GREAT EASTERN RAILWAY.

Railway Department, Board of Trade,
8, Richmond Terrace,
Whitehall, London, S.W.

3rd February, 1915.

I have the honour to report, for the information of the Board of Trade, in compliance with the Order of the 20th January, the result of my Inquiry into the circumstances under which a collision took place between a passenger train and a goods train, at 11.46 a.m. on the 18th January, at County School Station, on the Great Eastern Railway.

In this case, as the 11.15 a.m. up passenger train from Wells to Norwich, consisting of an engine, tender, and six carriages, was running into County School Station from the Fakenham single line, it was run into by the engine of the 6.35 a.m. down goods train from Norwich, consisting of an engine and 17 vehicles, which was approaching the station on the single line from Foulsham.

The speed of both trains at the time of the collision was low; one passenger and one of the Company's servants, who was travelling as a passenger, were slightly injured, as also was the guard of the goods train. The engine and three leading vehicles of the passenger train were all slightly damaged, and the two leading vehicles were derailed. The engine of the goods train was considerably damaged, and the four leading wagons, which were derailed, were also slightly damaged.

The engine of the passenger train was a four-wheels-coupled tender-engine, with one leading pair of wheels; it was fitted with the Westinghouse automatic brake, working blocks on the four coupled wheels and on the tender wheels, and with a hand-brake working the blocks on the tender wheels. The train consisted of the following vehicles, attached to the engine in the order given:—

Two third-class carriages ...... ..... 6 wheels.
Two composite carriages ...... .
One third-class carriage ...... .
One brake-van ...... .

These vehicles were all fitted with the Westinghouse automatic brake, working blocks on four wheels of each of them.

The engine of the goods train was a six-wheels-coupled tender-engine, and it was running engine first at the time of the accident. It was fitted with the steam brake, working blocks on the six coupled wheels and on the tender wheels, and with a hand-brake working the blocks on the tender wheels. The train consisted of 12 empty and 4 loaded wagons, and a brake-van, the latter being a four-wheeled ten-ton van, fitted with a hand-brake working blocks on the four wheels.

The brakes on both trains are reported as having been in good order.

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

Description.

County School Station, where this accident occurred, is situated on the Wells-Dereham branch of the Great Eastern Railway. The station is provided with up and down platforms, between which the two platform lines run in directions which are approximately north and south, the up platform being on the east side of the station. These two platform lines are continued to the north of the station as two single lines, the line in continuation of the down platform line forming the single line to Fakenham, and that in continuation of the up platform line forming the single line to Foulsham. These two single lines run alongside each other for a distance of over half a mile on the north side of the station, and they then separate, the Fakenham line branching off to the north-west, and the Foulsham line to the east.
The signal-box at County School Station is situated on the west side of the line, and is at a distance of 100 yards to the north of the north end of the down platform. Immediately to the north of the signal-box there is a scissors crossing between the two single lines, and it was through the connection leading from the Fakenham line to the up platform line that the passenger train was running when it was run into by the engine of the goods train, which was approaching the station on the Foulsham single line. Each single line is provided with home and distant signals, the former being in each case situated 130 yards to the north of the signal-box, and the latter at a distance of 772 yards from their home signals. At the point where the two distant signals are situated, the two single lines are still alongside each other; both the distant signals are situated on the left hand side of the Foulsham line, but the distant signal for Fakenham is supported on a bracket, which brings it well out in the direction of the Fakenham line, and the two signals are therefore clearly distinguishable from each other. On each line a driver obtains an excellent view of these distant signals when approaching them. The driver of a train approaching County School on the Foulsham line, however, has his view of the home signal interfered with to a small extent by a tree on that side of the line; the tree is, however, situated 211 yards from the home signal, and for that distance a driver obtains a clear and uninterrupted view of it.

The gradient of both lines as they approach the station is a slightly falling one of 1 in 798.

The morning was a clear one and there was nothing in the condition of the atmosphere to interfere with a driver's view of his signals.

Evidence.

George Gooch, signalman, states:—I have been over 38 years in the service of the Company, and I have been a signalman about 31 years. I am now stationed at Foulsham Station and have been stationed there 31 years. I came on duty at 7 a.m. on the 18th January to work till 7 p.m. I came off duty at 7 a.m. the previous day. I remember the 5.20 a.m. down goods train arriving at my box. It reached my box at 11.9 a.m. At 10.59 a.m. I had offered the train to County School. County School gave me, "Section clear, but Junction blocked." I checked the train at my home signal and brought it nearly to a stand at my signal-box. I gave the driver a red flag signal and called out to him, "Section clear, Junction blocked." The driver appeared to hear me. He nodded and raised his hand in acknowledgment in the usual way. I am quite certain that the driver understood he was being accepted under the caution signal. After passing my box the train was brought to a stand near the yard, and it started again from Foulsham at 11.40 a.m. There are distant, home, and starting signals at my box. I lowered the starting signal at 11.9 a.m., as I had afterwards to leave the box and go down to the goods-yard. I am signalman in the East Box. There is also a West Box, and my starting signal is slotted from the West Box. When I pulled over my lever at 11.9 a.m. the starting signal was lowered. I sent the "Train entering section" signal to County School at 11.40 a.m., when the train started. I admit that I should have stopped the train at the signal-box. The train passed my box at about 5 miles an hour.

George Gooch, signalman, recalled, stated:—It has always been my custom not to bring the train to an absolute stand when giving the caution signal unless I see that the driver has not got it under proper control. This has been the custom at this box for many years past. There is usually half-an-hour's shunting to be done with the goods train at Foulsham every morning.

Frederick Arthur Claxton, signalman, states:—I have been over 32 years in the service of the Company, and I have been a signalman about 15 years. I am now stationed at County School, and I have been stationed there 12½ years. I came on duty on January 18th at 6 a.m. to work till 6 p.m. I had come off duty the previous day at 6 p.m. The 5.20 a.m. down goods train was offered to me from Foulsham at 10.59 a.m. I accepted it at once under the caution signal. It is the usual practice to accept that train under the caution signal. The reason for accepting this train at caution is to enable the 11.15 a.m. up passenger train to run through first. That train is due to arrive at my station at 11.46 a.m. At 11.42 a.m. I received the "Train entering section" signal from Foulsham. I did not lower any of the signals for that train. I am certain that both the distant and home signals for that line were at danger, and I never lowered those two signals before the accident occurred. At 11.37 a.m. I was offered the 11.15 a.m. up passenger train by the Ryburgh Signal Box. I accepted it at once. I set the road for that train to run into the up main line platform, and I lowered the distant home and starting signals for it. At 11.42 a.m. I received the "Train entering section" signal from Ryburgh Signal Box, and the train arrived at my box at 11.46 a.m. I saw the passenger train approaching my signal box. It was going at the usual rate of speed. It was due to stop at County School Station. The train was approaching my box at the usual speed of a train which is going to stop at the station. I also saw the goods train approaching my signal box. It was just passing the distant signal when I first noticed it. I did not notice anything unusual about its speed. I was quite under the impression that it was going to stop at my home signal. When the engine of the goods train was about abreast of the home signal, I realised that it was not going to stop at it. I do not know at what speed the goods train was then traveling. Disaster occurred when I saw that the goods train was not stopping at my home signal. I threw all my signals for the Ryburgh line up to danger at once. At this time the road was still set for the passenger train to run to the up main platform, and that road was still set when the collision occurred. The goods train appeared to me to check speed after it passed my home signal. I cannot give any evidence as to whether...
not very well be watching the train alongside of me. There is nothing which interferes with the view of my signals when approaching County School Station.

Eljah Clare Talbot, fireman, states:—I have been 7½ years in the service of the Company, and I have been acting fireman about 3½ years, and fireman since last November. On the 18th January I was on the engine with driver Parrow and was working the same hours as he was. I am acquainted with the signals at County School Station. I know the distant signal. It was lowered when we passed it. The home signal was also lowered for us, and I understood we were running into the up main platform line. I should estimate our speed when we passed the distant signal at about 15 miles an hour. I do not know where my driver turned off steam. I do not know where he applied the brakes. When my train was just coming over the connection leading to the up platform line, I applied my hand brake. Steam was turned off at that time. I do not know whether the continuous brake was at that time applied. At the time I applied my hand-brake our speed was about 10 miles an hour. I saw the goods train running on the Foulsham line. I am aware that the distant signal for the Foulsham line is alongside our signal. When I first saw the goods train it had passed that distant signal. I noticed that the distant signal for the Foulsham line was at danger. When I first saw the goods train it was ahead of us, but we were catching it up and were soon to pass it. I did not notice him applying the brakes more fully. I think that our speed at the time of the collision was about 10 miles an hour. I cannot say what the speed of the goods train was. It was a clear morning. There was no difficulty in seeing our signals whilst we were approaching them.

Charles Mitchell, passenger guard, states:—I have been nearly 39 years in the service of the Company, and I have been passenger guard for about 11 years. I came on duty on the 18th January at 7.20 a.m. to work till 7.47 p.m. I should be off duty from 9.20 p.m. I worked the engine with driver Farrow and was working the same line as he was. I am acquainted with the signals at each station. We are due there at 11.46 a.m., and we were running about 2 minutes late. I am acquainted with the distant signal for County School Station. We are due there at 11.46 a.m., and we were running about 2 minutes late. I am acquainted with the signals at each station.

My vehicles were all fitted with the Westinghouse automatic brake, working blocks on four wheels of each vehicle. My brakes were in good order. So far as I know there had been no trouble with my train up to the time this accident occurred. My train had been brought to a stand several times, and the driver seemed to me to have it well under control. I remember the train approaching County School Station. We are due there at 11.46 a.m., and we were running about 2 minutes late. I am acquainted with the distant signal for County School Station. That signal was not at danger when we passed it. I should estimate the speed of the train when we passed the distant signal at from 12 to 15 miles an hour. I cannot say where the driver turned off steam.
Soon after we passed the distant signal I noticed the train checked by the driver applying the continuous brake. I noticed the position of the home signal before we reached it, and it was off for us. I noticed the position of the home signal very soon after we passed the distant. I never saw the goods train running on the Fakenham line at all. The first I knew of the collision was feeling the shock of it. I cannot exactly say where my van was when I felt the shock. I should estimate the speed of my train, at the time of the collision, at about 10 miles an hour. I did not see the goods train at all before the collision occurred.

Whilst I was approaching the station after passing the distant signal I was looking out of the off side window of my van, and it was on that account I did not see the goods train. After the van came to a stand I got out. One passenger complained to me of being injured. The two leading vehicles of my train were completely derailed and the third one partially so, but the three rear vehicles were not derailed at all. The leading van was uncoupled from the engine and from the vehicle behind it. The second vehicle was also uncoupled from the vehicles behind it. The four rear vehicles were all coupled together. All the vehicles on the train were standing upright. It was a clear morning. I had no difficulty in seeing my signals from a distance. When looking at my distant signal I could see the position of the Foulsham distant signal, and it was at danger. I did not see the position of the Poulsham home signal.

Charles Mitchell, passenger guard, recalled, stated:—My van is also fitted with a hand-brake working blocks on four wheels. My brakes were in good order.

Frederick Wm. Adcock, jr., head goods-guard, stated:—I was the guard of the goods train concerned in this collision. My train consisted of 16 trucks, and 1 brake-van, and I was riding in the brake-van at the rear of my train. My brake-van was a four-wheeled 10-ton brake-van, fitted with a hand-brake working blocks on the four wheels. My brake was in good order. I had had no trouble whatsoever with my train up to the time that the accident occurred. The last place we stopped at, before approaching County School, was Poulsham. We had passed the box at the station and the engine was in the Signal-Box before entering the station. I supposed that we were stopped there in order that the signalman might give the driver the caution signal. I expected, therefore, that we were approaching County School under the caution signal. I am acquainted with the signals at County School. There is a distant and a home signal provided before you reach the station. I saw the position of our distant signal when we passed it. It was at danger. I should estimate our speed, when we passed that signal, at from 15 to 20 miles an hour. The driver checked the speed slightly after we passed that signal, but not to a great extent. I put my brakes on. It was when my van was somewhere about half-way between the distant and home signal. I should say that I was about 200 yards from that signal when I first saw it. It was at danger. When I first saw the home signal at danger I thought that my driver would not be able to stop at it. I had got my brakes on as hard as I could when I sighted the home signal, and I could do nothing more. I found that the engine of my train was passing the home signal at danger. My van stopped just short of the home signal. When I first saw the passenger train running along the Fakenham line it was behind me. The passenger train then passed me. The passenger train passed me after we had got inside the distant signal, when I applied my brakes, and I considered that my driver was going too fast, and I stood there waiting for what I saw was going to happen. I felt the shock of the collision, and was thrown down. I should estimate the speed of my train, at the time of the collision, at 12 to 14 miles an hour. The brake-van at the rear of my train. My brakes were in good order. My brake was in good order. I had had no trouble whatever with my train up to the time of the accident. The last place we stopped at, before approaching County School, was Poulsham. We had been stopped with the engine at the Foulsham signal, and it was at danger. I did not see the position of the home signal very soon after we passed it. It was the fact of my watching what I thought might give the driver the caution signal. I expected, therefore, that we were approaching County School under the caution signal. After passing the signal-box we were delayed at Poulsham Station for about half-an-hour, carrying out shunting operations, and I think we left Poulsham at 11.37 a.m. The distant signal was lowered for us to leave. I am well acquainted with the line between Poulsham and County School, and I am also acquainted with the signals. At the time the accident happened we came to on approaching County School is the distant signal. I got a clear view of that signal when approaching it. The distant signal for my line was at danger, but the distant signal for the Fakenham line was lowered, and I mistook the Fakenham signal for my signal. At the time my injector was working well. My mate was working at the injector and I was looking after him, and I think it was on that account that I made the mistake. I am perfectly well acquainted with those two signals, and I knew the one on the right should apply to the Fakenham line and the one on the left to my line. When we passed the distant signal we were running about 5 miles an hour. The brakes on my train had been working well all the morning, when I had had no difficulty in controlling my train. I had shot off steam before we reached the distant signal, and I had never applied it again. I had applied my brakes before I reached the distant signal, and had checked its speed. I had then again released the brakes. As we were running up to the home signal I reduced the speed of the train, and I had not applied the brakes. Up to the time I reached our home signal I had not seen the passenger train on the Fakenham line at all. I did not notice our home signal until just before we got up to it. It was the fact of my watching what
my mate was doing which prevented my seeing it sooner. It was a clear day, and if I had not been looking at my mate I could have seen the signal easily. When I saw the home signal it was at danger. When I saw it at danger I at once applied the brakes fully and reversed my engine and gave it steam. The speed of my train was checked, but we were then right on top of the passenger train, and the speed of my train at the moment the collision occurred would not be more than 1 mile an. hour. For the last three months I have only worked this train for one week before the week in which this accident occurred, and previously to that I had not worked the train for some time. It happens nearly every day that we approach County School under the "caution" arrangement, and when we approach it under the "caution" arrangement we expect to be stopped at the home signal. I did not notice whether the guard applied his brakes at all. I drive from the right hand side of the engine. The fireman was doing work at his side of the engine, so I was looking over towards the left. When one gets the distant signal one expects to find the home signal off also, and under those circumstances I thought I could give attention to what the fireman was doing. My mate had three or four goes at the injector before he could get it to work. The tree by the side of the line does, to a certain extent, obstruct the view of the home signal. Beyond the tree there is nothing to interfere with the view.

Samuel Sparks, fireman, states:—I have been about 11 years in the service of the Company and I have been about 21 years acting fireman. On the 18th January I was working with Driver Thorncroft and I was looking over towards the left. When one gets the distant signal one expects to find the home signal off also, and under those circumstances I thought I could give attention to what the fireman was doing. My mate had three or four goes at the injector before he could get it to work. The tree by the side of the line does, to a certain extent, obstruct the view of the home signal. Beyond the tree there is nothing to interfere with the view.

The two trains concerned in this collision very frequently approach County School Station almost simultaneously, the passenger train on the single line from Fakenham, and the goods train on the single line from Foulsham. When this is the case it is customary, with the object of giving the passenger train the precedence, for the road at County School Station to be set for the passenger train to run through the connection leading to

Mr. Gabriel Paynter, Station Master, states:—I have been in the service of the Company nearly 80 years. I am employed now as Station Master at County School and I have held that appointment for 21 years. I saw these two trains approaching the station before the collision occurred. I was at the time on the up main platform near the centre of the buildings, and from that position I saw the two trains approaching. I noticed nothing unusual about them. I noticed the position of the signals for the passenger train and they were all lowered for it to run to the up main platform. I also noticed the position of the signals for the goods train. They were at danger. I referred to the warning arrangements, and for the goods train and distant signals for the goods train. I then moved behind the waiting room out of sight of the trains to speak to a porter. I then heard two short sharp whistles. I turned round and I saw the trains had collided. I cannot give any evidence as to the speed of the trains at the time of the collision; but when I saw them I thought they were both about 200 yards from their home signals, but the goods train may have been slightly behind the passenger train. It nearly always happens that the goods train is allowed to approach my station under the warning arrangement. I cannot say whether the passenger train passed the goods train after passing the distant signal.

George Leverington, lad porter, states:—I have been about 11 years in the service of the Company and during the whole of that time I have been employed as a porter at County School Station and was on the platform when the collision occurred. I was near the signal-box at the time the collision occurred. I do not remember passing the signal-box. Somebody, who I believe was the Station Master, gave us the caution signal. I heard my mate give it to my driver. He said:—"Section clear and junction blocked." I knew what that meant. I do not remember seeing the signalman. My engine was standing at the signal when the caution signal was given. I believe we were delayed some time at Foulsham Station shunting. I cannot say what time we left Foulsham. I am not acquainted with the distant signal for County School. I did not see that signal. My injector was working badly at the time and I was trying to put it right, and I was actually on the platform when the collision occurred. I was actually working on the injector when we passed the distant signal. I estimate the speed of the train when we passed the distant signal at about 2 miles an hour. I did not see my home signal before we reached it. I was still at work on the injector. The first I knew of the collision was seeing that my mate was reversing the engine and giving it steam. I cannot say whether that was after we passed the home signal. The collision appeared to me to occur a second or two after I had seen my mate reversing his engine. I should estimate our speed at the time of the collision to be 3 to 2 miles an hour. I did not see anything at all of the passenger train up to the time that the collision occurred. It was a clear morning and I had enough to see our signals. It had seemed to me that the driver had had his train all the morning well under control. There was not any conversation between me and the driver just before the accident. I may have been mistaken when I said we came to a stand at the Foulsham home signal.

Conclusion.

The two trains concerned in this collision very frequently approach County School Station almost simultaneously, the passenger train on the single line from Fakenham, and the goods train on the single line from Foulsham. When this is the case it is customary, with the object of giving the passenger train the precedence, for the road at County School Station to be set for the passenger train to run through the connection leading to

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the up platform line, and for that train to be accepted at "Line clear," but for the goods train to be accepted up to the home signal for the Foulsham line under the "warning arrangement." This is exactly what took place on the day of this collision. The driver of the passenger train, when he approached County School Station at 11.45 a.m., found all the signals duly lowered for him, and the train was in the act of running through the connection leading to the up platform line when it was run into by the engine of the goods train, which had run past its home signal at danger. No blame attaches to any of the staff of the passenger train.

The goods train had arrived at Foulsham at 11.9 a.m., and had left again at 11.40 a.m. Signalman Gooch, who was on duty in the Foulsham Signal-Box, states that he had duly offered the train to County School, and that it had been accepted at "Caution"; that he accordingly checked the goods train when it was approaching his box, and while it was passing by at a low rate of speed he cautioned the driver, calling out to him, "Section clear, but junction blocked."

Signalman Claxton, who was on duty at the time in the County School Signal-Box, confirms the fact of the goods train having been accepted at "Caution."

Driver Thorne, who was in charge of the engine of the goods train, states that he heard the instructions given to him at the Foulsham Signal-Box by Signalman Gooch, and that he thoroughly understood that his train was being allowed to approach County School under the "Warning arrangement." He states that the County School distant signal for his line was at danger when he passed it, but that the distant signal for the Fakenham line was lowered, and that he mistook the latter for his own signal, and was therefore at the time under the impression that his own distant signal had been lowered for him. His only explanation of his mistake is that the injector on his engine was not working satisfactorily at the time, that his fireman was engaged in endeavouring to make it work, and that he himself was watching what the fireman was doing. He admits that he is thoroughly acquainted with the two signals. As regards his home signal, he states that he did not notice its position until just before his engine reached it, and he then saw that it was at danger. He states that his train was at that time travelling at a very low rate of speed, and that he at once applied his brakes and reversed his engine, but that he was unable to prevent the collision, which occurred at a spot situated 85 yards beyond the home signal. Thorne states that it was the fact of his having been still watching his fireman that prevented his seeing his home signal earlier, and that if he had not been so occupied he could easily have seen it in time.

As stated above, the driver of an up train from Foulsham obtains an excellent view of his distant signals, and though the poles on which the distant signals for both lines are erected are both on the left hand side of the Foulsham line, they are so arranged that there is no possible excuse for their being mistaken. The driver's view of his home signal is undoubtedly to a small extent interfered with by a tree situated 211 yards from that signal, but for that distance he obtains an uninterrupted view of it. Under these circumstances, even if Driver Thorne did make a mistake as regards the position of his distant signal, there is no excuse for his not having seen the position of his home signal in ample time to have brought his train to a stand at it. The responsibility for this collision must therefore rest solely on him. He had been on duty just 7 hours at the time of the accident.

I have, etc.,

P. G. von Donop,
Lt.-Col., R.E.

The Assistant Secretary,
Railway Department,
Board of Trade.
APPENDIX.

DAMAGE TO ROLLING-STOCK AND PERMANENT-WAY.

Rolling-Stock.

Passenger Train—
Engine No. 448.—Three rubbing pieces, 1 axle-box, and 2 axle-box covers broken; buffer-beam slightly bent; flap between engine and tender damaged.
Third Class Carriage No. 1064.—One top step-board, 2 bottom step-boards, and 1 side-light broken; 2 step-irons, 2 axle-guards, draw-bar, and coupling-shackle bent; hand-rails and beading damaged.
Third Class Carriage No. 702.—One top step-board, 2 bottom step-boards, and 1 axle-box bottom broken; coupling-shackle bent.
Composite Carriage No. 80. One top step-board and 1 bottom step-board broken; 2 step-irons, door-handles, commode-handles, door-stops, panel-boards, hand-iron, and hand-rails damaged.

Rods Train—
Engine No. 629.—Right-hand injector broken; fire-pipes and foot-plating bent; foot-steps and hand-pipes broken; cylinder-cook gear and guard-irons damaged; brake-gear bent and rods broken; trailing buffer-beam of tender bent; foot-plating and framing bent.
Four wagons slightly damaged.

Permanent-Way.

Three 8ft. 85lbs. G.E. Sect. rails badly bent; 1 80ft. 65lbs. G.E. Sect. rail broken; 1 24ft. 85lbs. G.E. Sect. check-rail bent; 10 crossing-timbers damaged; 20 85lbs. G.E. check-chairs broken; 70 85lbs. G.E. ordinary chairs broken; 8 85lbs. G.E. crossing-chairs broken; 4 85lbs. G.E. switch-chairs broken; 12 sleepers broken in siding; 10 switch stop-bolts broken; 1 30ft. lock-bar badly bent and broken; 8 65lbs. inside lock-bar brackets broken; 1 10ins. by 15ins. crank broken; 3 1\frac{1}{2}ins. studs and eyes broken; 6 single-wheel rod-roilers broken; 1 set of stretcher-rods broken; 80ft. 1\frac{1}{8}ins. point-rodding broken; 4 switch stretcher-rods bent; 400 line ft. (9ins. by 1\frac{1}{2}ins.) trunking to signal-wires broken up; 1 cwt. signal-wire destroyed; 100 oak keys broken; 2 cwt. 12in. spikes broken and bent; 300 solid trenails broken; 10 fish-plates bent.

Copies of the above Report were sent to the Company on the 3rd February, 1915.