years and a signalman 12 years and have been in Todmorden No. 4 box about six months. On February 27th I booked on duty at 10.0 p.m. to work until 6.0 a.m., having booked off duty previously at 10.0 p.m. on Wednesday night. The 12.40 a.m. Newspaper train, Manchester to York, passed my box at 1.15 a.m., and at 1.15 I received the "Is line clear" signal from No. 3 box for Salford to Hull express goods. I acknowledged at same time, and at 1.18, when Eastwood had accepted it, I took off all my signals for it. At about 1.24 the signalman at Stansfield Hall called me up on the telephone and told me the Rose Grove to Wakefield goods train was coming down the bank and he had got "Train divided" signal for it from Portsmouth, and almost immediately he sent "Train divided" signal to me. I at once telephoned to Todmorden No. 2 and asked where the Hull train was and he said it had passed Walsden East. I told him to put on his back distant signals and to stop the train. I then at 1.28 a.m. accepted the Rose Grove to Wakefield train and took off my signals. About two minutes after this the engine passed my box about 15 miles an hour. I waved the driver on with a white light and shouted to him, but he did not give me the impression that he was getting away as fast as he might have done, in fact the impression I formed was that he was putting

a red light on the tender and that he slackened to do this. When he had passed my box about 20 yards a red light appeared and the engine immediately shot ahead as if a special effort was being made. Almost at once the waggons came up and I heard them crash into the front portion of the train about the tunnel. I think the second portion would be travelling about 55 miles an hour when it passed me. It was 1.25 when I received the "Train divided" signal, and I sent it forward to Eastwood at 1.30. The Salford to Hull train was brought to a stand at Todmorden No. 3 home signals at 1.30. It was a very dark night and I am unable to say exactly the number of waggons attached to the engine. As the second portion approached, I could see that there were brakes down on the waggons, as there was fire flying from them as well as from the brake-van. I could not say exactly the number of waggons that had brakes pinned down. I gave "Obstruction danger" signal in both directions at 1.30, when the collision occurred. The guard came back to my box about three minutes after the collision and told me that both roads were blocked, but I had, of course, already sent "Obstruction" signal. I then telephoned to the station to knock the station-master up and to send for the breakdown gang. The guard fainted in my box. The fireman of the train came back to my cabin some time afterwards, but he had come over the top of the tunnel after walking to Eastwood Station and back. He had a deep cut on one of his legs and seemed to be badly hurt, and a doctor, who had been sent for to attend to the guard, immediately attended to him. I think there was about one minute's interval between the two portions passing my box.

*William Severn* states: I have been 27 years in the service, 25 years a goods guard, and have been stationed at Wakefield 24 years. I commenced duty on Thursday, February 27th, at 5.15 p.m., to work the 5.45 p.m. Wakefield to Rose Grove, and 11.5 p.m. Rose Grove to Wakefield. We arrived at Rose Grove at 10.40 p.m. We left Rose Grove again for Wakefield at 12.50 a.m. on the 28th. My train consisted of 53 waggons and brake-van, *i.e.*, 22 loaded and 31 empties. We stopped at Copy Pit to pin down brakes at 1.15 a.m. I pinned down about five brakes, four double clipper and one ordinary, nearest to my brake-van. I saw one of the enginemen pinning down brakes in the front of the train. I cannot say how many brakes were pinned down in front. Just after leaving Copy Pit I started to get some food, as I usually do when working this train. On approaching Portsmouth I was looking out of my van, as I always do at this point, to see that everything is right, and I saw a red light exhibited from the box. I knew on seeing the red light that something was wrong with our train. On passing the box the signalman called out "You have broken loose." I at once commenced to put my brake on gradually, until I got it tight on. I then held the brake handle with one hand and held a green light out of my van on the six foot side with the other, with a view to keeping the driver going. I continued to look out and exhibited the light all down the bank. My portion of the train seemed to increase in speed, and we ran at a terrific rate between Cornholme and Stansfield Hall Stations. I do not remember anything after passing about Stansfield Hall Station until after the collision occurred. I found myself lying on the ballast close to my brake-van. I cannot say whether I got out of my van

or was knocked out of it. I got up and proceeded as fast as I could to No. 4 signal-box, and when I got there I asked the signalman if anything was coming from Eastwood, and to block all the roads, as my portion of the train had run into the front portion in the tunnel. He said there was nothing coming, and that he had already sent the "Obstruction danger" signal in both directions. I then told him to send at once for the breakdown gangs at Newton Heath and Low Moor. When leaving Copy Pit I always have the brake rubbing, so as to apply it more when necessary. All the signals were off for us from Rose Grove to Portsmouth, but on approaching Stansfield Hall I noticed the signals at danger, and this seemed to upset me altogether, as I made myself sure the train was coming to grief. The fireman told me the train broke loose at the third waggon from the engine, thus leaving 50 attached to my brake-van. I received injuries to my back, left shoulder, and left thigh.

*William Smith*, driver, states: I have been in the service 20 years, and have been a driver for 10 years. On February 27th I booked on duty at 4.35 p.m., to work a goods train from Wakefield to Rose Grove, and the 11.5 p.m. goods train Rose Grove to Wakefield. I should have booked off about 4 a.m. on 28th in the ordinary course. I booked off about 4.50 a.m. on 27th. I have about one and a half hours' interval between the trips at Rose Grove, but I am on the engine all the time. We left Rose Grove at 12.55 a.m., and my train consisted of 53 waggons and brake-van, which was an average load for this train. I came up the bank with the assistance of a pilot engine in the rear, which we detached at Copy Pit. At Rose Grove I had a conversation with the guard, and he told me to stop at the top of the bank, and to pin down four brakes, and he would do the same. This is about the usual number to pin down with this weight of train on this gradient. At Copy Pit I drew my train over the summit slowly, and came to a stand, when the guard's brake had commenced to run on the falling gradient. I pinned down four brakes next to the engine. My engine would be about half way between the advance for Copy Pit and the distant signal for Portsmouth. I got a starting signal from the guard after we had pinned brakes down, and my mate then took off the hand-brake, and we started slowly without steam. Shortly after my engine had passed Portsmouth signal-box I began to be uncomfortable, as I could not see my van lights. It was a very dark night, and rather hazy, and the rails greasy. I then ran as hard as I could until I sighted the distant signal for Stansfield Hall, which was on. The home signal was also on when I sighted it, but it was taken off as I approached it, and I increased my speed. As I was passing Stansfield Hall cabin the signalman gave me a white light and shouted, and I then felt certain that my train was divided. When I sighted the home signal for Todmorden No. 4 it was off, and I was travelling about 10 miles an hour passing this box. My mate made a motion to go on the tender with a light at this point, but I said "You must not go up there," and he seemed to be down in an instant. I cannot say how far he went on the tender. I did not slacken for a light to be put on. In my opinion, if the signals had all been off when I sighted them, I could have kept out of the way of the rear portion of my train. I think my engine was just entering the tunnel as the rear portion ran into us, and the engine was knocked to the other end of the tunnel, and although I

had steam on, it was brought to a stand by the vacuum brake going out, the pipe having been damaged. I looked round and found my mate was not on the engine, and on searching for him, I found him in the tunnel 10 or 15 yards back, just getting up. He told me he had been knocked off the engine. I was not hurt myself, but the fireman was badly cut. I asked him if he was hurt, and he said "Only my face, I think." As this did not appear serious, I sent him to Eastwood to warn the signalman that the up line was blocked, and when he came back he went to Todmorden No. 4 Box, over the top of the tunnel, for the same purpose, and to see where the guard was. I am unable to say how many waggons we had attached to the engine when we broke loose, as I could not see, but when the engine came to a stand at the end of the tunnel it had only about half a waggon to it. My engine was a six-wheels-coupled tender engine with vacuum brake on all wheels of engine and tender, and hand brake on the six tender wheels. I am unable to say exactly what speed I was running at any time, but I ran as fast as I could all the way.

*Inspector Isherwood, Carriage and Waggon Department, Sowerby Bridge, states:—*I arrived

on the scene of the accident at 5.30 a.m. The first two waggons brought out of the tunnel at the Eastwood end had all the links and couplings intact, but one of the links of the trailing couplings of the third waggon had opened out in the bend, the broken link being still on the coupling. The link was a full section  $1\frac{3}{4}$  at the fracture. It had no flaw, but the iron looked rather brittle. The number of the waggon was Lancashire and Yorkshire 19385, and it had been loaded with bacon and sundries. As this was the only broken coupling on any of the waggons of the train until some were broken in pulling out the damaged waggons, I am satisfied it was the one which caused the breakloose. The brakes appeared to have been on on four of the waggons next to the engine, but they were so broken up that I cannot speak with any confidence on the subject. On examining the rear portion of the train we found that the brake was on on the van and six of the waggons next to it. The blocks of the van had been hot very recently, but there was no indication of heating on the waggon blocks. I did not find any flat places on the tyres of the van, and there was only a slight flat on one of the wheels of the waggons.

#### *Conclusion.*

The circumstances preceding this accident were as follows:—

The goods train in question consisting of engine, 22 loaded waggons, 31 empties and a 10-ton brake-van, an average train the load behind the engine being about 386 tons, left Rose Grove at 12.50 a.m., and it came up the steep incline to Copy Pit with the assistance of a banking pilot engine, which was detached on arrival there at 1.15 a.m. The driver (W. Smith) states he came over the summit slowly, and came to a stand with the whole of his train on the falling gradient, in order that some of the waggon brakes might be pinned down. Smith states that he pinned down the brakes of the four waggons next the engine, and the statement of the guard (who was not well enough to attend the inquiry) made to the Company, shows that he pinned down the brakes on five waggons in front of his van, four with blocks on two wheels, and one with a block on a single wheel. This the driver states was the usual number to pin down with that weight of train on that gradient. The driver states that after receiving a signal from the guard he started very carefully without steam by the fireman releasing the hand-brakes on the tender.

When passing Portsmouth Station box about one mile further on at 1.24 a.m. the signalman noticed that the engine had only three or four waggons attached to it, and he at once gave the "Train divided" signal to Stansfield Hall, the next signal box in advance then open, and also gave the circuit call "Train divided" to the signal boxes on his circuit, viz.:—Stansfield Hall and Todmorden Nos. 3 and 4. Then hearing the remainder of the train approaching he showed a red light from the box and informed the guard that he had broken loose. At this point, according to the signalman's estimate there was about one minute's interval between the two portions, and each was travelling from 15 to 20 miles an hour.

Shortly after passing Portsmouth the driver thought he had broken away from his train, and he then ran as fast as he could to get out of the way of the following waggons. He had to check his speed at Stansfield Hall owing to both distant and home signals being against him, but the home signal was taken off as he approached it, and he states he again increased his speed, but he was only travelling about 10 miles an hour when passing Todmorden No. 4 box, 450 yards beyond Stansfield Hall, and the following waggons caught him up, and collided with the three waggons attached to the engine just in the tunnel, about 300 yards beyond Todmorden No. 4 signal box.

On being warned at Portsmouth that his train had broken loose, the guard put his hand brake hard on, and did all he could to stop the waggons, but as they were then running at a speed of from 15 to 20 miles an hour, on a very stiff falling gradient, it was impossible for him to do so, as there were 44 unbraked waggons in front of his van and of the five rear waggons with their brakes pinned down.

The speed of the runaway waggons increased, and by the time they reached Stansfield Hall Box were, in the estimate of the signalman there, running 50 miles an hour, and

there was only about half a minute's interval between the two portions, and as above stated, the rear waggons collided with the front portion of the train in the tunnel, about 300 yards beyond Todmorden No. 4 box. The detached waggons had run down from Portsmouth a distance of 2 miles 1,594 yards in about five minutes, or an average speed of about 35 miles an hour. Their speed at the moment of collision was probably quite 50 miles an hour and the effect was to pile up the wreckage to the roof of the tunnel. The engine with half a waggon attached was driven through the tunnel and brought to a stand by the vacuum brake, the brake pipe having been damaged.

I do not consider any of the men in charge of the train are to blame in any way for the accident. It would appear at first sight from the evidence of the signalman that the driver had not run as fast as he might have done after getting the home signal off at Stansfield Hall, but as he was aware that he had a divided train, and had already run as fast as he could from Portsmouth to Stansfield Hall, I think it may be taken as certain that he did his best to keep ahead of the runaway waggons.

The fireman is to be commended for his conduct after the accident, as, although badly hurt (he was unable to attend the inquiry), he went forward to Eastwood, the signal-box in advance, to warn the signalman there, and then returned over the top of the tunnel to see what had happened to the guard and to warn the signalman at Todmorden No. 4 box.

On examination of the waggons after the accident it was found that the brake was on the van and on six of the waggons next to it, but the waggons next to the engine were so broken up that the inspector could not say how many had been braked down; but the driver's statement is quite clear that four had their brakes pinned down, and these two lots, together with the brakes of the engine, were quite sufficient for the safety of the train coming down the incline had no break-loose occurred.

The only broken link found was the end link of the trailing coupling of the third waggon (one belonging to the Company), which was broken at the bend, the drawbar hook of the 4th waggon having pulled through it. I inspected the broken link, the fracture was a clean break, and there was no sign of a previous flaw.

The link was of very best wrought iron,  $1\frac{3}{8}$  inches in diameter, and apparently had not been in use for very long, as it showed no signs of wear; but the fracture was very crystalline in appearance, the original fibrous nature of the metal having gone. This change in the nature of the metal is no doubt due to the constant blows coming on the couplings during shunting operations, and the Company's officers informed me that whenever a waggon is returned to the shops for repairs the couplings are annealed, in order to restore a fibrous character to the metal.

In this case I consider that in all probability the link that broke was damaged before the train left Rose Grove, and would have failed some time before reaching the summit at Copy Pit had the train not been hauled up to that point by a pilot engine, and that it actually became disconnected when the train started from Copy Pit after the brakes were pinned down, as the engine and three waggons passed Portsmouth about a mile beyond where it stopped a minute ahead of the remainder of the train.

The engine was one of the Company's standard goods A class, engine, weighing 69 tons, a type first built in 1889, the engine in question being built in 1895. The train was not a very long or heavy one, and was similar to those usually running on that part of the line, and the couplings were of the standard pattern.

The Assistant Secretary,  
Railway Department, Board of Trade.

I have, &c.,  
E. DRUITT,  
Major, R.E.

#### APPENDIX.

##### PARTICULARS OF DAMAGE TO STOCK.

Lancashire and Yorkshire waggon, No. 19,385.— One sole-bar, one middle-bearer, one side plank, two end planks, one longitudinal, two headstocks, four end posts, two side rails, four axle-boxes, four axle-guards, one end plate, one coupling link and bottom planks, broken; four buffer rods, four corner plates, brakework, &c., bent; and one wheel tyre broken; and one axle bent.

Lancashire and Yorkshire waggon, No. 3,943.— One headstock, two end planks, two quarter planks, two end posts, one buffer casting, one buffer head, one end plate, four axle-boxes four

axle-guards, and one end top plate, broken; two corner plates, buffers, and brakework, bent.

Lancashire and Yorkshire waggon, No. 23,490.— Two headstocks, three end planks, one under-strap packing, two long door planks, two axle-boxes, one side top plate, and two brake blocks, broken; four buffer-rods, two end knee irons, one sole-plate, journals, one axle, bent; one sole damaged, door hinges strained.

Lancashire and Yorkshire waggon, No. 27,431.— One sole, one side rail, two headstocks, six end planks, six quarter planks, three axle-boxes, three

side diagonal straps, one draw-hook, broken; one brake-guard, two knee irons, two drawbars, three end door bands, four axle-guards, four buffer-rods, bent.

Lancashire and Yorkshire box waggon, No. 5,839.—One headstock damaged; one headstock, two end door planks, two axle-guards, broken; two axle-guards and brakework bent.

Lancashire and Yorkshire covered goods van, No. 27,292.—One headstock, all roof boards, twelve boards, three end posts, twenty side boards, two top rails, two axle-boxes, one axle-guard, broken; one headstock damaged; two sole-bars split; three axle-guards bent; body knocked out of square and off the road.

Lancashire and Yorkshire covered goods van, No. 18,030.—One sole, one middle-bearer, and wheels good, rest of frame and body smashed.

Lancashire and Yorkshire waggon, No. 5,389.—Two headstocks, four end planks, six side door planks, two end posts, two diagonals, two axle-boxes, one rocking shaft, one top plate, broken; four buffer-rods, brake lever, V irons, door hinges, four axle-guards, bent; bottom planks displaced and off the road.

Grimethorpe colliery waggon, No. 138.—Two soles, two headstocks, one side rail, seven end planks, six long side planks, two end posts, seven door planks, two buffer castings, one axle-box, two side straps, eleven quarter planks, all broken; four axle-guards, end door bar, end door hinges, bent; waggon off the road.

Lancashire and Yorkshire waggon, No. 3,914.—One side rail, four end planks, four end posts, one top plate, two corner plates, one headstock, two quarter planks, one bearing spring-shoe, one buffer casting, one buffer head, and one eye bolt, all broken; two corner plates, three buffer rods, bent; one side rail damaged, and top plate bent; off the rails.

North Eastern waggon, 60,582.—Two soles, a headstock, two middle-bearers, two end posts, four end planks, one middle longitude, two corner plates, four axle-guards, one side rail, two side quarter-planks, one side knee, all broken; one side rail badly damaged; brakework badly bent; three side knees bent.

North Eastern waggon, 96,763.—Two headstocks, one end plank, broken; one end top plate, two brake levers, bent; side rail badly damaged; one sole badly split; two axle-boxes broken; bottom planks displaced; two axle-guards broken, and two badly bent; and one pair of wheels knocked from under.

North Eastern waggon, No. 88,114.—One headstock, one end plank, three end posts, one diagonal, six bottom planks, all broken; one headstock split; one side plank badly damaged; one side top-plate, coupling link, two drawbars, four buffers, one rocking shaft, four axle-guards, one end top iron, two corner plates, and one brake lever, all bent; two V irons broken; and one axle-box broken.

North Eastern waggon, 27,389.—Two headstocks broken; three end posts damaged; one buffer casting broken; one long frame bolt broken.

North Eastern waggon, 35,592.—One headstock badly damaged; four end posts badly damaged; one side rail damaged; four end planks grazed; two axle-boxes broken; four side knees bent; four axle-guards bent; hand rail bent; brake-guard and drawbars bent.

Bolton Coal and Cannel Company's waggon, No. 79.—One sole, one headstock, one side rail, two long side planks, 10 quarter planks, five end door planks, two axle-boxes, one spring shoe, one buffer-head, three buffer-shoes, one end door band, all broken; one brake guard, four axle-guards, three buffer rods, two door bands, four door straps, three side stays, bent.

North Eastern Railway waggon, No. 12,893.—One sole-bar split; four end planks, two end posts, headstock, one corner plate, three axle-boxes, and one axle-guard broken; buffers, axle-guard, &c. bent.

North Eastern Railway covered goods, No. 91,036.—Body and roof completely smashed; two headstocks badly damaged; two middlebearers and two longitudinals damaged; one axle-box broken; and buffers, &c. bent.

North Eastern Railway waggon, No. 40,120.—Two headstocks, one side rail, three end posts, four end planks, one diagonal, 15 bottom planks, four axle-boxes, one buffer casting, four diagonal knees, one end top plate, and one drawbar broken; one brake-guard, brake-work, four axle-guards, four buffer rods, and three end strips bent.

Burnley Coal Supply Company's waggon, No. 16.—One end post badly damaged, and one end plate bent.

J. Delaney's waggon, No. 557.—Two side rails, seven end planks, five quarter planks, four side planks, two side door planks, broken; one headstock split; four side knees, four buffer rods, and four axle-guards, bent; also brakework strained; two axle-boxes, one spring shoe, one buffer shoe, two side diagonal straps, and one cross rod, broken; one diagonal damaged, and bottom planks displaced.

North Eastern waggon, No. 10,186.—Broken up.

North Eastern waggon, No. 18,853.—Broken up.

North Eastern waggon, No. 61,428.—Broken up.

Bolton Coal and Lime Company's No. 193.—Broken up.

Lancashire and Yorkshire waggon, No. 25,805.—Broken up.

Lancashire and Yorkshire waggon, No. 8,120.—Broken up.

Lancashire and Yorkshire waggon, No. 3,373.—Broken up.

Lancashire and Yorkshire waggon, No. 12,952.—Broken up.

Lancashire and Yorkshire waggon, No. 11,357.—Broken up.

Lancashire and Yorkshire waggon, No. 1,000.—Broken up.

Lancashire and Yorkshire waggon, No. 9,232.—Broken up.

Lancashire and Yorkshire covered goods, No. 18,030. Broken up.

North Eastern covered goods, No. 91,036.—Broken up.

#### DAMAGE TO PERMANENT WAY.

14 30-ft. rails, 66 chaired sleepers, 32 fish plates, 64 fish bolts, and 134 keys, broken.

Printed copies of the above Report were sent to the Company on the 27th March.