

SOUTHERN RAILWAY.

Ministry of Transport,

7, Whitehall Gardens, London, S.W. 1.

8th June, 1925.

SIR,

I have the honour to report, for the information of the Minister of Transport, in accordance with the Order of the 14th May, the result of my Inquiry into the circumstances of a double collision, involving three passenger trains, which occurred at 5.25 p.m., on the 13th May, just outside Cannon Street Station, on the Southern Railway.

The first of the three trains involved was the 4.37 p.m. from Erith to Cannon Street, which was running in on the up east line from London Bridge. As it was running on this line the 4.58 p.m. train from Bromley, running in parallel to and just behind it on the west line, came into side-long collision with the Erith train at the fouling point of the through crossing from the up west over the up east line to No. 6 platform road. As a result of this side-long collision, the down west line was fouled and the rear coach of the 5.24 p.m. train from Cannon Street to Ash, which was running on this line, was derailed.

It was most fortunate that the two up trains to which the majority of the damage was done were very lightly loaded, and only one passenger has since complained of being injured. The staff escaped injury.

The material damage was considerable. Of the Erith train, the last three coaches were derailed and extensively damaged, particularly the first and last of the three; the damage in the first case including seven broken door panels, bent frames, bent and damaged wheels and axles, etc. In the case of the Bromley train, the first three vehicles and the engine were derailed, the first two being seriously damaged. In the case of the Ash train, which was heavily loaded, the derailment was fortunately confined to the four trailing wheels of the rear bogie coach. The bogie truck of this coach was wrecked, three doors were smashed, two door, two waist and five side panels and a numbers of windows broken, and steel under-frame bent and other damage done. The next coach to this was also damaged. The Bromley train engine had the side bearings broken and the bogie bed plate bent.

The damage to the permanent way was extensive and necessitated, in fact, the closing down of the station for the remainder of the evening. For example, 200 feet of crossing timber was smashed, 26 sleepers splintered and broken, as well as a total of nearly 100 chairs, 55 yard of rail and one set of switches broken.

The formation of the trains was as follows:—

Erith train.—Engine No. A. 415, 0—4—4 type tank, weighing 49 tons 12 cwts., running chimney first. Twelve six-wheeled and one eight-wheeled bogie passenger coaches, the six-wheeled coaches weighing between 12 and 14 tons each, and the bogie coach 29 tons.

Bromley train.—Engine No. A. 76, of the same type as A. 415, but running bunker first. Ten six-wheeled coaches weighing between 11 and 14 tons each.

Ash train.—Engine No. A. 97, 4—4—0 type express passenger tender, weighing 75 tons 12 cwts., running chimney first. Nine eight-wheeled bogie coaches, weighing between 22 and 30 tons each.

The weights of the three trains, excluding engines, were respectively, 177 tons, 122 tons and 224 tons.

All three trains, with their engines, were fitted throughout with the vacuum automatic brake.

Description.

The railway from Cannon Street runs almost due south across the river, on the south side of which the lines to Waterloo Junction and Charing Cross to the west and London Bridge to the east diverge, forming, with the direct line between London Bridge and Charing Cross, a triangular junction, the east angle of which is controlled from Borough Market Junction signal box. The northerly limb of the triangular junction is controlled from Cannon Street No. 2, between which and Borough Market there are four lines of road, the alignment of which is on a considerable curve right-handed to up trains and left-handed to down trains. The average radius of this curve

is approximately 410 feet, the general alignment therefore between Borough Market and Cannon Street No. 2 being from south-east to north-west. Reading from north-east to south-west, the running lines are down east, down west, the up east and the up west.

Nearly opposite Cannon Street No. 2 box and a few yards north of the triangular junction connections there are a number of through crossings, of which the following are relevant to this case: On the up west line, a facing crossing to No. 6 platform road (No. 57 points) with a facing slip connection on to the up east line, whose prolongation is No. 3 platform road. Both ends of this slip are worked by No. 55 lever. On the up east line, a facing crossing over the down west to No. 7 platform line, the facing points being worked by No. 52 lever. It was at the fouling point between No. 57 through crossing and the up east line that the initial collision took place.

Cannon Street No. 2 up home signals are situated on a bridge just south of the junction lines from Waterloo Junction. They are carried vertically over the lines to which they apply, that is, the up east and up west. Applying to the up east line are two signals reading over No. 52 points normal and reversed respectively, and over the up west line are three arms reading through 57 normal, 57 reversed and 55 normal and 57 and 55 both reversed respectively. The relative distant signals are carried under the stop signals for Borough Market Junction. Between Cannon Street No. 2 signal box, which is situated south-west of the railway, are two running lines. Measured from a point from the up west road immediately opposite the centre of No. 2 signal box, the distances to the various points concerned are as follows:—

Leading end of the Bromley engine after the collision	49 yards north.
Point of collision	9 " "
No. 57 points on up west line	5 " south.
No. 52 points on up east line	8½ " "
No. 2 box up home signals	92 " "

A short distance north of the up home signals there is a fog-signalman's post equipped with a Clayton magazine detonator machine. In clear weather conditions, such as existed on the evening of the accident, a pointsman is stationed at this post to act under the orders of the signalman at Cannon Street No. 2. His duties will be referred to later.

Conclusion.

The evidence in this case shows that the accident was due to a mistake on the part of Henry Ottaway, the driver of the Erith train, in passing No. 2 box up east home signals in the danger position. He admitted his mistake perfectly frankly and could only account for it by saying that he momentarily thought he was on the up west road, for which one of the three signals had, when he approached them, been pulled for the Bromley train. He added that he could not account for this impression, and that there was nothing which tended at the moment to distract his attention. He was in his usual position on the right-hand side of the footplate, from which, since the engine was running chimney first, he would have an excellent view of these signals, as, in fact, he did not dispute. Ottaway has considerable experience in driving over this route, and up trains, including this particular one, enter Cannon Street as often upon the east road as upon the west.

George Barnes, his fireman, was engaged with certain work on the engine after passing the Borough Market signals, and had not finished until the engine was passing Cannon Street No. 2 box, and he therefore did not see these signals at all.

The guard of the train was Sidney James Alcock, who was riding in the rear brake compartment of the last coach of the train. He observed the Borough Market signals and the warning position of Cannon Street No. 2 distant. After this he said he did not see any more signals until the collision had occurred. Just after leaving Borough Market he took out his journal to book the departure from London Bridge, and intended to look out of the window on the right hand side to observe the Cannon Street signals when he saw a down train approach and therefore withdrew his head. He gave the approach of this down train as the reason for not observing Cannon Street signals as the train ran in, and added: "I do not care about putting my head

out of the window going into a place like Cannon Street when trains pass on the opposite road, as they are very crowded, and there are apt to be umbrellas and so on sticking out of the windows."

Brown, the driver of the Bromley train, saw the Erith train after they had both passed the up home signals. Seeing nothing of any down train, Brown concluded that the Erith train had been routed parallel to him into No. 7 road, and had no reason to suspect any irregularity in the movement.

All the men concerned, including the signalman at Cannon Street No. 2, agreed that the speed of the trains concerned was quite normal at the time.

The case is therefore a straightforward one of a mistake on the part of driver Ottaway, for which he must take the full responsibility. He is a man of 24 years' service, six of which he has been a driver, and has a first class record.

Apart, however, from this driver's mistake, there are certain other features in the case which call for comment. In the first place, I think that guard Alcock's reason for not having observed the signals was an unsatisfactory one, and there is no doubt that, in spite of the presence of the down train, he could, owing to the curvature of the line, have readily observed Cannon Street No. 2 up home signals, in time, probably, to have prevented the collision by applying the continuous brake. In the second place, there is the question of the pointsman stationed near the up home signals. This man's primary duty is, in the case of a train which has been brought to a stand either on the east or west road at these signals, and which is so long that the tail fouls the Charing Cross line at Borough Market Junction, to hand signal the train a sufficient distance past the home signal to clear the junction in rear, under the signalman's instructions. Beyond acting in this manner under the direction of the signalman, he does not appear to have any other definite duties. The man on duty at the time was George Warner. He noticed both the Erith and Bromley trains running up, the latter being about three or four coach lengths behind the former. He observed the signal and saw that it was off for the Bromley train, on which his attention was mainly directed as both trains approached. He did not look very carefully at the Erith train and did not realise that it was likely to pass the signal, nor that it had actually done so until it had gone about two coach lengths past. Warner said that, when he first noticed the train after it had passed the signal, he saw the fireman on the left-hand side of the footplate, and shouted to try and attract his attention. The fireman then, he said, turned round and seemed to look at the signal. Warner thought that he had therefore attracted his attention, and showed a red flag. As a matter of fact, neither Barnes nor his driver saw anything of this pointsman, or heard any shouting. There is, therefore, some doubt as to exactly what steps, if any, Warner did take to stop this Erith train, but, at the same time, it does not appear to be any part of his duty to check the trains as they approach, or to see whether the drivers are observing their signals, and I do not think that any responsibility in the matter can be attached to him.

Remarks.

No question arises in this case of irregular working or of the siting of the signals concerned, which are well placed over the roads to which they apply, and of which the view is a good one. I would, however, suggest for the Company's consideration, some addition to the instructions given to the pointsman stationed at these signals, so as to include in his duties the use of the detonator machine (which is apparently kept locked in clear weather conditions) as an emergency warning if a train passes or appears likely to pass a signal at danger. It is quite possible in this case, for example, that such a warning might have been given in time to prevent the collision.

Generally speaking, the accident may be classified as one preventable, having regard to the low speeds involved, by a system of automatic train control, comprising a full brake application at the home signal concerned.

I have the honour to be, Sir,

Your obedient servant,

G. L. HALL,

Major.

The Secretary,
Ministry of Transport.