GREAT WESTERN RAILWAY.

Railway Department, Board of Trade, 8, Richmond Terrace, Whitehall, London, S.W., 26th October, 1907.

Sir,

I have the honour to report, for the information of the Board of Trade, in accordance with the Order of the 30th September, the result of my inquiry into the circumstances attending the collision, which occurred on the 28th September, about 7.57 p.m., between two trains at Elbow Junction, on the Great Western Railway.

In this case, the 7.40 p.m. up express passenger train, travelling from Cardiff to Newport, collided head-on with a special down goods train, from Rogerstone to Cardiff, as the latter emerged from the Western Curve off the Western Valley Section, on to the up main line.

At the time, the passenger train was travelling at high speed. Both engines were derailed and badly smashed, the engine of the goods train being overturned. The leading passenger coach, of which most fortunately there were no occupants, was telescoped by the coach behind it, and these two carriages were totally destroyed. Three other carriages were derailed. Six goods wagons were knocked to pieces, and four more derailed and badly damaged. The driver of the goods train was killed on the spot, and the fireman very seriously injured. Twelve passengers sustained injuries, or suffered from the effects of shock, and the driver and fireman of the passenger train were badly bruised and shaken.

The passenger train was drawn by a four-wheeled coupled tender engine (No. 3728), with a leading bogie. It comprised the following six-coach vehicles, in the order given:

- Great Western Railway eight-wheeled composite carriage, No. 786.
- Great Western Railway eight-wheeled third carriage, No. 1238.
- Great Western Railway eight-wheeled brake van, No. 933.
- London and North-Western Railway eight-wheeled composite carriage, No. 1283.
- Great Western Railway six-wheeled third carriage, No. 1451.
- Great Western Railway eight-wheeled composite brake, No. 7580.

The engine was fitted with the steam brake on the four coupled wheels, controlling the vacuum automatic brake, working blocks on the six wheels of the tender, and on 44 out of 46 of the coach wheels. The total weight of the train (unloaded) was 107 tons 4 cwt.

The special goods train was drawn by a six-wheeled coupled tank engine (No. 8161) with a pony axle in front, and radial axle in rear, and consisted of one empty and 47 loaded four-wheeled goods wagons with two four-wheeled brake vans. The rear brake van (No. 17522), weighing 15 tons 2 cwt., was alone in use. Eighty per cent. of the load (56 tons 4 cwt.) carried by the coupled wheels of the engine was broken by steam power.

The engine was running chimney first. The total weight of engine and train was 815 tons 2 cwt., 2 qrs.

The brake arrangements on both trains appear to have been in good order.

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

Description.

Elbow Junction is on the Company’s main road between Cardiff and Newport, about one-and-a-half miles from High Street (Newport) Station. At this place a double loop from Park Junction connects the Western Valley Branch with the main line of railway towards Cardiff.

The main track has four lines of way, with a general north and south direction. The western pair is known as the up and down main lines; the eastern pair as up and down relief lines. The loop, or Western Curve as it is called, forms a double junction with the up and down main lines, and curves sharply towards the west.

Elbow Junction signal-box is situated on the west side of the main road, and some approximate distances from the box to the undermentioned places, stations, &c., are as follows:

- Junction facing points on up main line: Yard, 120, north.
- Crossing of down loop over up main line (site of colliery): 104, south.

Elbow Junction down loop home Bridge carrying Pontypool, Caerphilly Railway over Western Curve Park Junction down (to Cardiff) Park Junction signal-box... The main lines are practically straight goods trains travelled curves sharply to the Elbow Junction, and there are severe falling

From Park Junction down starting signal...

An engine driver, after leaving the driver to see the Elbow Junction down home signals, stopped at the side of the loop lines, until he reached the goods train signals. Instructions for working the goods train signals are given in Appendix II. From these it will be seen that for down trains at Elbow Junction, and for the guard, when the train down as many wagons brakes as the engine should be thoroughly under control. The form is cancelled, because regards the appliances trains were allowed to be despatched from under full brake protection.

E. S. E. Lodge, signalman, stage 14.

Francis Elbow Lodge, signalman, station staff. John Elbow has been in the service of the Great Western Railway Company for nearly 30 years, and for the past eight years has been signalman at Park Junction. On Saturday, September 28th, I came on duty at 7 p.m. at Park Junction signal-box, to work until 10 p.m., after having finished duty there previously at 10 p.m. Friday night, September 27th. A special goods train from Rogerstone to Cardiff, which was offered to me from Basaleg Junction on the down relief line at 7.25 p.m., and I accepted the "Line clear" signal at the same time I received "Train entering Section" for this train at 7.30 p.m., and the train came to a stand. A special goods signal was to be set on my outer home signal at 7.31 p.m. I asked "Line clear" for it from Elbow Junction at the same time, but it was not accepted by the signalbox there. I then lowered the outer home signal at 7.31 p.m., and I then put a lever selector on No. 3 loop, which controls my inner home signal for the down relief line. The 7.45 p.m. mineral train at Elbow was asked "Line clear" for free from Basaleg Junction on the down main line at 7.45 p.m., and I accepted it; and received the "Train entering Section" signal for it at the same time. This train came to a stand at 7.50 p.m. down main line home signal at 7.50 p.m. I then asked "Line clear" for it from Gresford Junction at 7.55 p.m., and not being accepted then, I set the 50 gauge for the train to enter the relief loop, because a passenger train from Basaleg was overdue, and a second was also expected. I then asked "Line clear" for it from Elbow Junction at 7.55 p.m., and I then took off the loop to be lever No. 30 to enable this Aberdare train to enter the relief loop. I then walked to the telephone to a 2009...
TERMINAL RAILWAY.

Railway Department, Board of Trade, 39 Dawson Terrace, Whitehall, London, S.W.

26th October, 1907.

The information of the Board of Trade, in accordance with the request of my inquiry into the circumstances surrounding the collision between the 28th October, 1907, the Great Western Railway's passenger train, travelling from Cardiff to London, goods train, from Rogersstone to Cardiff, on the Western Valleys Section, on the deviation at high speed. Both engines were the goods train being overturned. The leading wheels were no occupants, was telegraphed by the passenger train was badly sun-wheelting engine (No. 3728), following six coaching vehicles, in the order: composite carriage, No. 786, third carriage, No. 1338, brake van, No. 324, rights-wheeling composite carriage, No. 1205, brake carriage, No. 1431, composite brake, No. 7383, brake van on the four coupled wheels, controlling the six wheels of the tender, and on 41 of the weight of the train (unloaded) was 197 tons. A six-wheeling tank engine (No. 3161) a rear, and consisted of one empty and 47 arched-wheeling brake rams. The rear brake van alone in use. Eighty per cent. of the load of the engine was braked by steam power. The total weight of engine and train was appear to have been in good order, having way are given in Appendix I.

In position between Cardiff and Newport, about Station. At this place a double loop, the main line of railway in a general north and south direction. The main lines, the eastern pair as up and down it is called, forms a double junction with the towards the west, the line of the main road, and the the line, and the unmentioned places, signals, &c., are as line 120 nortli, line.

Yards.

Ebbw Junction down home signals 205, north.
Bridge carrying Pontypool, Cwphill and Newport Railway over Western Curve 435, north-west.
Park Junction down (to Cardiff) starting signal 761.
Park Junction signal-box 1,276.

The main lines are practically straight and level. The down loop line on which the goods train travelled curves sharply to the right, with a radius of 16 chains, towards Ebbw Junction, and there are severe falling gradients on the line, as follows:

113 yards falling at 1 in 62.
198 1 in 70.
176 1 in 129.
110 1 in 170.

An engine driver, after having the down starting signals for Park Junction, cannot see the Ebbw Junction down home signals, which are placed on the right hand or north side of the loop lines, until he reaches the railway overbridge about 230 yards from those signals. Instructions for working the trains on the Western Curve are printed in Appendix II. From these it will be seen that, up to October, 1904, regulations were in force for down mineral and goods trains on the Western Curve to be stopped dead at Park Junction, and for the guard, when the train comprised more than 20 wagons, to pin down as many wagons brakes as the engineer considered necessary, so that the train should be thoroughly under control. The latest regulations, issued October, 1904, cancelled the former as regards the application of wagon brakes. In lieu thereof no trains were allowed to be despatched from Park Junction down starting signal except under full block protection.

Evidence.

Francis Edwin Lodge, signalman, states: I have been in the service of the Great Western Railway Company for nearly 25 years, and for the past eight years have been signalman at Park Junction. On Saturday, September 29th, I came on duty at 7:30 a.m. Park Junction signal-box, to work till 10 a.m., after having finished duty there previously at 10 a.m. Friday, September 28th. A special goods train from Rogersstone to Cardiff was offered to me from Bassaleg junction on the down relief line at 7:32 p.m., and I accepted it with the "Line clear" signal at the same time. I received "Train entering Section" for this train at 7:31 p.m., and the train came to a stand at my inner home signal at 7:31 p.m., I asked "Line clear" for it from Ebbw Junction at the same time, but it was not accepted by the signalman there. I then lowered the inner home signal for the train, and it drew down to the inner home signal, and came to a stand there also. I then lowered the inner home signal (No. 5), and the train drew slowly down clear of the junction, the tail of the train, passing my box at 7:47 p.m., and I then put a lever collar on No. 5 lever, which controls my inner home signal for the down relief line. The 4:25 p.m. mineral train ex Abertillery was asked "Line clear" for from Bassaleg junction on the down main line at 7:41 p.m., and I accepted it, and received the "Train entering Section" signal for it at the same time. This train came to a stand at my down main line home signal at 7:56 p.m., and I asked "Line clear" for it from Chepstow Junction at 7:56 p.m., and not being accepted then, I set the leading points for the train to enter the refuge loop, because a passenger train from Bassaleg was overdue, and a second was also expected. I pulled over No. 23 points, and the lock bars 38 and 45, I then took off what I thought to be lever No. 7 to enable this Abergavenny train to enter the refuge loop. I then walked to the telephone to ask reassembly the position of the Brecon and Merthyr and Western Valley down passenger trains. After obtaining this information, one of the other telephones rang, I am unable to say which, and on going to see which telephone it was, I heard a report, and I remarked to a relief brakeman who was in my box, waiting for a train to Rogersstone, "What's that? it sounds like a smash," and he replied "Yes, it does," and at this moment I heard another telephone ringing, and upon answering it, I was informed by the signalman in the box next to me on the Dock Street line, viz, Margiolas, that the goods train I had let down the Cardiff loop line was in collision with a passenger train at Ebbw Junction. I replied to him "What train?" and on going to see what was the position of the Cardiff special, I found the train had gone, and immediately examined my levers to see which one was pulled over. I found it was No. 6—the down starting signal for Ebbw Junction—and not No. 7. The line was then blocked by the Ebbw Junction signalman at 7:39 p.m., and he informed me on the telephone that the train had run down the bank, and collided with a main line passenger train. It was about 7:55 p.m. when I pulled over (as I thought) No. 5 signal. It was a moment before the blocking back signal was received from Ebbw that I heard the sound of the smash. I continued on duty until I was relieved at 10 p.m. by signalman Jenkins. It is the practice for trains waiting "Line clear" for Ebbw Junction not to proceed right down to the starting signal, but to come to a stop with the rear van just clear of the junction, and it is possible that, if the Cardiff special goods train had stood in the actuated place, I should have heard it starting, when No. 7 signal was lowered, and could then have taken in mediate steps to rectify the mistake. It was not until the guard of the train came to my box, to protect his train after the collision, that I
I also blocked back to Alexani

William Ballinger, acting yard inspector, stated: I received a second message, as usual, at 6.30 a.m. as head shunter, I am head shunter, stationed at Alexandra Dock Junction, but have been acting as yard inspector at Dock Junction since Tuesday, September 28th. My hours of duty are from 7 p.m. to 5 a.m. I looked on duty at 7 p.m., Saturday, September 28th. My duties take me to Bow Junction, and I was at Bow Junction at 7.10 p.m. that evening. I then looked round the traffic in the yard, and then took the hand column at north end, waiting for the pilot engine to ready itself for the goods train. When I was standing at the water column, I heard the brake whistle of the engine coming down from Park Junction. I looked round and saw three head lights of an approaching train between the railway overbridge and the main line. I looked at the main line signals and saw them running on the approach line. I immediately afterwards saw a passenger train approaching over up main line. As I knew a train should not be coming from Park Junction whilst the main line signals were "off," I rushed across the up relief line and ran towards the approaching passenger train, waving a red light with the object of attracting the driver's attention, but whether or not he saw my light I cannot say. The next thing that happened was the passenger train collided with the mineral train. I managed to get several yards towards the passenger train before it passed me. I had no idea at what rate it was in motion. I was looking towards the No. 7 signal as I did not look out for it. I have no reason to doubt the statement of Mr. Tipping that he heard a throw from the mineral train, and that it was not the mineral train that was approaching through the yard. I have no assistance at all. I am the only person fit for the job at this point. I have no assistance of any sort. There are a number of relief men who come to Park Junction both night and day, and I have to emprise by telephones to the position of the trains. This adds to my ordinary train work, and takes up a great deal of my time. In this case I was using the telephone for my own information. There are 105 levers in the signal-box, of which 27 are bell instruments, and the remaining 78 are sets of block telegraph instruments. If I had not been able to observe the telephones, I think I should have noticed the approach of the goods train. I did not see the disappearance of the back light of No. 7 signal, as I did not look out for it when I pulled the lever, not having the time. I applied to Mr. Lenning before the new box was opened, whilst the alterations were being made, for a boy to assist us with the booking work. The boy was supplied to us. We also told Mr. Lenning that a second (relief) lad would be required when the new box was opened. He told us to apply in the usual way. We did this when the new box was opened. The first boy remained several weeks with us, and then came up to check the lever movements in the box, and the general work in the box. The result was that the boy did not appear as usual one day, and we were told by Mr. Parry that he had been taken away our lad assistant. This was at the end of 1899. We protested against the removal of the lad, and also against the way the lever movements were taken, before the box was coupled up. The lever movements were then taken again, and we were told, after some considerable time by Mr. Upame (Assistant Superin- tendent), that a new boy would not be sent until we brought an end to the trouble. We decided not to obtain our request. Until the issue of the last appendix, there was an instruction that all trains to Cardiff had to have sufficient hand brakes applied to enable them to pull up at Bow Junction home signal. This was altered when the latest Appendix (1901) was issued.

William Ballinger, acting yard inspector. I received a second message, as usual, at 6.30 a.m. as head shunter, I am head shunter, stationed at Alexandra Dock Junction, but have been acting as yard inspector at Dock Junction since Tuesday, September 28th. My hours of duty are from 7 p.m. to 5 a.m. I looked on duty at 7 p.m., Saturday, September 28th. My duties take me to Bow Junction, and I was at Bow Junction at 7.10 p.m. that evening. I then looked round the traffic in the yard, and then took the hand column at north end, waiting for the pilot engine to ready itself for the goods train. When I was standing at the water column, I heard the brake whistle of the engine coming down from Park Junction. I looked round and saw three head lights of an approaching train between the railway overbridge and the main line. I looked at the main line signals and saw them running on the approach line. I immediately afterwards saw a passenger train approaching over up main line. As I knew a train should not be coming from Park Junction whilst the main line signals were "off," I rushed across the up relief line and ran towards the approaching passenger train, waving a red light with the object of attracting the driver's attention, but whether or not he saw my light I cannot say. The next thing that happened was the passenger train collided with the mineral train. I managed to get several yards towards the passenger train before it passed me. I had no idea at what rate it was in motion. I was looking towards the No. 7 signal as I did not look out for it. I have no reason to doubt the statement of Mr. Tipping that he heard a throw from the mineral train, and that it was not the mineral train that was approaching through the yard. I have no assistance at all. I am the only person fit for the job at this point. I have no assistance of any sort. There are a number of relief men who come to Park Junction both night and day, and I have to emprise by telephones to the position of the trains. This adds to my ordinary train work, and takes up a great deal of my time. In this case I was using the telephone for my own information. There are 105 levers in the signal-box, of which 27 are bell instruments, and the remaining 78 are sets of block telegraph instruments. If I had not been able to observe the telephones, I think I should have noticed the approach of the goods train. I did not see the disappearance of the back light of No. 7 signal, as I did not look out for it when I pulled the lever, not having the time. I applied to Mr. Lenning before the new box was opened, whilst the alterations were being made, for a boy to assist us with the booking work. The boy was supplied to us. We also told Mr. Lenning that a second (relief) lad would be required when the new box was opened. He told us to apply in the usual way. We did this when the new box was opened. The first boy remained several weeks with us, and then came up to check the lever movements in the box, and the general work in the box. The result was that the boy did not appear as usual one day, and we were told by Mr. Parry that he had been taken away our lad assistant. This was at the end of 1899. We protested against the removal of the lad, and also against the way the lever movements were taken, before the box was coupled up. The lever movements were then taken again, and we were told, after some considerable time by Mr. Upame (Assistant Superin- tendent), that a new boy would not be sent until we brought an end to the trouble. We decided not to obtain our request. Until the issue of the last appendix, there was an instruction that all trains to Cardiff had to have sufficient hand brakes applied to enable them to pull up at Bow Junction home signal. This was altered when the latest Appendix (1901) was issued.
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Dock Junction, I cannot say at what speed the 7:40 p.m. passed my box. "Line clear" was asked for the down boat train at 7:34 p.m. I asked "Line clear" from St. Brides same time, and received "Line clear" at once, and gave "Line clear" to Alexander Dock Junction immediately. Park Junction asked me "Line clear" for the mineral train at 7:41 p.m. but I did not accept it. When I saw smoke on the branch, it was nearly at the home signal on the branch; I judged the train was running engine head-lights, and it was coming too fast to stop at the signal. The up express was then near my box. Signalsman Lodge told me afterwards that he had made a mistake, and had pulled the wrong lever. This I told him on the telephone, to tell him that the express had run into the coal train. In the case of short trains, but not very often, a mineral train from Park Junction was brought to a stand at the branch home signal, but only when the junction road was set for the down main or down relief lines. I should say the mineral train was certainly running five or ten miles an hour, as I saw it. The same occurred about 7:51 p.m.

George Thomas Vaughan, goods guard, Cardinal's: I have 17 years service with the Company, and have been a goods guard for eight years. I was in charge of the return 7:30 p.m. Cardinal's to Bagnall special on Saturday, September 26th. The driver was foreman Albert Worrack, with engine No. 3161. The type. My hours of duty on the 26th were from 1:00 p.m. until 11:10 p.m. I was relieved on the 27th at 9:30 p.m. We left Newport at 4:30 p.m. with 47 loaded and one empty four-wheeled wagons. Of these 40 were high-sided coal wagons, seven were Great Western, and three were non-Great Western. I am not aware what was on the Vale-over-wood. There were two 2-wheeled brake vans, one only by the end of the train. We ran direct to Park Junction home signal, arriving there at 7:40 p.m. We stopped at the signal eight minutes, which was there to give us a chance to proceed towards the advanced starting signal. We did not stop when the signal-box and got no instructions from the signalman. We drew up to the advanced starting signal, and stood at it about three or four minutes, as I got out of my van, almost immediately the train came to a stand, and walked towards the Park Junction signal-box, which would be about 100 yards in the rear of my van. When I got to the foot of the steps leading up to the signal-box I heard a crow given to the engine whistle. I took this as being a signal from the driver to me to know if I was in the van—the starting signal having been lowered. As soon as the driver gave the crow, I looked round and saw the starting signal was "off." I then gave the driver a red light to intimate I was not in the van, and then I ran to my van. When within 28 yards I waved a white light which he acknowledged on the whistle, and then he went right away. When I revisited my van I put on my brake lightly to tighten the couplings, which is a good way in the event of changing gradients. The next I heard was a brake whistle which I took to mean that Ebbow Junction home signal was at danger—the distant signal is always fixed at danger. Our speed was 30 to 40 miles per hour when the brake was applied. The brakes were as tight as I could, and speed had been reduced to about five miles an hour, when I was thrown from one side of the porch of the van to the other as a result of the collision. I did not know then what had happened, but thought the train had parted, and that the rear portion had run into the front portion. I ran down immediately, and found that a collision had occurred between an up passenger train and my train. There were no brakes applied on the trains. It is not necessary to apply any, and the possibility of the train being brought to a stand, across the four main lines at the junction, by the action of wagon brakes is undesirable. The collision caused the brakes to be pinned down and was not caused by the overbridge when the brake wheel was overspeeded. It is my practice to release the handbrake when the van is passing Ebbow Junction signal-box. I believe my van weighed 13 tons seven cwt. After the collision I saw in Park Junction box at 8:13 p.m. and the signalman said to me, "I have made an awful mistake. I pulled No. 7 instead of No. 7." I can't be sure what. He said he had made his road to turn a train into the refuge loop. This train was going towards Newport High Street, and, instead of pulling off the signal for the refuge loop, he pulled one starting signal off, and was not aware we had started until he heard the crash. He said that the signalman at Marshalls said him up and informed him that the coal train he had just let go had run into something at the junction. I told him the position of my train, and what I had done to prevent it with detonations. He then said "The God's sake don't do anything—stop the train. Whomever would come to relieve him. I remained with him, and asked him which was the home signal lever, and told him he had better put a ring on it, which he did. I attended to the telephone, and motined him all I could while I was there. I was relieved at 0:45 p.m. by brakevan, namely of Dock Street. I told him the position of my train, and advised him to remain with the signalman until he was relieved at 0:45 p.m. I did not see the signalman when I first went back, that is, when my train came to a stand at the starting signal. When I went to the box after the collision, the signalman told me there was a brakevan sitting in the box waiting for the relief to take him to him. I went on to Ebbow Junction after I was relieved at 0:45 p.m.

George Byam, signalman: I am employed at Marshalls signal-box. I have five years' service, and have been signalman four years. My hours of duty on the 26th September were from 11:30 a.m. till 9:30 p.m. My signal-box is situated about 40 or 50 yards on the Newport side of the down main line at the end of the turn out of Park Junction. The goods train was proceeding in this direction on the down main lines. I noticed that when it started away from the signal it was running slowly.
signals were standing "right" for me. I saw none of them thrown to danger, but, after passing under the road bridges, just south of the box, some one came across the metles at the other end of the yard waving a red light. I immediately applied brakes, and, looking ahead, I observed the head lights of another train close upon me coming off the branch. Almost immediately afterwards we perceived the engine of this train, causing my engine, and five coaches of my train, to leave the rails. The engine was knocked over on its side. Extensive damage was done to engines, coaches and wagons. Engineer A. Workman was fatally injured, and his mate Day, severely injured. My fireman, R. James, was also badly hurt, and I had my right shoulder and both legs bruised. We were both imprisoned on the engine, but my mate after a time managed to free himself, and I was assisted and released by some of the staff on duty. The collision occurred about 7.55 p.m. After looking I satisfied that the fire on the engine was all right, I and my mate returned home to Cardiff as passengers. My train was travelling at about 45 miles per hour when I observed the red light. The load consisted of five eight-wheelers and one six-wheeler. Nothing more could possibly be done on our part to avert the mishap, the distance being too short. We ran chimney first. The engine was fitted with steam brake on the four coupled wheels, and the tender with the vacuum. The engine brake was in good order. I boarded it up before starting for Newport.

David James, fireman, states: I have nine years service, and have been fireman about eight years. I was with enginenman Kenneth on the 28th September, and had the same hours of duty. On approaching Cardiff on the 28th, I observed in the engine's hand that in order to stop the train for a while I should be at the box. Immediately afterwards I received an impulsive shock from the fireman, who had not released the hand pump. While effecting that, I was thrown off the seat and rushed to the fireman box, which was in order. The fire in the engine was all right, and I and my mate returned home to Cardiff as passengers. The train was passing Ebbw Junction, and I at once put on my injector. This was when the engine was all right, and I and my mate returned home to Cardiff as passengers. My train was travelling at about 45 miles per hour when I observed the red light. The load consisted of five eight-wheelers and one six-wheeler. Nothing more could possibly be done on our part to avert the mishap, the distance being too short. We ran chimney first. The engine was fitted with steam brake on the four coupled wheels, and the tender with the vacuum. The engine brake was in good order. I boarded it up before starting for Newport.

Benjamin Tumbrine, passenger guard, Cardiff, states: I have 16 years service, and have been passenger guard about 10 years. My hours of duty on the 28th September were from 7 p.m. to 6 a.m. I was off duty about 6 a.m. on the 28th. I am a super passenger guard stationed at Cardiff. On Saturday, September 28th, I was in charge of the passenger train at Cardiff which was passing at the time.

Conclusion.

A mistake on the part of Lodge, signalman at Park Junction, was the immediate cause of this collision.
At 7.36 p.m., a mineral train arrived at Park Junction, bound for Newport, and was offered by signalman Lodge to waiver Junction (Newport), but it also was refused. He immediately decided to run this mineral train into a refuge loop, in order to clear the main line to Newport for a passenger train, and therefore proceeded to set the two home points and bars. The signal controlling the cut-off door of No. 6 instead of No. 7 lever, and drew it down, thereby unintentionally lowering the down starting signal for Bow Junction to the "clear" position. He frankly acknowledged that, after the collision, he examined the lever frame, and found that No. 6 was pulled over, and that No. 7, which was never touched, was at "Line clear" from Elbow Junction. The signalman also at Elbow Junction is only allowed to accept a train from Park Junction with the full block protection given by "Line clear" signal. Further, the speed of trains is limited to 15 miles an hour on this Western Curve. These instructions, issued in October, 1904, are still in force. The instructions also contain the warning that in such cases the trains are only accepted under full block protection, with the Junction points set for the crossing.

The special goods train had a full load of 60 vehicles behind the engine, and was booked to run through to Cardiff. When, therefore (as above described), the Park Junction down starting signal was lowered, the driver (Workman) of this train was fully justified in expecting a clear run over the Junction crossing in accordance with the instructions. It is shown that he was given his signal, guard, which was on his way back to Park Junction signal-box, to return to the train, and, on receipt of a white light from the guard (Vaughan), started his train down the line to the bank. The Elbow Junction home signal was found at "caution," but driver Workman could not have seen his danger position until he was passing the railway overbridge, distant about 230 yards from the home signal. He appears then to have done his best to stop his train by using the engine brake, and by whistling for the guard's assistance, as soon as he found the Junction home signal against him. The weight of the heavy goods train was 130 tons, and his engine ran by the home signal on to the crossing of the up main line. The engine of the goods train weighed 76 tons 14 cwt., of which 65 tons was blocked, and the weight behind the engine was 74 tons 13 cwt., of which 13 tons 2 cwt. (one brake van) only were blocked.

Guard Vaughan's evidence, and that of signalman Bowen, prove that the speed of the goods train was not in excess of the prescribed limit of 15 miles an hour.

All the main line signals had been "cautioned" for the express passenger train, which in its turn was approaching Elbow Junction signal-box at a speed of 45 miles an hour. Despite the efforts of yard inspector Ballinger to warn the express, and of signalman Lippitt, at Elbow Junction, to stop the express by placing his signals at the danger, driver Kennett had not time to do more than apply his brake before the collision took place. The express engine struck the right-hand leading end of the goods engine, and turned it end for end, so that it eventually fell over on its right side. In these circumstances I hold that no shadow of responsibility for this collision falls upon driver Workman, who had an excellent record, and whose sad death is a matter for sincere regret. Nor can blame be attached to any one else other than signalman Lodge, who made the initial mistake described.

It appears that a relief brake-man had been sitting in the Park Junction signal-box for a quarter of an hour, before the collision occurred, waiting for a train. Lodge states that he was not engaged in conversation with this brake-man, and that his attention was not in any way distracted by his presence. Lodge suggests that a possible explanation of his mistake may be that he intended, in accordance with his usual custom, to place collars on Nos. 5 and 6 levers, in order to remind himself of the position of the goods train standing at the down starting signal. If he had placed these collars, he could not have lowered the starting signal without removing the collar. Either, therefore, he must have placed collars on Nos. 4 and 5, instead of on Nos. 5 and 6, or only have placed one collar on No. 5.
On the other hand it is given in evidence by guard Vaughan, that after the collision, Lodge voluntarily made the statement that he was talking to the brakeman at the time.

It is one of the duties of a signalman to observe whether a lever movement is properly responded to by the signal concerned. To this end repeating indicators are provided for such signals as are not in view from a signal-box. If Lodge had watched the signal worked by No. 7 lever, he would presumably have noticed that the back light was not obscured, and that the signal had not answered the lever movement he had made. His attention would then probably have been drawn to the lever, and he would, I think, have immediately discovered his mistake, and might at once have thrown back the lever, and placed the starting signal to danger.

Lodge states that he did not watch No. 7 signal, and therefore did not notice that the back light was not obscured, because he had no time to do so. The necessity for using the telephone prevented him from noticing the movement of the goods train, and taking action to remedy the mistake he had made. In short, his excuse for the grave mistake he made is that the work in the signal-box is too heavy for one man to be able to perform it properly without assistance.

Park Junction signal box contains 105 levers; of these, 78 only are in use. There are in addition six bell instruments, four sets of block instruments, and four telephones. It is an eight-hour box, and is classed as “special” for the purpose of calculation of wages. The total number of trains dealt with in 24 hours is 378, the maximum number in one hour being 16. In 1899, when extensive alterations were in hand at Park Junction, the assistance of a train-booker was asked for by the signalmen. This was given, as a temporary measure. When the new arrangements were in working order, the services of a train-booker were dispensed with. The signalmen protested, and a survey of the general work, lever movements, &c., performed in the signal box was made, with the result that the men were informed that a case for the permanent appointment of a train-booker had not been made out. In 1907 the signalmen petitioned that, on account of the extra telephone work, the box should be classed as “extra special,” and the highest scale of wages paid accordingly. On this occasion, the signalmen made no reference to the necessity for providing them with services of a train-booker. But it was still found to be less than that required by the Company’s fixed scale for qualification for the “extra special” class. The petition for higher wages was accordingly refused.

The signalling of trains, by which is included the watching of the movement of the semaphores and signal lights, and of the trains themselves, is of far greater importance than the despatch of telephone messages. Lodge suggests that it was the necessity for using the telephone, which prevented him from observing his own-door signals. But when further questioned, Lodge explained that he had not been called up on the telephone, but was of his own accord asking for information regarding the position of certain passenger trains. In the circumstances, whilst it may be freely acknowledged that Lodge made the mistake from pure inadvertence, I am not prepared to accept the excuse he offers for the mistake, that his work was so continuous that he had not the time to carry it out in a proper manner.

Lodge came on duty at 2 p.m., after 16 hours rest, and had been at work about six hours when the collision took place.

In order to prevent the recurrence of a similar mistake, the Park Junction down starting signal for Ebbw Junction should, I think, be controlled either electrically or mechanically from Ebbw Junction signal-box. It will then be impossible for the signal to be lowered without the consent and action of the signalmen in both these Junction boxes. I understand that the Company are prepared to arrange for the addition of this control.

I have, &c.,
J. W. Pringle, Major.
evidence by guard Vaughan, that after the statement that he was talking to the brakeman to observe whether a lever movement is correct. To this end repeating indicators are from a signal-box. If Lodge had watched it presumably have noticed that the back light not answered the lever movement he had made, then drawn to the lever, and he would, I think, and night at once have thrown back the lever, No. 7 signal, and therefore did not notice that he had no time to do so. The necessity for noticing the movement of the goods train, and I made. In short, his excuse for the grave signal-box is too heavy for one man to be able to lever: of these, 78 only are in use. There are block instruments, and four telephones. "special" for the purpose of calculation of 24 hours is 278, the maximum number in vice alterations were in hand at Park Junction, for by the signalman. This was given, as a signature was in working order, the services signalmen protested, and a survey of the in the signal box was made, with the case for the permanent appointment of a train signalmen petion that, on account of the used as "extra special," and the highest scale occasion, the signalmen made no reference to cases of a train-breaker. Again a survey of all still found to be less than that required by for the "extra special" clause. The petition included the watching of the movement of the signalmen themselves, is of far greater importance. Lodge suggests that it was the necessity for this instance from observing his out-door explained that he had not been called up asking for information regarding the position trains, whilst it may be freely acknowledged engagement, I am not prepared to accept the was so continuous that he had not the hours rest, and had been at work about six

A similar mistake, the Park Junction down I think, be controlled either electrically or hand, and the driver to draw up to the starting signal, and when that is lowered (which the Park Junction signalman will not do until he has received "Line clear" from Edbow Junction) the train will go right away.

The speed of all trains over this section of the line must be limited to 15 miles per hour.

The "Section clear but junction blocked" signal must not be used by Edbow Junction for trains from Park Junction.

Printed copies of the above Report were sent to the Company on the 6th December.

I have, &c.,
J. W. PRINGLE,
Major.