

RAILWAY ACCIDENTS.

R E P O R T

BY

LIEUTENANT-COLONEL DRUITT, R.E.,

ON THE

FATAL COLLISION THAT OCCURRED ON THE 23RD JANUARY,
1911, BETWEEN A PASSENGER TRAIN AND A MINERAL
TRAIN AT COKE OVENS, NEAR PONTYPRIDD, ON THE
TAFF VALE RAILWAY.

Presented to Parliament by Command of His Majesty.



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TAFF VALE RAILWAY.

Railway Department, Board of Trade,
8, Richmond Terrace, Whitehall, London, S.W.,
13th February, 1911.

SIR,

I HAVE the honour to report for the information of the Board of Trade, in compliance with the Order of the 23rd January, the result of my inquiry into the causes of the collision which occurred on the 23rd January between a passenger train and a coal train at Coke Ovens near Pontypridd on the Taff Vale Railway.

In this case, as the 9.10 a.m. passenger train from Treherbert to Cardiff was travelling between Gyeffellon Lower signal-box and Rhondda Cutting Junction signal-box, it ran into the rear of a mineral train standing at the No. 1 down line home signal of the latter signal-box.

Eleven passengers were killed, four passengers and the guard of the mineral train were seriously injured*, and 17 passengers have complained of minor injuries or shock. A passenger brakesman was also slightly injured.

The passenger train consisted of a six-wheels-coupled tank engine with a trailing radial axle, running chimney in front, weight 60 tons empty, fitted with the automatic vacuum brakes with blocks working on the six coupled wheels, and of the following 11 vehicles in order named from the engine, viz. :—

Class of vehicles.	No. of wheels.	Length over buffers.		Weight of vehicle empty.		
		ft.	ins.	tons	cwts.	qrs.
Passenger brake van	6	37	1	13	0	0
Bogie third class, 8 compartments ...	8	52	7 ³ / ₄	20	18	0
Bogie composite, 6 compartments ...	8	39	11	14	16	0
Passenger brake van	6	37	5	12	19	0
Bogie third class, 7 compartments ...	8	41	8 ³ / ₄	15	15	1
Bogie composite, 7 compartments ...	8	48	2	20	3	2
Bogie third, 8 compartments	8	47	0	19	11	2
Bogie third, 7 compartments	8	41	8 ³ / ₄	15	15	0
Passenger brake van	6	34	11	11	19	0
Great Western Railway milk van ...	6	31	6	10	14	0
Great Western Railway milk van ...	6	31	6	10	14	0

These vehicles were fitted with the automatic vacuum brake working blocks on all wheels with the exception of the centre pairs of the six-wheeled vans. The total length of the train including the engine was 478 ft. 4 ins. and the weight when empty 226 tons 5 cwt.

The first three vehicles formed the portion of the train from the Ferndale branch line, which were attached to the main portion at Porth.

The engine and five leading vehicles were derailed, and the first, second, fourth and fifth were badly damaged.

The position and condition of the vehicles of the passenger train, and of the rear vehicles of the mineral train (which consisted of engine, 46 loaded coal trucks and a brake van) were as follows, viz. :—

Passenger engine No. 193 (six-wheeled radial tank with trailing radial wheels) completely derailed; leading end of engine in "six-foot" way on the down line side and close up to near running rail of down relief line (No. 2) adjoining; engine listed somewhat to the left; the fore part of engine resting on underframe of mineral brake-van No. 6361; the latter completely demolished, the broken body of same piled up on buffer beam of engine; roof of van lying on outside of down relief line (No. 1) about 20 feet in advance of engine, together with a portion of body of van lying on relief line No. 2.

One Lewis Merthyr Colliery Company's waggon (No. 1626), lying on side in six-foot way on right-hand side of engine, totally wrecked, and waggon No. 1661 owned by the same Company lying immediately in front of and against right-hand leading end of engine cut in two portions through side doors and totally wrecked; coal and debris of same piled under engine. In front of this, one coal waggon (No. 1585) of same Company off road; both ends of waggons badly damaged. Three other waggons of same Company, in front of the latter, damaged, but remained on road.

Leading passenger brake-van, six-wheeled, No. 241, totally wrecked; part of underframe, and part of body, telescoped into No. 349 third class carriage, the underframe resting at about seat level; the rear portion of body of van resting in body of carriage, the right-hand side frame having cut through five compartments thereof, and the leading

* The guard too since died of his injuries.

end of body of van resting on cab of engine ; the leading part of the underframe was under the engine ; left-hand side frame overhanging six-foot way about 2 ft. 6 ins. ; bogies destroyed.

No. 349, third class, eight-compartment, eight-wheeled bogie carriage, derailed to left-hand side ; frame and five leading compartments totally wrecked ; leading bogie damaged, trailing one remaining on rails undamaged.

No. 31, composite first and second class, six-compartment, eight-wheeled bogie carriage, leading bogie off road ; frame slightly damaged.

No. 266 passenger brake-van, six wheels, part of body and part of underframe telescoped into No. 203, third class, seven-compartment, eight-wheeled bogie carriage, the rear portion of underframe of brake-van resting partly on floor of carriage and partly above it, having cut through five leading end compartments of the carriage ; right-hand side frame overhanging six-foot way ; body of passenger brake-van almost entirely wrecked, and frame of same badly damaged ; fore part of body of carriage totally wrecked, and frame badly damaged ; trailing bogie of carriage remained on rails.

No. 77, first and second class composite, seven-compartment, eight-wheeled bogie carriage, remained on rail ; slight damage to buffers.

No. 326, third class, eight-compartment, eight-wheeled bogie carriage, frame slightly strained. Remained on rails.

The remaining vehicles comprising the train remained on rails undamaged, viz. :—

No. 109, third class carriage.

No. 236, passenger brake-van.

No. 1864, Great Western Railway milk van.

No. 1789, Great Western Railway milk van.

The mineral train was about 300 yards in length and was 800 tons in weight.

The rear of the brake-van was standing about 40 yards ahead of the Rhondda Cutting Junction distant signals, which are on the same post as, and underneath the advance starting signals for Gyfeillon Lower signal-box.

The collision occurred at about 9.48 a.m. on a slightly misty morning.

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

Description.

The signal cabins at either end of the block section concerned are Gyfeillon Lower and Rhondda Cutting Junction. They are 986 yards apart, and the down lines approximately run from north-west to south-east. There are three down lines and three up lines between these cabins, and some sidings between the sets of lines. There are separate block instruments for each line.

The local names of the down lines used by the witnesses are—

No. 1 down line for the passenger line (which is also used by mineral trains) ;

No. 2 relief road (a mineral line only) ;

No. 3 relief road (a mineral line only).

The passenger line is between the two relief roads—No. 2 being on the left and No. 3 on the right of No. 1.

All these down lines and the sidings between the up and down lines converge into a single down line before reaching Rhondda Cutting Junction cabin, and opposite this cabin there is only one up and one down line.

The gradients of the down lines between the two cabins, starting from Gyfeillon Lower are as follows, viz. :—

1 in 280 falling for about 200 yards

1 in 196 " " 233 "

1 in 320 " " 166 "

Horizontal to Rhondda Cutting cabin.

The lines curve considerably. The down line is straight from opposite Gyfeillon Lower cabin for 260 yards, then a 25-chain curve to the right for 154 yards, then straight for 66 yards, then a 20-chain curve to the left for 176 yards, then a 15-chain curve to the right for 264 yards, and then straight for 66 yards to opposite Rhondda Cutting cabin.

The following distances may be noted, all measured from the centre of Gyfeillon Lower cabin towards Rhondda Cutting cabin :—

To down inner home signals, Gyfeillon Lower cabin ... 46 yards

" starting " " ... 273 "

" advance starting " " ... 383 "

(The down distant signals for Rhondda Cutting Junction cabin are on the same posts as and underneath the advance starting signals for Gyfeillon Lower cabin, and are 603 yards from the former cabin.)

The down signals for Rhondda Cutting Junction cabin are as follows, viz. :—

Down inner home signals...	...	31 yards from centre of cabin.
" outer "	...	240 " "
" distant "	...	603 " "

The down outer home signals for this box above mentioned are those for No. 1 down line and No. 2 relief road, and are situated on the left-hand side of No. 2 at the fouling point of the junction between the two lines.

The outlet signal from No. 3 down relief road to No. 1 down line is 71 yards nearer the cabin on the right-hand side of the road to which it refers, so is 169 yards from the cabin.

Tyer's two-position single wire block telegraph instruments are in use on the Taff Vale Railway.

The following are extracts from the Company's Regulations applicable to double lines :—

Instructions in the Mode of Working the Instruments.

DESCRIPTION OF INSTRUMENTS.—The dial of the Instrument is divided into two parts, one part being for the **Up Trains**, the other part for the **Down Trains** : each Instrument has two Indicators, one black, the other red. The **Black Indicator** shows the last Signal received at the Station ; the **Red indicator** the last Signal sent from the Station. Each Signal Station is furnished with a **Bell** for each section. On sections where there are three lines of rails the dials for the third line have only one Indicator, as the trains run in one direction only over the third line.

THE THREE PLUNGER SYSTEM.—As the Bell at the other end can be rung by either the Signalling Plungers or the Bell Plunger, all Bell Signals which are **not** intended to move the Indicator must be sent on the (lower) Bell Plunger ; but all Bell Signals which **are** intended to move the Indicator must be sent on to the Instrument Plunger, that one being used to which the Indicator is **not** then pointing.

Normal position of Block Indicators.—When the Block Instruments are not in use, the Line must be considered blocked, the Indicators having *two* positions showing "TRAIN ON LINE" and "TRAIN ARRIVED."

The bell signals in use and other block regulations are those agreed to by the Companies parties to the Railway Clearing House.

The normal position of the block indicators when the instruments are not in use is at "Train arrived."

The following rule is referred to in the evidence :—

55—(a) In case of detention at a Home, Starting, or Advanced Starting Signal, the Engine-driver must immediately sound his whistle, and, if still detained, the Guard, Shunter, or Fireman must (except where instructions are given to the contrary, or where the Lock and Block System of train signalling is in operation) go into the Signal-box and remind the Signaller of the position of the train, and remain there until the Signaller can give permission for it to go forward. In foggy weather or during falling snow, the Guard, Shunter, or Fireman must, immediately upon the train coming to a stand, proceed to the Signal-box.

(c) The duty of going to the Signaller must be performed as under :—

(ii) in the case of a goods train with only one guard :—When stopped at a Home Signal, by the Fireman.

(d) The Guard in charge of the train must satisfy himself that the man whose duty it is to do so has gone to the Signal-box ; and the Guard or Shunter, as the case may be, will be held responsible for seeing that the train or vehicles are properly secured.

Evidence.

Albert Edwin Hutchings states : I have been in the service of the Taff Vale Company altogether for 19 years, nine years of that time as signaller. I am district relief man for that district and have relieved at Gyfeillon Lower box for about four years. I came on duty at 9 o'clock on Monday morning, 23rd January, having finished my previous turn at 6 a.m. Sunday morning, and been off duty 27 hours. The first train I had on the down line was a through mineral. That was offered me by the box in the rear—Gyfeillon Upper—at 9.23 a.m. I accepted it at 9.23, received "Train entering section" 9.27, and gave "Train out of section," 9.32. I offered that train to Rhondda Cutting at 9.23 a.m. on No. 1 down line, and it was accepted at 9.23, and I sent "Train entering section" at 9.31 and received "Train out of section" at 9.36. The next train had picked up at the sidings and was offered to Rhondda Cutting at 9.29 a.m. and accepted at 9.29. It entered section at 9.29 and was signalled out of section at 9.39. That was on No. 3 line. The next train on No. 1 down line was a passenger train.

That was the train which ran into the through mineral train. The passenger train was offered to Rhondda Cutting at 9.43 and accepted at that time. I sent "Train entering section" at 9.47 but did not get "Train out of section" for the passenger train. It passed my cabin at 9.48. I had an up through mineral at 9.42 on the No. 2 up relief road, but was not particularly busy about this time. The box is a 10-hour box. I could have seen the tail of the mineral train from the box had I looked, but not by a casual glance. There were some goods trucks standing in the yard sidings at the stop block which prevented my seeing the train easily. They were standing near the dead end. There is a good view of the advance signals, and the rear of the train was about 40 yards ahead of them. The advance signals are about 390 yards in advance of the box. The line curves about the signals. I am quite certain I sent the block signals for the mineral train on No. 1 line upon the block telegraph instrument. I entered the signals in the order register as I received them and was given the

Driver to whistle, and Signaller to be reminded by Guard, Shunter, or Fireman of position of train.

9.23 a.m. at that time and the 9.31 and 9.36 at those times afterwards. There were in the box with me at the time the reliefman whom I had relieved, and a groundman. The reliefman (that is Dipper) remained on duty and assisted in the cabin, but I booked the times myself. The other man (groundman W. Marchant) comes to assist trains picking up and putting off as the case may be, and he stays in the box until the trains come. He has nothing to do with the signalling. I saw the passenger train go into the other train hut too late to prevent it. The first warning I had of what was about to happen was, when the passenger train was passing my box the Rhondda Cutting signalman gave the blocking back signal (3-3). That was at 9.48 a.m. and just as I was in the act of putting the train on line. I was powerless to do anything. I had no time to throw my advance signals to "danger," and Rhondda Cutting had called me and asked me what I had on No. 1 road, and the train had only some 400 yards to run. I made the attempt but saw I was too late and I could do nothing. I did not get them back until after the collision. I had no conversation with the man at Rhondda Cutting cabin. I did not record the blocking back signal (3-3) in my register book. I was too much upset.

By *Mr. J. H. Thomas, M.P.*: I made the whole of the entries in the register book prior to the accident. When I received the blocking back signal there was possibly time for me to have reversed the signals had I realised at once that there was something serious, but I thought he had made a mistake, and I received a shock on getting the 3-3 signal.

(Recalled) states: When I offered the passenger train at 9.43 the block instrument showed "Line clear" and the indicator pointed to "Train arrived." I did not send the "Entering section" signal for the passenger train. I was on the point of doing so when I had the "blocking back" signal. When I got the blocking back signal I looked at the book to see if there was a train in the section because he tapped me on the telephone to tell me he had a train on No. 1 road. I said "What have Syd got on No. 1 now, then," or words to that effect. The passenger train passed me and then I had to turn round and look at the crash. After I said "What have Syd got on No. 1, then," I went to put the signals back then. I know that these advance signals are 383 yards ahead of my cabin. I had to put the distant back, then take Nos. 11 and 12, that is the starter and advance starter. The signals would have to be pushed back—the distant and advance starter especially. I am certain I got two distinct signals for the Barry train on No. 3 and for the mineral train on No. 1 down line. I made the entries directly I had the signals. I did not enter or make a note about the "blocking back" signal. I collapsed and asked for a man to take over.

Phillip James Dipper states: I have been in the service of the Taff Vale Company two years and six months, and relief signalman 10 months. For the first six months I was groundman, and I have had 10 months in the box. I came on duty at 1.30 a.m., Monday morning, and worked until relieved by Hutchings at 9 o'clock, when I had been on duty 7½ hours, and would have remained on as assistant signalman till 11.30 a.m. I informed Hutchings how matters stood as regards the trains and sat down to have some food. Some time afterwards—about 9.20—I heard "Line clear" for a mineral down No. 1. I was not noting particularly what was going on, but I remember the coal train going by. I remember Hutchings being

asked "Line clear" from Gyfeillon Upper—the box in the rear. He accepted it and asked on to Rhondda Cutting. I do not remember anything else and could not say. I do not remember whether he gave the "Call attention." He gave the 4-1—the mineral code—and that was repeated from Rhondda Cutting. I am sure of that. I did not notice the time, but I should say just after 9.20. I saw 9.23 in the book afterwards. He had 4-1 from Upper and then "Train approaching," then he asked on to Rhondda Cutting. I do not remember if he gave the "Train entering section" nor did I hear the bells for the "Out of section" signal. All that I am certain of is that he offered it to Rhondda Cutting and that the Rhondda Cutting man accepted it. I did not notice the block instrument at all. I remember the signals for the passenger train. He was asked "Line clear" from Upper and passed it on directly to Rhondda Cutting. It was accepted from Rhondda Cutting at once. Then he pulled off his signals. I noticed him putting the signals at "danger" behind the coal train. He gave "Train entering section" for the passenger train. Just as he gave it he shouted to me "He has blocked the road" and slammed the signals back. I did not hear the bells for the "blocking back." This was just as the passenger train was passing the box. The engine was opposite the box. He said "He has blocked the road." He threw the signals back—the down signals, everything he could get hold of. He threw them back, but was too late. I know the distance from the box to the advance starting signals is about 400 yards. The passenger train was going past the box at about 30 miles per hour. It would not take half a minute for a train to go to the advance starter going 30 miles an hour. It would take a man about six seconds to put back six levers. Of course he had to cross from his desk when he received the "blocking back" and then put the signals at "danger." It took him some time to recover himself. When he shouted to me I made an effort to get the red flag but I was excited. Hutchings went to the telephone but he asked me to answer the telephone as he could not. He collapsed. He fell down as if in a faint, directly the collision occurred. He was quite incapable of doing anything. The groundman Marchant was in the box also at the time.

By *Mr. Harland*: I am quite certain that what I am referring to as having passed at 9.20 or 9.23 was No. 121 down the No. 1 down line from the tone of the bell. Hutchings received "Is line clear" from Gyfeillon Upper and answered it. The next signal he received was "Train approaching." I cannot remember the interval between the two signals. Usually there is about three to four minutes. I did not notice if he asked "Is line clear" when he received "Is line clear" from Gyfeillon Upper. I think "Line clear" was asked first, "Train approaching" was given in three or four minutes, and then it was that "Is line clear" was asked of Rhondda Cutting Junction. At this time I was sitting down and Hutchings was doing the whole work, including booking, telephone, and levers. I did not hear whether anything passed on the telephone between Hutchings and the man at Rhondda Cutting Junction.

By *Mr. Parfitt*: With regard to the call to the telephone, Hutchings was called to the telephone after he had put his signals to danger, so that going to the telephone would not have interfered with his getting his signals to "danger."

By *Mr. Thomas, M.P.*: I remember the Barry train down No. 3. I am quite sure when I say I heard "Line clear" being asked for, it was for

the train on No. 1 and not that on No. 3. When the "blocking back" signal was given, Hutchings ran to the signals and not to his book. After the collision occurred he looked at his book and said "Good God! There is a mineral on No. 1." He did not say that without reference to his book. I was having food and all I remember is that "Is line clear" was asked for a mineral train down No. 1. I do not remember "Train out of section" being given on the bell for the train on No. 1. The only thing I remember about the "blocking back" signal is that Hutchings said "He has blocked the road." I did not hear the bell. He went to the distant signal lever first. I remember he was at his book and shouted something to me, but not whether it was before; I think it was after the collision occurred. I was excited. He may and he may not have looked at his book first before going to the levers. He came to the telephone, but I do not know whether he looked at his book. I cannot remember if the groundman was talking to Hutchings about the work at this moment or just before.

W. H. Marchant states: I have been in the service of the Company five years and three months, and am groundman at Gyfeillon Lower. My duties are taking stock of all traffic going out from the collieries and checking the waggons. I came on duty on Monday (23rd) at 8 a.m. I work a 10-hours turn and went off duty on the Saturday previous at 11.30 p.m. I got to Gyfeillon Lower signal-box at 9.30 or 9.32 a.m. There were in the box relief signalman James Dipper and signalman Hutchings. I booked the traffic, 98 engine cleared—the train going to Barry—which was from Gyfeillon Colliery. It was on No. 3 relief road. I remember 3-1 given from Rhondda Cutting accepting the passenger train. He did not give the "Entering section" signal for that train. I heard the bells 3-3 giving Hutchings the "blocking back" signal. I did not notice the time particularly. When Hutchings got the "blocking back" signal he said "Good God! What is down No. 1?" He gave a tap on the No. 2 instrument for the No. 2 down line to get the attention of Rhondda Cutting on the telephone. He went to the receiver but did not answer him. His nerve failed him. He went to the locker and sat down. I did not see him go to the signal levers. I did not notice anyone put the signals back to "danger." I am not prepared to say Hutchings did not. I think directly he got the "blocking back" signal he first gave a tap on the No. 2 and then went to the receiver. I do not remember his touching the signal levers. He went to the train book when he went to put the train on line just at the time he got the "blocking back" signal. When he got the signal he said "Good God! What is on No. 1?" and dropped his pen. He was not writing at the book, but standing at the desk looking at the book. He said "Good God! What is on No. 1?" and then collapsed.

By Mr. Harland: The "blocking back" signal was given when the passenger train had just passed the box. The signalman was going to give "Train entering section" but did not do it; he collapsed. As he went to give it he had the "blocking back" signal and the moment before he was at his book. From the time when he realised that there was something on No. 1 and made the examination he collapsed. I did not see him go to the book to examine it or complete any entries. He remained sitting down at the box. The stationmaster came to the cabin 12 or

15 minutes after the collision. Hutchings was sitting there in a state of collapse until the stationmaster arrived. I was in the box all the time. I did not see him make any entries. He said "You saw I had 'Line clear.'"

By Mr. J. H. Thomas, M.P.: I was sitting three yards from the bell instrument, so that I could hear the bell from where I was sitting. I do not remember hearing the "Train out of section" (2-1) at all, I am quite sure. The guard of the Barry train looked away at 9.30, and I dropped off the van and into the cabin. I am certain I was there by 9.32. The train on No. 1 down line went before the Barry train. I was on the ground at the time, not in the cabin. If the "Train out of section" signal had been given on the bell I might not have heard it. The bells did not concern me. It might have been given.

Sidney Quick states: I have been in the service of the Taff Vale Railway Company 32 years and during the whole of that time I have been a signalman. I have been permanently engaged as signalman at Rhondda Cutting box six years next May. I came on duty on the 23rd inst. at 8 a.m.; and the box is a 10-hours post. I went off duty from my previous turn at 6 a.m. Sunday morning and had 26 hours off duty. 3-2-2 is the code for a Barry mineral and I got that at 9.32 for No. 3 down line. That was a train of Great Western traffic to Barry. The next train was a passenger train (3-1) and for this I was asked "Is line clear" at 9.46 a.m. and I accepted it at 9.46 a.m. on No. 1 down line. I did not then know anything about the coal train. I wrote the entries myself. The entries relating to the mineral train on No. 1 down line were made when I was advised of the mineral after the fireman came to the box at 9.50. Acting on the advice of Inspector Tuck, I offered it forward, but seeing she could not go forward I cancelled the signal until lower down, viz., 9.52 a.m. when it was accepted at 9.52 but did not start. The first I knew of the mineral on No. 1 was at 9.50 when the fireman of the mineral train came to the box. He said, "We are right away to Roath line standing on No. 1." I told him I was very much surprised to know he was there at all and went immediately to the block telegraph and blocked the line with six beats, given three, pause, three. I had no signal for the mineral train and had no knowledge of the mineral train being on No. 1. The train was never offered me and I never accepted it; of that I am absolutely certain. I could have seen the train from my cabin, but not exactly when I did not know it was there and was attending to other duties, but there was nothing to stop my seeing it. It was not out of sight. Inspector Tuck was in the box. He had been there about 12 minutes. He was not there at 9.31 or 9.36 when the other man says the signals were sent. The fireman had been in the box about one minute or two before the collision occurred. There is a variation as to firemen coming to the cabin to carry out Rule 55. Some come at once; some wait two or three minutes or so. They generally wait in the cabin until the train draws up and then get on as it passes. That is if it stopped at a home signal. If at a starting signal we generally wait for the men to get back.

By Mr. Harland: I do not recollect getting the time for the clock that morning. I had no reason I know of for giving the blocking back signal 3-3 instead of the obstruction danger signal. I gave the first obstruction signal that came into my mind. The one that I was certain the man next to me would be more acquainted with. We are

very rarely called upon to give (6), obstruction danger; 3-3 is usually given on account of the regulations for protecting a train standing inside or outside a home signal. This train had been standing outside and I of course used the signal that the man would understand. If any reason, that would be the reason, that he would probably understand that easier by being used to receive it than six beats which he would not receive once in 12 months. I did not hear any whistling from any engine. There was the Barry train at 9.32, away 9.36, and I did not notice the other train standing on the main line. I did not hear a whistle. I would not swear the driver did not whistle. The train was middling close but I did not hear whistles. There was no wind to carry away the sound, but I had no block signal for the train, heard no engine whistle, and had no warning whatever of the approach of this train until the fireman came to the cabin.

By *Mr. J. H. Thomas, M.P.*: Inspector Tuck was in my cabin 12 minutes prior to the accident. He came down the line from Coke Ovens. I cannot say whether Inspector Tuck himself happened to notice this train on No. 1 down line. I do not think there is any exception for firemen not to come to carry out Rule 55 if they know that a passenger train is closely following, and think they will get through. I do not think it influences them. As a general rule, almost without exception they all come. There are definite instructions that Rule 55 must be carried out. The Inspector was not interfering with me at all. Simply on a matter of his own private business. It is not correct that I was offered and accepted the "Is line clear" signal (4-1) for the train on No. 1 down line.

(Recalled): I can only repeat that I have no knowledge whatever of the train being in the section until the fireman came to the cabin at 9.50—absolutely nothing. When I accepted the passenger train at 9.46, I looked at my block instrument. It shewed "Down train arrived," showing line was clear. I do not consider there is the slightest possibility of his having sent me the signals and my not having entered them in the book.

By *Mr. Harland*: According to my book the Barry train went out of the yard at 9.36. I did not realise that there was a train standing on the No. 1 down line when I let the Barry train off No. 3 relief road. It very often occurs that there are two or three engines passing towards Rhondda Cutting. That has nothing whatever to do with me. They are there under the orders of the yard foreman, bring down small parcels of traffic with a view of placing it for future trains to take forward. So that the fact of a train—one or two—being on the yard facing me does not convey to me anything at all or any idea that their desire is to go forward. I gave the "Train out of section" for the Barry train off No. 3 road at 9.39. That is the only signal he received from me. I deny absolutely that I sent any such signal at 9.36.

By *Mr. J. H. Thomas, M.P.*: Supposing that I had forgotten that the train on No. 1 was put into the section, whilst in conversation with Inspector Tuck, it would be necessary for me to give "Train out of section" to the man at Gyfeillion Lower, if the train had been brought to my knowledge. The fact of the fireman coming to the box would certainly have brought to my knowledge that there was a train there, but it could not have reminded me of a thing I never had. Directly the fireman came to the door he spoke of his

train being on No. 1, "No. 121 on No. 1 right away to Roath line." I was of course taken by surprise, having no previous knowledge of this. Whilst speaking these words the fireman was walking across the cabin towards the locker, and whilst passing me, in the same breath I said "On No. 1, do you say? I have no knowledge of you being on No. 1, I have given 'Line clear' for passengers!" I went to "block back," if possible to give the Gyfeillion Lower man time to stop the passenger train. After hearing the fireman's statement, I say it is quite possible that the conversation may have taken place, but if it did take place, which I have no recollection of it was after the road had been blocked back, and I had gone to the telephone. Within two minutes all this had been done and the train had been signalled forward to Pontypridd at 9.52. All this was done within two minutes of the time he first entered the doorway, so that there could not have been a moment of time wasted, and it is incorrect to say that he was there two minutes without any active operation. I had no conversation with the fireman afterwards.

Inspector Tuck states: I am district mineral train inspector for the Rhondda Valleys. I was in the Rhondda Cutting signal-box on the morning of the 23rd. I could not say the time I got there, but somewhere about 9.30 or 9.35. I came down from Coke Ovens, and there was no train on No. 1 down line when I came down. I am positive I did not see one standing at Rhondda Cutting cabin outer home signals when I passed. I walked down the middle of the line. There is a fair space between the roads, and I passed at the right hand of the dead end and nearer the up line than the down. I went straight to the signal-box. Quick was in the box. I had business as regards delays and was making investigations in the train register book, and I did not note the bell at all. I could not say whether certain trains were offered to Quick or not, but there was a train passed out from the relief road during the time I was there, the Barry train at 9.36. I had not been there more than five minutes or so then. There was no train standing on No. 1 down line there when I passed. After the Barry train I do not remember any other bells. There was some bell, but I did not note it and there were up trains about. The fireman of the mineral train which the passenger train ran into, came to the box, but I did not notice the time. It would probably be about 9.45. I was in the signal-box when the collision happened. I could not say how long the fireman was in the cabin before the collision occurred. The driver of the train tried to pull the train away after the collision occurred. The fireman was at the box whilst I was there about 10 minutes. I could not say what time the collision occurred. We did not hear it. The fireman told Quick "We are on No. 1. You let the Barry train out in front of us. We are right away on No. 1 to Roath." The signalman replied "I have no record of you at all," and went to the telephone to get Gyfeillion Lower concerning the train and to stop the passenger train. I did not notice whether the signalman sent any bell signal. I should have noticed whistling if there had been any. The signalman had the book two or three times. I did not stand in his way. I looked over the book between times and that accounts for my not noting the bells. I did not hear any whistling at all. I could not say they did not whistle, but if they did I should most certainly have heard them.

By *Mr. J. H. Thomas, M.P.*: When the fireman came to the box I heard what he said to Quick. I did not realise for a few moments what had

happened. Quick did say "Good God! I have given 'Line clear' for passengers," but the first remark was that he knew nothing about the train. I have not formed an opinion who is to blame. I am at a loss to know how it occurred. I am at a loss to know who is responsible, whether the signalman at the top end or this end. I saw no train coming down towards the signal. I should think I was at the cabin about 10 minutes before the fireman, but I did not note the time. I did not see any train there, but it might have been travelling down behind. I do not think that I interfered with the conduct of the work—or the fact that I was there accounted for Quick not having made the entry. I do not think that my presence interfered with his work in the least. I did not keep him from working. Whenever he required the book he had it. I always stand on one side when the signalman wants the book to make an entry. Yesterday morning when he was attending to the bells I was with the book. Whenever he wanted the book he had it.

By *Mr Parfitt*: I had some conversation with the signalman. Apart from my own work of examining the book we were speaking about some Great Western train—some Great Western empties sent up last week. Quick had been reported to the General Office concerning them and he had to make out a report. He drew my attention to that. I could not say how long that conversation would last. It was between his work. It might have taken his attention from what was going on, but it was a voluntary statement.

By *Mr. Harland*: I did not notice the time at which the fireman came to the box, but the observation he made to the signalman was "We are on No. 1. You let that Barry train out in front of us." The Barry train had passed out and it appears they were there when that Barry train passed out. I should take it so by the remark. Quick made the remark "What, you on No. 1! I have got no communication of you whatever. I did not know you were there." I am not quite sure if he went to the telephone to get Gyfeillon Lower. It is true he made the remark "Good God! I have given 'Line clear' for the passengers." I think those were the very words. It was not more than two or three minutes after the fireman came into the box that he made use of these words, when he realised that there was a train on No. 1. The fireman said at once "We are on No. 1. You let the Barry train out in front of us." The signalman then said "On No. 1! I have no communication of you whatever." I think Quick went to the telephone to get Gyfeillon Lower, and it was after that—he failed to get them—he left the telephone in a very short time. "Good God!" he said, "I have given 'Line clear' for passengers." He then "blocked back." He attempted to telephone first, then failing to get them hurried to the block instrument. I asked him during the excitement if he could not let that No. 1 train come down. I am quite sure he went to the telephone first before going to the block instrument.

A. Davison states: I have been in the Company's service 29 years, as driver 14 years. I came on duty on the 23rd January at 5.45 a.m. at Cathays and left duty previously early on Sunday morning. I was off duty over 24 hours. I started with a coal train from Hafod Colliery, proceeded to Woodfield, and left there at about 9.23. I had 45 waggons in my train. The signals on approaching Gyfeillon were all "off." I was on No. 2 down line and went through the cross-over at Gyfeillon Upper on to the

No. 1 down line, and proceeded as far as the outer home signals at Rhondda Cutting, where I arrived at 9.31 a.m. I whistled for the signal the second time, and saw another train coming from another road and the signal given to that train. I told my fireman to go down to the box. I came to a stand at 9.34 a.m. The Barry train went out as soon as my train came to a stand, and I sent my fireman to the box about five minutes afterwards. My fireman went to the box as soon as he could. I whistled before my fireman went to the box. I whistled twice when approaching there and next when near the outer home signal. I felt the shock of the collision a little. I did not actually see the passenger train coming. My engine was a six-wheels-coupled with radial trailer, which was running bunker first. I generally send my fireman forward a few minutes after I get to the home signal. I do not know the exact time of the collision, but I think it was about 9.50.

By *Mr. Harland*: I whistled first when coming round the bend continuously, and whistled again at the home signal. I send my fireman to the box when my train might be standing alongside of a box, but when my train stands a distance away I wait a minute or two. The fireman was on the engine for two or three minutes attending to the lubrication, and I remained on the footplate. It was necessary to do the work at the time as it was a suitable time to put oil into the lubricators.

By *Mr. J. H. Thomas, M.P.*: I knew the passenger train was due and assumed the signal would soon drop. When the fireman returned, he asked "Can't you shift them?" and as far as I can remember I said, "I have tried, but failed; something being the matter—something has joined us."

(Recalled): The fireman has always taken the duty of attending to the lubricators as they are on his side of the engine. Knowing that I was on the main line I could have done it, but he happened to be on that side. It was owing to the train going off No. 3 that he stopped to do it. The road was occupied and he finished the job he was doing before going to the cabin.

By *Mr. Cameron*: It is the driver's duty, but there is no rule against the fireman being made use of when he can do it.

By *Mr. J. H. Thomas, M.P.*: It has always been customary for the fireman to do the lubricators on the Taff Vale Railway. It could not have been filled coming down, it had run out. It had been filled in the shed in the morning and it had worked out. The engine groaned coming down, so that as we were stopped we had an opportunity of putting it in. I knew that there was a passenger train coming, and I was expecting every moment to get the signal. When the Barry train came out of No. 3, of course I let the fireman do what he was doing. The train coming out of No. 3 prevented the fireman crossing immediately. It would take the train three minutes to pull clear. I was stopped dead before the Barry train was signalled. I was very anxious (about the lubricator) on the road, and as we could not get the signal he stopped to finish the lubricating. The Barry train cleared before he gave up, but we did not get the road. It is the practice whenever necessary, and we are stopped at signals for such jobs to be done. When the fireman left the engine I did not know anything about his being delayed going to the

box. I was looking at the lubricator and regulating it. With regard to Rule 55, I always endeavour to carry it out immediately. I think it necessary to do so, and did so on this occasion. The guard did not come to the engine at all.

Statement by *Mr. Cameron*: With regard to lubrication many drivers themselves do the lubrication, but some depute their fireman. We have no objection to the fireman lubricating, but it is generally accepted as the driver's duty. Drivers are responsible in any case, of course.

George Lewis states: I have been in the service of the Taff Vale Company $8\frac{1}{2}$ years, seven years as fireman. I worked the same hours as driver Davison. I was working with him on Sunday morning and we went off duty together. We had picked up at Woodfield Colliery and started from Hafod to Barry with the signal crossing us at Gyfeillon Upper from No. 2 to No. 1 down line. We had the distant for Gyfeillon Lower, but the distant at Rhondda Cutting was against us; we whistled for the outer home signal and as it remained on we came to a stand. There was a man working on No. 3 and just as we stopped he had the signal and came out from No. 3 to No. 1. That was the Barry train. Our engine was not taking lubrication. I said to my driver "I will fill the lubricator," which I did. It would be about 12 or 13 minutes before I got to the box. I did not notice the time we came to a stand. I was working at the lubricator five or six minutes. I walked to the box but could not cross over for an up train. I took four or five minutes to walk down. When I arrived at the box Quick was in conversation with Inspector Tuck. I said "We are right away to Roath line." He did not seem to take any heed for a moment but came to me in about two minutes and said "What road did you say you were on?" I said, "Right away to Roath on line No. 1." He said, "What road do you say you are on?" I said, "No. 1." "I did not know you were there," he said. He made a rush to the telephone hollering, "Albert, Albert, Albert." I heard no reply from "Albert." Inspector Tuck said "You had better get the road for them, man, quick as you can or you will stop passengers." The signalman asked Pontypridd for the road for us to go. I did not see him send any other signal.

By *Mr. Harland*: After leaving the engine I stopped for the up train, and when that was passed I crossed to the up side. It may have taken $1\frac{1}{2}$ minutes to pass. I took perhaps four minutes to get to the cabin after that. Inspector Tuck and Quick were talking about some person. I said, "Right away to Roath line." They did not take heed. I sat on the window ledge by the fire fully two minutes, then Quick asked me what road I said. I replied, and he said "I did not know you were there." He rushed to the telephone to call Albert (I don't know who Albert is). Inspector Tuck said, "Get rid of him or you will stop passengers." I always go on my own to the cabin and do not wait for instructions. Sometimes there is something for us to do—a job on the engine, but I always go to the box. I go immediately the train stops as a rule.

By *Mr. J. H. Thomas, M.P.*: Sometimes it is necessary to do things to the engine when we come to a stop. For instance if the driver has steam on, the lubricator will not take. I knew there was a passenger train due at Pontypridd about 10 o'clock. Knowing this I assumed that we would not be kept waiting long, but thought we

would have the road, so I was not in a hurry to get to the cabin. I thought we should follow on behind the Barry train. When I got to the box I walked in and said "Right away, Syd, to Roath on No. 1." He said "What road?" I replied "No. 1." He rushed to the telephone and said, "Albert, Albert." I do not know what conversation took place between Inspector Tuck and Quick. All I could hear Tuck say was, "Hurry up and get this man out of the way. Hurry up and get him through Pontypridd or else you will stop them (passengers)." I did not hear Tuck say "Had you forgot it?"

By *Mr. Parfitt*: When that conversation took place, Tuck was standing away from the books altogether. The signalman had a pen in his hand. They were talking about some person as regards the work. I could not say who. They were not examining the book together. Tuck was like if he was intending to go out of the box.

A. Sellars states:—I have been in the Company's service 10 years, all the time a driver. I signed on duty on the 23rd January at 5.35 at Cathays. Signed on for $11\frac{1}{2}$ hours. Was off duty previously Saturday night. I was not on duty on Sunday 22nd. We picked up our train at Treherbert and Porth. The engine was a six-wheels-coupled, trailing radial, running chimney first. There were automatic brakes on the six coupled wheels and hand and steam brakes also. Steam brake for shunting purposes and vacuum for passengers. Last stop was Hafod Station. Left Hafod about 9.48 or 9.47 a.m., as I afterwards found my watch was about a minute fast. The brakes were in good order. We were two minutes late. The signals approaching Gyfeillon Upper were all clear and Gyfeillon Lower all clear. The distant signal for Rhondda Cutting was on. It was on all the time. I was in the act of reducing speed as usual before I could see definitely whether the distant signal was "off" or "on." I opened the whistle to warn, and then I observed this train was on No. 1 in front, but I was in the act of applying the brake to stop at the home signal. I was just in the act. The brakes would be rubbing the wheels, then I applied the brake fully. I drive on the left side of the engine. The distant was on, top arm off. About at the motor shed, I could see distinctly that the distant signal was on. My eyes were on the signals. The fireman first saw the other train when we were close to it, about 18 or 20 yards away. We both saw the train before this, but owing to the curve were not sure whether it was on No. 1, 2 or 3 road. I just had time to put on the brakes. They had no appreciable effect on the train. The rails were very greasy. I had no steam on. I was running about 27 to 30 miles per hour. After the accident I went back to the second carriage, and one of the poor fellows had his head out of the window, and he spoke to me. He said "Get me out of this as soon as possible." I went to the engine and got the pinch-bar (crow-bar), and tried to burst open the side of the carriage, but I saw it was hopeless with him, because the beam of the van was resting on his head, gradually settling down. I had the crow-bar there within a minute of the collision, as soon as the dust had settled down. Supposing we had carried tools—saws, axes, &c.—we could not have rescued that man. It was all over in a minute or two. He was in the act of dying. His face was changing colour when he spoke to me. It was too late to do anything for him. We could not have done any good in time. Nothing but a steam crane could have moved what was on top of him.

John Jones states: I have been in the Company's service 13 years and a fireman 10 years. I worked the same hours as my driver, and was working with him on Saturday the same hours. The last stop before the collision was Trehafod. The signals were off until we came to the distants for Rhondda Cutting box. Those were on. We slackened speed at the usual place just above Gyfeillon Lower box. I saw the distant against us and whistled. After we left Gyfeillon Lower we saw the train there. It is an hourly occurrence to see a train on one of the roads. I saw the train was on our road about 40 yards away, and I shouted "Whoa up." The driver had his hand on the brake and I put sand down, but, of course, we were into them. The brakes had no effect on the speed of the train. We were going ordinary speed, about 30 miles an hour.

By Mr. Parfitt: I did not realise what was happening until too late. You cannot determine which line a train is on until close on it. The starting signal being off caused us to assume our road was right and that the train was on some other road.

John White states: I have been in the service of the Company 38 years, and have been a passenger guard since 1879, 32 years. I signed on at Cardiff on the 23rd January at 5.50, and was in charge of the down passenger train. I joined the train at Cardiff and went to Treherbert, working back with the 9.10 a.m. ex Treherbert. The first three vehicles attached at Porth came from the Ferndale branch, and the rest were with the train before. There were automatic vacuum brakes, and I saw that was all right before starting. There were 18 inches of vacuum showing in the van. I did not test the brake before leaving Porth, and I did not see the connection made between the two portions of the train. I left that with the junior guard or brakesman. I was in the rear van. I did not test it through the train, but I saw my needle shewing. There were no brakes on the milk vans to my knowledge. They were put on at Treherbert. The last stop before the collision was Trehafod. I knew nothing about anything being wrong until I heard the brake going on hard all at once. About the same moment the crash came. I entered the time down after I came to myself. I have entered on my book 9.50, but I should think a minute had gone before I entered it. I then got out of the van, and seeing that the signals were put back and there was no need of my going back, I went on to render what assistance I could to those in the train. All the signals were up behind my train. I was knocked down and by the time I picked myself together a minute is sure to have gone. I have the time as 9.50.

T. Godwin states: I am a brakesman. I have been 20 years in the service, and 3½ years a brakesman. I came on duty at 5.50 a.m., Monday, 23rd January, and worked a train to Treherbert, and returned with the 9.10 ex Treherbert. At

Porth three other carriages were put on. I saw the connection made, and saw the pipes connected up properly to the brake-van. I did not notice how many inches of vacuum there were when we left Treherbert, but there were 20 inches when we left Porth. I did not notice the signals approaching Gyfeillon. I was busy in the van with parcels. When the collision came I was thrown down and knocked about. I crawled out through the window. I was riding in the fourth vehicle. I did not notice the signals just behind. I did not notice any smell of gas.

By Mr. Harland: I saw the pressure in the automatic brake gauge after I joined the van. A signal is given by the foreman to the guard, and by him to me, and I give it to the driver. The brakes were all coupled up, and we had no trouble to start.

Frank Lowe states: I am stationmaster at Trehafod Station. As soon as I heard of the collision I went straight to the scene of the accident. It might be 10 to 10.15 when I got down. I did not note the time exactly. It must have been an hour or so afterwards that I got to the box. I went to give a little assistance at the train, but seeing there was plenty of assistance I went to the Coke Ovens traffic office. I did not go to the signal-box for about an hour after—about 11 o'clock. I did not go into the cabin on the way down. I went to the scene to see what could be done. I did not see Hutchings until I came back. I asked him respecting the accident, who was responsible. He said "There is the book, Mr. Lowe, you can see for yourself. No. 121 engine has been cleared back to me and I received "Line clear" for the passenger train." I examined the book and I found there was a matter of about 3 minutes between the trains. Hutchings was very excited. He gave up voluntarily; in fact he gave up his duty at once to the relief man who was in the cabin, and told him to take over as he could not go on any further. He told me the same thing, and I said, "You are relieved for the time being." He did no more.

By Mr. Harland: Hutchings made no other statement to me than to refer me to his book. When I asked him "Who is responsible?" he said "It is not me," or words to that effect. "You will see the book. The previous train has been cleared back to me and I received "Line clear" for the passenger train." I examined the book, and find the entries now as they were then. They are all in Hutchings' handwriting and not entered under excitement. I do not think he would have been able to enter anything afterwards.

By Mr. J. H. Thomas, M.P.: "Train out of section" was entered as being given for the mineral train on No. 1 line at 9.36. That would be 5 minutes after it left Gyfeillon Lower cabin.

The following statement was made by George Gould, goods guard, Cathays, at the Cardiff Infirmary, on February 14th, 1911:—

That he was 55 years of age and had been in the employ of the Taff Vale Company 35 years, and had worked as a mineral and goods guard for about 28 years. That on January 23rd last he signed on duty at 5.45 a.m., to work the 6 a.m. train from Cathays to East Dock Junction, and the 6.20 a.m. from East Dock Junction to Hafod Colliery and back. This set of trains is known as C. 17. He had not done any duty for a period exceeding 24 hours prior to signing on for this turn, he having signed off at 4.25 a.m. on Sunday morning, 22nd January. The train was run by engine 121, worked

by engineman Andrew Davison and fireman George Lewis. On the down journey the train was made up partly at Hafod and partly at Woodfield Collieries with Lewis Merthyr coal for Cardiff, and consisted of 46 waggons of coal and the brake-van. He could not remember the time at which the train left Woodfield, but thought it was 9.15 a.m. or thereabout. The train travelled from Woodfield on the down relief line and was turned on to the down main line at Gyfeillon Upper, there being a train working on the relief line at Gyfeillon Lower, and afterwards proceeded along the main

line as far as Rhondda Cutting Junction at which place it was stopped by signals. He could not remember the time at which the train arrived at Rhondda Cutting Junction, but was able to state that he did not go forward to the engine but remained in his brake van making out his journal. He is also able to remember that he had no warning whatever of the approach of the

passenger train which ran into his train, nor can he in any way account for his escape from the brake van, as he must have lost consciousness through being injured about the head and having his left arm fractured. He could not remember how long the train stood after being stopped by the signals before the collision occurred.

Conclusion.

This collision took place on No. 1 down line (down main line) in the block section between Gyfeillon Lower and Rhondda Cutting Junction signal cabins, and was primarily due to irregular block working between the two cabins.

In reviewing the evidence, it must be borne in mind that the clock in Rhondda Cutting Junction cabin was three minutes faster than that in Gyfeillon Lower cabin. In order to simplify the report, I have in all cases deducted three minutes from the times recorded by the signalman in his train register book at Rhondda Cutting Junction, so as to bring them into accord with the time by the clock in Gyfeillon Lower cabin, which I have taken as the standard. The clock in Pontypridd Junction cabin, the next to Rhondda Cutting Junction, was one minute slower than that in Rhondda Cutting Junction cabin. The difference in the clocks is accounted for by the fact that the signalmen get the correct time sent them daily at 10 a.m., and the collision occurred shortly before that hour.

It must further be noted that the block telegraph instruments in use on the Taff Vale Railway are those known as Tyer's two position single wire Block Telegraph Instruments, in which the indicators have only two positions, viz., "Train arrived" and "Train on line"; and the normal position of the indicators, when the block instruments are not in use, is at "Train arrived." A more detailed description of these instruments is given above.

The signalmen concerned are: Albert Hutchings at Gyfeillon Lower, and Sidney Quick at Rhondda Cutting. Hutchings' statement is as follows:—He came on duty at 9 a.m., having been off duty for 27 hours, relieving relief signalman P. J. Dipper. After Dipper had explained to him the position of affairs at the cabin, Hutchings took entire charge, and the first train that he dealt with on No. 1 down line was a through mineral train. The entries in his train register book, which he is positive are all correct, are as follows:—He was offered the train from the cabin in rear, viz., Gyfeillon Upper, at 9.23 a.m. He accepted it at 9.23, and received "Train entering section" at 9.27, and gave "Train out of section" at 9.32. Also he offered that train on No. 1 down line to Rhondda Cutting cabin at 9.23 a.m., that it was accepted at 9.23 a.m., that he sent the "Train entering section" signal for it at 9.31 a.m., and received "Train out of section" for it at 9.36 a.m.

The next down train he dealt with was one formed up in the sidings at the signal-cabin, and was a coal train going to the Barry Railway. He states that he offered this train to Rhondda Cutting cabin on No. 3 road at 9.29, and it was accepted at 9.29; that he gave "Train entering section" for it at 9.29, and received "Train out of section" for it at 9.39 a.m.

The next down train was the passenger train from Treherbert on No. 1 down line. This passenger train was offered to Rhondda Cutting by Hutchings at 9.43 a.m. and accepted at once. Hutchings received the "Train entering section" signal for it at 9.47 from Gyfeillon Upper; he did not send the "Train entering section" signal for it to Rhondda Cutting, but just as he was about to do so he received the blocking back signal on the instrument for No. 1 down line from the Rhondda Cutting cabin at 9.48 a.m. He states that he received this blocking back signal just as the passenger train was passing his cabin, and that he was powerless to do anything, and had no time to throw his starting or advance starting signals to danger; he did not put any of the No. 1 down line signals to danger until after the collision had occurred.

At the time of the collision there were also in Gyfeillon Lower cabin, with Hutchings, a relief signalman (Dipper) and a groundman (W. H. Marchant). Dipper states that when Hutchings relieved him, at 9 o'clock, he still remained on at the cabin, to act as assistant to Hutchings, and would have remained until 11.30 a.m., to complete his 10 hours' duty. After informing Hutchings how matters stood regarding the trains, he sat down to prepare his breakfast, and took no part in the work of the cabin. But he says he distinctly remembers that about 9.20 or so Hutchings asked "Line clear" for a mineral train on No. 1 down line, and that Hutchings received the bell signal accepting the train, from Rhondda Cutting. He says he is sure it was on No. 1 down line from the tone of the bell, which varies in the three block instruments. Dipper further states that he

remembers the coal train passing the cabin on No. 1 down line, but he does not remember Hutchings sending the "Train entering section" signal for it to Rhondda Cutting Junction, or that the signalman there acknowledged that signal by repeating it. He did not notice the indicators of the block instruments at all, and can remember no other bell signals regarding that train. He remembers "Line clear" being asked for the passenger train, and that it was accepted by Rhondda Cutting immediately. He also states that Hutchings sent the "Train entering section" signal for the passenger train, but in this he is mistaken, as Hutchings says he never sent it, and Dipper says that he did not hear the "blocking back" signal which Hutchings received, so it would appear that Dipper was not giving very close attention to what was going on as regards the signalling, and I think his evidence must be received with caution.

He states that just as the engine of the passenger train was passing the box Hutchings shouted out, "He has blocked the road," and then threw his signals back, but it was then too late to stop the train. Dipper states that he himself tried to get the red flag, but it was too late. He says that Hutchings went to the telephone, and then asked him to go to it, as he was unable to do anything; that Hutchings then collapsed and sat down as in a faint, and asked him to take over charge of the signal cabin, which he did. On further examination, Dipper stated that, after going to put the signal levers to danger, Hutchings went to his train register book, and said, "Good God, there is a mineral on No. 1," and he thinks he went to the book before going to the telephone; but he thinks it was after the collision had occurred.

This witness says that he was very excited, and he was apparently unable to say for certain what really did occur when Hutchings received the "blocking back" signal.

The other man in the cabin at the time, viz., W. H. Marchant, states that he was checking the traffic in the sidings, and as soon as the Barry train had left he went to the Gyfeillon Lower cabin, arriving there at 9.30 or 9.32 a.m. He can give no information regarding the bell signals for either of the mineral trains, but he remembers the passenger train being offered to Rhondda Cutting cabin, and accepted by it. He remembers Hutchings getting the blocking back signal, and that Hutchings said, "Good God, what is down No. 1?" and that he then went to the telephone, but got no reply, after which he collapsed and sat down. He does not remember Hutchings going to the levers to put the No. 1 down line signals to danger. Marchant states that at the time Hutchings received the blocking back signal he was standing at the desk on which the train register book was lying, with his pen in his hand, and that he said "Good God, what is on No. 1?" and dropped his pen, and then collapsed. He does not remember the "Out of section" bell signal being received by Hutchings for a train while he was in the cabin.

S. Quick, the signalman at Rhondda Cutting Junction cabin, states that he came on duty at 8 o'clock, after 26 hours' rest, and that the first down train that he knew anything about from the Gyfeillon Lower cabin, after the passing of a passenger train a few minutes after 9 a.m., was the Barry mineral train on No. 3 down line. Allowing for three minutes difference in the clocks, the entries in Quick's train register book show that he received "Is line clear" for the Barry train at 9.29, that he accepted it at 9.29, and received "Train entering section" for it at 9.29, all of which corresponds with the entries in Hutchings' book. Quick sent "Train out of section" for the Barry train at 9.36 a.m. (deducting three minutes), and this train passed his cabin at 9.33; he got "Train out of section" for it from Pontypridd Junction at 9.41 a.m. He is positive that he never received any bell signal at all for the mineral train on No. 1 down line, and there are no entries whatever in his train register regarding it, either as having been offered to him, accepted by him, or "Train entering section" being given for it. He was offered the passenger train and accepted it at 9.43, which corresponds with the time in Hutchings' register book. He states that the first thing he knew about the mineral train on No. 1 down line was when the fireman of it (G. Lewis) came into his cabin at 9.47 (deducting the three minutes). Quick states that Lewis said to him, "We are right away to Roath line, standing on No. 1." Quick says that he replied that he was very much surprised to know he was there at all, and he went immediately to the block instrument and blocked the No. 1 down line by the blocking back signal, 3 pause 3.

At the time the fireman came to the cabin a mineral train inspector, named H. Tuck, was in the cabin. He appears to have come to the cabin about 9.30 or 9.35, and so was not there at the time Hutchings said he sent the block signals for the mineral train on No. 1 down line; this train must have come down from Gyfeillon Lower after Tuck came to the cabin. Tuck states that he is positive it was not at the home signal when he passed by that signal. He says he remembers the Barry train passing out from No. 3 line, which was a few minutes after he came to the cabin. This was at 9.36 a.m. Rhondda Cutting time or 9.33 a.m. Gyfeillon Lower time. He states

that when the fireman came to the cabin, the fireman said to Quick "We are on No. 1, you let the Barry train out in front of us. We are right away on No. 1 to Roath," and that Quick replied "I have no record of you at all," and that Quick then went to the telephone to get Gyfeillon Lower to stop the passenger train, and that he did not notice if Quick sent any bell signal. Also that he did not notice any whistling while he was at the cabin. Subsequently, Tuck altered this statement to the effect that Quick, failing to get communication with the Gyfeillon Lower cabin, sent the "blocking back" signal, and that two or three minutes elapsed after the fireman came to the cabin before doing so, but this period of two or three minutes must not be taken literally, but only as meaning a very short interval of time.

Tuck's evidence was not given in a very satisfactory manner, and he evidently was not very clear in his recollection of what happened.

The evidence of G. Lewis, the fireman of the mineral train on No. 1 down line, is to the effect that after coming to a stand at the outer home signal of Rhondda Cutting cabin he commenced to fill the lubricators, and he worked at that for five or six minutes. He then took four or five minutes to walk down to the cabin, as he had to wait for an up mineral train to pass before he could cross the up line to the signal cabin. He states that when he got to the cabin the signalman (Quick) was in conversation with inspector Tuck. Lewis states that he said at once, "We are right away to Roath line," but that Quick did not seem to take heed for a moment, but came to him in about two minutes and said, "What road did you say you were on?" Lewis replied, "I said, right away to Roath on line No. 1," and states that Quick then said, "I did not know you were there"; that Quick then rushed to the telephone, shouting "Albert! Albert!", and that inspector Tuck said, "You had better get the road for this man as quickly as you can, or you will stop the passenger train." Lewis does not know the time at which his train came to a stand at the outer home signal, nor the time he arrived at the cabin, but Quick noted it in his train register book that the fireman arrived at 9.50, which would be 9.47 according to the Gyfeillon Lower clock.

Driver Davison, of the mineral train on No. 1 down line, states that the signals for No. 1, approaching Gyfeillon Lower, were off for him, that he came to a stand at the No. 1 down line outer home signal for Rhondda Cutting cabin at 9.34 a.m., and that he whistled for the signal, both when approaching it and also as he came to a stand. He then saw the Barry train come out from No. 3 road ahead of him. He states he sent his fireman to the cabin about five minutes afterwards. His reasons for not sending the fireman earlier will be dealt with later.

The statement of driver A. Sellars, of the passenger train, is that the signals were all clear approaching Gyfeillon Upper and Gyfeillon Lower cabins, but that the distant signals for Rhondda Cutting were "on." He was watching these signals up to the time of passing them, and had already slightly applied the vacuum brake on approaching them; he was just in the act of applying the brake more fully, so as to stop at the home signal, when he sighted the van of the mineral train in front of him, and he was then about 18 or 20 yards from it. He had seen a van standing on one line earlier, but he could not say on which line it was, owing to the curve of the lines at the place, and to there being so many roads. He had only just time to fully apply the brakes before the collision occurred, and they had no appreciable effect on the train as the rails were greasy. He estimates the speed of the train at 27 or 30 miles an hour. He had shut off steam some distance back, as, owing to the falling gradient, he had sufficient speed on to carry him into Pontypridd Station.

Sellars' statement is entirely corroborated by his fireman, J. Jones.

The guards of the passenger train knew nothing until the collision occurred.

The guard of the mineral train on No. 1 down line was severely injured and was unable to appear at the inquiry or inquest.

It will be seen from the above précis of the evidence, that the statements of Hutchings and Quick regarding the bell signals exchanged for the mineral train on No. 1 down line are absolutely contradictory.

It is hard to understand how the mistake made by one or possibly both of these men arose. There was not much traffic passing, as besides the down trains referred to, there were up trains passing between Rhondda Cutting Junction and Gyfeillon Lower Signal Boxes at 9.22 a.m. on No. 1 up road, at 9.46 on No. 2 up road, and at 9.51 on No. 1 up road—the times given being those at which the train passed the former Signal Box in each case.

The only evidence from another witness bearing on the matter is that of Dipper, who states he remembers Hutchings offering the mineral train on No. 1 down line to

Quick, and that Quick sent the reply accepting the train. Dipper says he is sure of the time because of the tone of the bell which varies in the different block instruments.

Dipper was the only person in Hutchings' cabin, and there was no one with Quick at the time booked by Hutchings, 9.23 a.m. Dipper further states he does not remember Hutchings sending the "Entering section" signal for the mineral train on No. 1 down line, and that he did not hear that signal being acknowledged by Quick, nor the "Out of section" signal being sent for the train.

If Dipper is correct, I think a probable solution of the mistake (though I do not say it is the true one) is that after Hutchings had offered "Is line clear" signal for the mineral train, and had it accepted by Quick, at 9.23 a.m., on No. 1 road, he omitted to send the "Entering section" signal for it, and so of course Quick could not acknowledge that signal, and did not move the indicators of the block instruments to the "Train on line" position. Quick must have omitted to enter in his train register the times he received and acknowledged the "Is line clear" signal for the mineral train, if these signals were really transmitted. Six minutes later, at 9.29 a.m., Hutchings sent the "Is line clear" signal for the Barry train on No. 3 road; Quick acknowledged this at once, and the train proceeded, and Quick sent the "Out of section" signal for it at 9.36 (Gyfeillon Lower time).

Hutchings must, I think, have taken this "Out of section" signal as applying to the first train, viz., the mineral train on No. 1 down line, as he has entered that time, viz., 9.36 a.m., in his register as received for the train on the No. 1 down line instead of for the train on No. 3 down relief road.

Assuming the above explanation to be correct, Hutchings must have filled in the time he sent the "Entering section" signal for the mineral train on No. 1 down line, viz., 9.31 a.m., and of receiving the "Out of section" signal for the Barry train, viz., 9.39 a.m., because he thought he must have sent and received them respectively.

I think there is no doubt but that the entries were made before the collision occurred as Hutchings was too much upset by the occurrence to do so afterwards.

When he accepted the passenger train from Gyfeillon Upper cabin at 9.43 a.m. Hutchings then sent the "Is line clear" signal for it to Quick on the No. 1 down line block instrument, and, as above explained, the indicator of the block instrument for this line at both cabins would be at the "Train arrived" position (which is the normal position of the indicator) if the facts regarding the previous train were as I have assumed them to be. Quick at once accepted the passenger train, so Hutchings lowered all his signals for it to pass into the block section ahead.

Four minutes after Quick had accepted the passenger train Quick states the fireman of the mineral train, G. Lewis, came to his cabin (this would be 9.47 a.m. by the Gyfeillon Lower clock), and it would appear from the evidence that there was a little delay before Quick realized that there was a train standing at the No. 1 down line outer home signal, but it is certain that there was not two minutes delay as stated by Lewis and at first by Inspector Tuck, as Hutchings received the "blocking back" signal at 9.48 a.m., and as half minutes are not booked, it is probable that the delay did not exceed 30 seconds.

Quick is a signalman of long experience, viz., 32 years, with an excellent record, and gave me the impression of being a very accurate and reliable man. The entries in his train register regarding the Barry train correspond exactly with those in the cabins on either side of him, viz., Gyfeillon Lower and Pontypridd Junction, with the exception of the "Out of section" signal for that train in Hutchings' book, and which I think Hutchings entered in error in the column for the other train.

His surprise when Lewis told him about the mineral train at the outer home signal appears to have been genuine, as if he had accepted that train, Lewis' appearance would suddenly have reminded him of it, and in all probability he would have made quite a different remark.

He may have gone to the telephone first to get Gyfeillon Lower, as Tuck (at first) and Lewis both say he did, but Lewis did not notice his sending the "blocking back" signal, which of course he did send.

Quick's explanation of why he did not notice the mineral train on No. 1 down line at the outer home signal when he lowered the signal for the Barry train is given in his evidence, but although engines shunt down No. 3 road they do not come down either No. 1 or No. 2 down lines unless they have been accepted by the signalman at Rhondda Cutting Junction cabin, so if Quick had looked towards the Barry train when he lowered the outlet signal for it he should have seen this train on No. 1 down line.

His explanation as to sending the "blocking back" signal instead of the "obstruction danger" signal is not very convincing, but evidently the "blocking

back" signal was understood by Hutchings to mean that there was a train actually in the section ahead, as will be seen by the state of mind he was thrown into when he received it.

With regard to the mistake which led to the collision, I think it possible that Quick may have given "Line clear" for the mineral train, and then forgotten having done so, though I doubt it, but I think it almost impossible for him to have acknowledged the "entering section" signal, and also to have given the "out of section" signal for a train which he evidently had never seen and which had not passed his cabin.

Hutchings has nine years' experience as a signaller and also has a very good record. He appears from the evidence of Dipper and Marchant to have quite lost his head when he received the "blocking back" signal, and though I do not wish to draw any conclusions from this, I think it is difficult to understand why he should have become so agitated as to be useless for his duties, before he could have known of the disastrous results of the collision, if there had been no irregularity in his working—even if he is of a very highly strung and nervous nature. He appears to have received a great shock by receiving the 3-3 bell signal, and did not at once put his signals to danger, his reason being that he had no time; but he appears to have been dazed and turned round to watch the collision. When Hutchings received the 3-3 signal the train was just passing his box, and there were two signals under his control which could have been put to danger against the train, viz., the starting signal 273 yards ahead, and the advance starting signal 383 yards ahead of the cabin.

Hutchings stated at the inquest that it would take him quite 30 seconds to put the three necessary signals, viz., the distant, starting, and advance starting to danger, but if he had really grasped the situation, five or six seconds would have been sufficient, even if he had not already put the distant signal to danger when the passenger train passed it, as he should have done if he had worked strictly to the Rule on the subject. The distant signal is No. 1 lever in the frame, the starting signal No. 10, and the advance starting No. 11. The space between No. 1 and No. 11 levers being 3 ft. 4 ins.

The passenger train even if running 35 miles an hour would take 16 seconds to run the 273 yards to the starting signal, and 22 seconds the 383 yards to the advance starting signal, or 26 seconds if running at 30 miles an hour, and if these signals had been thrown to danger against the train, the driver would certainly have seen the advance starting signal go up as he was watching the distant signal which is underneath it, and he would have had time to reduce the speed very materially, and so lessen the effects of the collision, even if he could not have stopped altogether.

One can only regret that Hutchings failed to seize the opportunity given him.

When the collision occurred the effects on the carriages of the passenger train were aggravated by the fact that the engine smashed up the van and three rear coal trucks of the mineral train, and was brought up very suddenly by running into a mass of coal, and so only went forward about 20 yards after the collision. The position and condition of the coaches of the passenger train have already been given above, and it should be noted that the great damage to the second and fifth coaches of the train was caused by the rear ends of the comparatively light passenger brake-vans in front of them jumping up, so that their steel frames cut through the five leading compartments of the coaches behind them, at about seat level, and the bodies of the vans came down on the bodies of the carriages behind them. The third coach in the train was practically undamaged, as were all the other vehicles of the train.

All the passenger coaches and brake-vans had frames composed of channel and angle steel, with the exception of the third coach, which was practically undamaged. This coach was 28 years old, and had channel steel soles, but wooden headstocks and wooden mid-framing. The weights of all these vehicles are given above, and it will be seen that this third vehicle was a light one, weighing 14 tons 16 cwt.

With such a sudden stop as the passenger train made after the collision, it seems to me that some vehicles of the train must be severely damaged. But I understand that consideration is being given by Railway Companies to the question how, if possible, the serious telescoping of one carriage into another, owing to the frames sliding over each other, may be avoided.

It was stated in the medical evidence at the inquest that all those killed were either killed on the spot or so injured about the head as to be insensible, and I was only able to find one case in which a passenger who was killed was able to ask for help. This is described in driver Sellar's evidence, and it is clear that no tools or appliances that could be carried in a train could have saved him, although there was abundant help available. I am informed by the Company that it is their practice to equip every van, passenger as well as mineral, with a five ton screw-jack, and a five feet crow-bar.

The illuminant used in the carriages was incandescent oil gas. The lamps were not lit. No escape of gas was noticed, but the pressure in the cylinders was low, about two atmospheres (the maximum pressure in the reservoirs being six atmospheres).

There was a hole knocked in the cylinder of the leading van, and the low pressure pipe broken in the fourth and fifth vehicles, but no damage resulted to the gas service in the other vehicles.

The following questions were specially raised at the Inquiry :—

(1) The pattern of block instruments in use.—These, as already stated, are Tyer's Block Telegraph Instruments, in which the indicator has only two positions, whereas the block instruments in more general use have three positions ; and in the latter, when the instruments are not in use, the indicator stands vertical in a neutral position. These latter instruments, of course, afford more information to a signalman, as with those in use in the cabins concerned in this collision it is possible for a man to offer a train to the cabin in advance and for the train to be accepted by that cabin, and then to be forgotten by both signalmen, the indicator remaining all the time in the "train arrived" position, which is also the normal position of the indicator when the instrument is not in use.

Should a signalman forget to give "train entering section" signal for the first train, and then desire to offer a second train on the same line to the cabin in advance, there would be nothing to remind him from the position of the indicator, on going to the block instrument, that he had already had a train accepted on that line, whereas, in the case of the instrument with the three-position indicator, he would see at once that the indicator was not in the normal position, but in the "line clear" position, showing him that he had already had a train accepted on that line.

This also applies to a man who accepts a train, as no movement of the indicator is made, and the entry in the Train Book (if made) is the only reminder a man has of having accepted a train.

Block instruments, in which the indicators have only two positions, are still in use on some railways, but this pattern has been replaced to a very large extent by instruments with indicators having three positions, and I consider that it is advisable to do so for the signalling of passenger trains at all busy cabins, and where there are several running lines worked from a cabin.

There is a heavy mixed traffic on many sections of the Taff Vale Railway, and I trust the Company will consider the advisability of replacing the two-position instruments by others of an improved pattern with three positions for the indicator, for the passenger lines, as opportunity occurs.

(2) The presence of traffic inspectors in signal-cabins.—The question was raised as to the possibility of inspector Tuck's presence in the Rhondda Cutting Junction cabin having distracted the attention of signalman Quick from his signalling duties, and thereby caused him to forget the block signals which Hutchings alleges he sent him, regarding the mineral train on No. 1 down line, if such were sent.

With regard to this particular case, both inspector Tuck and signalman Quick say, as will be seen from the evidence, that there was no interference whatever, and it is certain that inspector Tuck was not in the cabin at the time that Hutchings alleges, he offered, and Quick accepted, the mineral train on No. 1 down line, viz., 9.23 a.m., and neither of which entries was in Quick's Train Register Book. Inspector Tuck was in the cabin at the time the Barry train passed it, and also when Quick accepted the passenger train, and the entries regarding these were all made by Quick in his Train Register Book.

As to the general question, I think it undesirable that traffic inspectors should question signalmen, regarding delays to traffic on previous occasions, during hours when such signalmen are on duty. And I do not think that the Train Register Book should be examined in the signal cabins, as it is too much to expect of human nature, that a man will not begin to talk to an inspector, who has possibly come to examine the causes of delay to trains, which occurred while the same man was on duty, even if the inspector asked no questions. This is what Tuck says happened on this occasion, viz., that Quick voluntarily made a statement to him, that he had been called upon to make a report about delays to Great Western empties sent up the week before.

It would appear from the evidence in this case that there was some small delay, possibly owing to the presence of inspector Tuck in the signal cabin, before fireman Lewis could get Quick's attention, when he went to the cabin to report his train standing at the outer home signal, and it will be seen from the evidence of what vital importance a delay of even 30 seconds was at this time.

Traffic inspectors are no doubt necessary to look into the causes of delays to traffic,

but it is possible to provide two train register books, for use on alternative days, in the cabin, when the other can be used when required for reference.

These remarks do not of course apply to signalling inspectors who visit signal-boxes regarding the actual duties of signalmen.

With regard to Marchant's presence in the Gyfeillon Lower cabin, it was explained that he is a groundman attached to the cabin, whose duties are to check the numbers of waggons leaving the yard, to assist the mineral guards in the yard, and to carry instructions from the signalmen to the guards, and that it is found more convenient to give him a desk in the cabin, than in the traffic office in the yard.

(3) Rule 55.—The object of this rule is, without doubt, most important, but sometimes it is said there are difficulties in the way of a man literally obeying it. In this case, when the mineral train came to a stand at the Rhondda Cutting outer home signal, the driver (Davison) says he knew that he could not possibly get a road for a few minutes, as the Barry train passed out on to the line ahead of him just after he came to a stand, but he expected to get the signal to proceed as soon as the Barry train had cleared the section ahead, which is only 440 yards long, as he knew the passenger train behind him was soon due, and if the Barry train had a clear road it would clear the section in three to four minutes. Davison thought that if he sent his fireman to the signal-box at once, there might be a delay of three or four minutes while he was returning to the foot-plate, so, as the lubricators required filling, and this could only be done when the train was at a standstill, thinking it a good opportunity, the fireman proceeded to carry out this work. This is generally regarded as part of the driver's duties, but I am informed by the Company that they do not object to a driver delegating this duty to the fireman, should he see fit to do so. The reasons driver Davison gave for not doing this work himself were, that it was customary for the fireman to do it, as the lubricators were on his side of the engine, and that it was necessary for him (Davison) to keep an eye on the signal, to see when it was taken off for him to proceed.

These reasons are not very convincing, for if Davison had sent the fireman to the cabin, there was no necessity for him to watch the signal, as even if he did not hear it fall to the all right position, he is not supposed to move his train until the fireman has returned to the foot-plate of the engine, though sometimes drivers draw down to the signal-box to pick up the fireman.

Lewis, the fireman, states that he took five or six minutes filling the lubricators before going to the cabin, and then waited about a minute and a half for an up train to pass before he crossed over to walk down to the cabin. He says it took him four minutes or so to walk the 240 yards, and then that there was a delay of two minutes before he was attended to. The last-named period of time is, I think, doubtful, and probably did not exceed 30 seconds. I consider there was unnecessary delay in Lewis starting to go to the cabin, and either he took longer than six minutes filling the lubricators, or else longer than four minutes to walk down to the cabin, which as the distance is 240 yards, is more than necessary.

This Rule was much commented on at the Inquiry. It is said among other reasons why firemen should not have to carry it out, that in very many places it is dangerous for a fireman to get to a signal-cabin, owing to his having to cross running lines, and sidings where shunting is going on; and also that, at some places, where there are many running lines, there may be several firemen at the signal-cabin at the same time, which would rather distract the signalman than afford him assistance. Also that there are many things to be attended to on an engine when the train is standing which the enginemmen cannot do when running.

I think that at dangerous places, and at places where the home signals are at some distance from the cabin, and where it is important that the traffic should not be delayed, and at signal-boxes where there are several running roads, it is desirable that means should be provided, so as to obviate the necessity of firemen having to go to the cabin, but it is difficult to lay down any rule on the subject, as each place must be considered on its own particular local conditions. This is done by some Companies to a considerable extent, and others, where the signalman has not a good view of the line at home, starting, or advance starting signals, have laid down insulated rails and track circuit, and an indication is given to the signalman when anything is standing on the insulated portion at the home signal, and an electric lock is held on the home signal when anything is standing at the starting or advance starting signals. This latter device, in addition to obviating the necessity of fireman or guard, as the case may be, having to go to the signal-box to carry out Rule 55, is also of assistance to signalmen, and may prevent mistakes being made, especially where a man has a number of block instruments to attend to.

But this Rule 55 is a very important one, and is well known to all concerned in

the movement of trains, and it should be strictly carried out (except where instructions are given to the contrary), and difficulties in doing so at any particular place should be reported to those responsible.

There is one sub-section (d) which I think might be further considered as being hardly suited to modern conditions, if strictly carried out in the case of long mineral or empty waggon trains. These may consist of from 50 to 100 waggons and be from 300 to 600 yards in length, or even more on some railways.

The time required for a guard to satisfy himself that a fireman has gone to the signal box, and then return to his van, before the train can proceed, must be very considerable, and it seems to me that a guard of such a train would be better employed in looking out behind him, especially as in many cases when delays occur, the block sections are short and the signals behind would be visible to him. Certainly in this case the guard of the mineral train, who remained in his van, had he looked, could have seen the signals "off" for the passenger train at 9.43, five minutes before the collision occurred, as his van was only 40 yards ahead of the advance starter and 110 yards ahead of the starting signal, and he would have had time to have gone back and laid down detonators on the line to warn the passenger train of the obstruction ahead, even if he could not have got to the Gyfeillon Lower signal cabin.

I have, &c.,
E. DRUITT,
Lt.-Col.

The Assistant Secretary,
Railway Department, Board of Trade.

APPENDIX.

DAMAGE TO PERMANENT WAY.

2 rods bent; 21 sleepers broken.

DAMAGE TO ENGINE.

Smoke-box and footplate, also buffer-plank damaged; cylinder gearing, waste water cocks, brake gearing, and vacuum pipes damaged; right-hand side rod bent, and other minor damage.

DAMAGE TO COACHING AND MINERAL STOCK.

No. 241, passenger brake van (6 wheels).—A total wreck, gas cylinder knocked off and punctured at one end, gas exhausted.

No. 349, third-class carriage (8 wheels and 8 compartments).—5 compartments totally wrecked; one end of the frame and buffers very badly damaged; side steps and step irons badly damaged; 1 axle box broken; 1 bogie damaged; gas cylinder, high-pressure and low-pressure pipes, intact to the stop-cock, gas not exhausted.

No. 31, composite (8 wheels and 6 compartments).—4 side step irons bent; 1 scroll iron broken; 4 axle guards at one end bent; 1 coupling bent; gas cylinder, &c. undamaged.

No. 266, passenger brake van (6 wheels).—Body wrecked; underframe badly twisted and bent; gas cylinder not punctured but pipe connections broken; gas exhausted.

No. 203, third-class carriage (8 wheels and 7 compartments).—5 compartments wrecked; solebars bent; one end of frame badly damaged; bogie at one end badly damaged; side steps and step irons broken; gas pipe connection broken and gas exhausted.

No. 77, composite (8 wheels and 7 compartments).—1 buffer guide broken; 1 buffer plunger bent; 1 quarter light broken.

No. 326, third-class carriage (8 wheels and 8 compartments).—Not damaged but appears strained.

No. 109, third-class carriage (8 wheels and 7 compartments).—Not damaged.

No. 236, passenger brake van (6 wheels).—Not damaged.

MINERAL STOCK.

No. 6361, mineral brake van (Taff Vale Railway).—A total wreck.

No. 1661, Lewis Merthyr coal waggon.—A total wreck.

No. 1626, Lewis Merthyr coal waggon.—A total wreck.

No. 1535, Lewis Merthyr coal waggon.—2 headstocks damaged; one end badly damaged; 1 curb rail broken; 1 axle box broken; both axles bent.

No. 1485, Lewis Merthyr coal waggon.—2 headstocks damaged; 1 solebar damaged; 2 ends damaged; 2 buffer plungers bent; 1 drawbar and coupling bent; 1 side damaged; all iron work badly bent.

No. 1542, Lewis Merthyr coal waggon.—2 headstocks damaged; 2 end stanchions damaged; end door and bottom damaged; 4 buffer plungers bent; one coupling bent; all iron work bent.

No. 1508, Lewis Merthyr coal waggon.—End and bottom boards damaged; 2 buffer plungers bent; two commode handles bent; one axle bent.