



MINISTRY OF TRANSPORT

RAILWAY ACCIDENTS

REPORT ON THE COLLISION

which occurred on

1st April 1960

at

HERNE HILL SORTING SIDINGS
SIGNAL BOX

in the

SOUTHERN REGION
BRITISH RAILWAYS

LONDON: HER MAJESTY'S STATIONERY OFFICE

1960

PRICE 2s. 6d. NET

SIR,

I have the honour to report for the information of the Minister of Transport, in accordance with the Order dated 1st April 1960, the result of my Inquiry into the collision which occurred at 6.28 a.m. on that day between the 6.14 a.m. Down electric passenger train from Holborn Viaduct to West Croydon and a stationary steam engine, at Herne Hill Sorting Sidings signal box between Loughborough Junction and Herne Hill, on the Southern Region, British Railways.

In fog, with visibility reduced to about 20 yards, the signalman forgot an engine which was standing on the Down line beyond his range of vision, released the electric locking of the block section, and accepted the Down electric passenger train. This ran under clear signals until it struck the engine, which the driver cannot have seen until the last moment, at about 35 m.p.h. The front of the electric train was destroyed and I regret to say that Motorman E. Farnham was killed. The driver of the engine sustained injuries which kept him in hospital for a few days, and the guard of the passenger train, and 12 of the 35 passengers, were treated for shock and minor injuries.

Though the responsibility for the collision lay primarily with the signalman in his forgetfulness, the driver and fireman of the steam engine should have been more active in drawing attention to its presence on the Down line.

The emergency services were called promptly and they responded at once. Those persons requiring treatment in hospital had left the site by 7.16 a.m. The circuit breakers for the electrified rail on the Down line opened immediately when the collision occurred, and the Up line was made dead 19 minutes later to facilitate recovery work. Normal working was resumed at 12.5 p.m.

Whilst the lines were blocked trains to Holborn Viaduct were diverted to Victoria or via Nunhead, and passengers were authorised to travel by London Transport Underground services. A special bus service was provided between Herne Hill, Loughborough Junction and Elephant and Castle.

The night had been clear until about 5.30 a.m. when thick fog developed.

DESCRIPTION

The site and signalling.

The electrified route from Holborn Viaduct runs southward in the Down direction through Camberwell and Loughborough Junction to Herne Hill where it joins the main line from Victoria to the Kent Coast and the South East of England. At Loughborough Junction one branch diverges eastwards towards Denmark Hill and Nunhead, and another westwards towards Brixton.

Between Loughborough Junction and Herne Hill there is a goods sorting yard with sidings on both sides of the line, controlled from Herne Hill Sorting Sidings signal box. The distance from Loughborough Junction box to that box is 970 yards, and from Loughborough Junction station between the two boxes, about 500 yards. Herne Hill station signal box is 780 yards beyond Sorting Sidings box. As will be seen from the sketch the line is on a gradual right-handed curve from Loughborough Junction station towards the Sorting Sidings signal box and straight therefrom for some distance towards Herne Hill. The gradient is rising in the Down direction through the Sorting Sidings at 1 in 102 after a level length. The track in the main lines consists of 109 lbs. flat bottom material on wood sleepers.

The signal box at Herne Hill Sorting Sidings is on the Down side of the line. It has an elevated working floor with a 28-lever mechanical frame, with the instrument shelf above. The running signals are semaphores and the shunt signals are discs. Those which are relevant are shown on the sketch. The Down line between Loughborough Junction starting signal and Herne Hill Sorting Sidings starting signal is not track circuited.

The block system in use between Loughborough Junction and Herne Hill Sorting Sidings signal boxes is Sykes Lock and Block. The working of this system, which is in widespread use on the Southern Region, is briefly described at Appendix A.

On the Herne Hill side of the signal box there are small single storey buildings which provide offices and shelter rooms for the yard staff. They include the Yard Foreman's office and the Shunters' room.

Rules.

The following extract from the British Railways Rule Book is relevant:—

Signalman to be reminded.	55(a) When a train has been brought to a stand owing to a stop signal being at Danger, the Driver must sound the engine whistle, and, if still detained, the . . . Fireman must . . . go to the signal box and remind the Signalman of the position of the train . . . In clear weather . . . a train must not stand more than two minutes at a stop signal before the man goes to the signal box. During fog or falling snow, unless the stop signal is lowered immediately after the engine whistle has been sounded, the man must at once proceed to the signal box.
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The engine and the electric train.

The engine was of Class C, with 0-6-0 wheel arrangement, and it had a six-wheeled tender. Its weight in working order was 82 tons and the brake efficiency was 26%. It was standing with chimney leading in the Down direction, and the driver's position was on the right.

The electric train consisted of two 4-coach sets of all-steel construction, fitted with the Westinghouse brake operating on all wheels. In each set the coaches were close coupled with a single centre buffer, and screw couplings with two buffers were fitted at the ends. There was a driver's compartment at either end of each set with a guard's compartment next to it. The leading set in the direction of travel was composed of compartment stock; three of the four coaches in the trailing set were of open type. The length of the train over buffers was 171½ yards and the weight was 274 tons.

Effects of the collision.

The passenger train stopped 80 yards ahead of the point of collision, and the engine travelled a further 81 yards before it came to a stand.

The leading end of the electric train was wrecked when it struck the strong and rigid tender of the steam engine; the bodywork in front was crushed inwards on to the partition between the driver's compartment and the guard's compartment which it carried back against the next partition between the guard's compartment and the first passenger compartment. This partition, too, was displaced into the passenger compartment which fortunately was empty. The solebars were splayed outwards at the front and the head stock was broken at either end where it joined them, and was forced back over the under-frame casting which supports the bogie pivot bearing. The motor bogie pivot was broken and the bogie was forced backwards 11 ft. under the coach; the motoring equipment was badly damaged. The only wheels to be derailed, however, were the trailing ones of the rear bogie of the leading coach.

Most of the seats in the first coach were displaced and a few in the second coach, but only one window glass was broken behind the leading guard's compartment. This was at the rear of the first coach where the body was distorted by the buffing force between it and the second coach when the collision took place. There was little damage to the remainder of the train though all the centre buffing plates were bent and the packings crushed.

The engine suffered comparatively little damage from the collision except to the tender buffers and buffer beam and to the trailing wheels and axle boxes. The tender body was scarcely distorted though the tank sprang a leak.

The signalling was not affected by the collision and the damage to track was negligible.

REPORT

Events leading up to the collision.

The engine concerned in the collision was the pilot engine for the Down side at Herne Hill Sorting Sidings. It had been sent that morning to Camberwell to be attached to the rear of the 5.22 a.m. Brockley Lane freight train comprising a similar engine and seventeen wagons with a brake van at either end, which had travelled there via Nunhead and Loughborough Junction in the Up direction. It had drawn the train, with the train engine still attached, on the Down line to the Sorting Sidings box and had been uncoupled. The train had then been pulled by its own engine over the crossover from the Down to the Up line controlled by shunt signal No. 11 until it was clear of shunt signal No. 28 which controls propelling movements from the Up line into the Up sidings.

Because of the fog, which prevented signals being exchanged between the driver and the guard, the freight train which was about 160 yards long had been drawn along the Up line until the engine was opposite the porters' room on Loughborough Junction station platform. There the driver had been told by a porter, who had been advised by the signalman at Sorting Sidings box, that shunt signal No. 28 had been cleared for the propelling movement into the Up sidings. The train was being propelled into the Up sidings past this signal when the collision on the Down line took place.

The pilot engine had followed the departing train on the Down line for a distance of about 80 yards up to shunt signal No. 14 where it had been halted while the driver waited for the points to be set and for the signal to be given for the engine to run into the Down sidings: it was standing at this signal when it was hit by the electric train. It will be seen from the sketch that shunt signal No. 14 is 76 yards from the signal box; the engine was 13 yards beyond it, judging from the marks of the collision on the ground.

The working of the freight train as described above is a regular movement except that the Up sidings pilot engine at Herne Hill Sorting Sidings is generally sent to Camberwell to draw the train back to the Sorting Sidings, when it remains attached to the train until it is in the Up sidings. When the Up sidings engine is not available, the Down sidings engine is sent, and it returns to the Down sidings after drawing the train back to the Sorting Sidings signal box, as was intended on this occasion.

Evidence.

Yard Foreman W. H. Harding was in his office about halfway between the signal box and the pilot engine when he heard the noise of the collision. He had previously heard the driver of the freight train sound his whistle before starting from the Down line to the Up line, but he did not hear any whistle from the pilot engine before the collision. He said that there was no shunting taking place at the time so that there were no loud extraneous noises which might have prevented the whistle being heard. Foreman Harding immediately reported the accident and arranged for the emergency services to be called.

Head Goods Shunter C. W. Fludder said that before the freight train arrived he had told the signalman at Herne Hill Sorting Sidings that he would uncouple the pilot engine. He had then walked alongside the track to the position where the engine would stop, leaving another shunter to tell the crew of the train engine of the further movements to be carried out. After uncoupling he walked back a short distance until he could see the other shunter, told him that the train could move to the Up line, and began to walk forward again to join the brake van of the train. The train had begun to move when he climbed into the van. Fludder said that the movement of the train to the Up sidings took place at little more than walking speed; the train was still moving in the Up sidings when the collision took place.

Driver J. R. T. Etheridge of the freight train said that when he had stopped on the Down line at Sorting Sidings signal box he had been told by the shunter that the pilot engine was to be uncoupled; he was then told when this had been done so that he could begin the movement to the Up line. His train travelled to the Up main line and then in the reverse direction to the Up sidings at a slow speed, which he estimated to be 5 m.p.h., because of the fog; not more than a minute or two passed after he stopped at Loughborough Junction station platform before he was told by the porter there to propel into the Up sidings. He confirmed that his train had travelled just clear of the Up main line into the siding when the collision took place on the Down main line. He could not give an estimate of the time that had elapsed since he began the movement from the Down main line.

Guard H. Hathaway's evidence generally confirmed that of Etheridge. He remained in the brake van at the end next to the pilot engine throughout the movement from Camberwell and he confirmed that there was no delay in uncoupling the engine and in the commencement of the movement from the Down to the Up line. He recorded the time of arrival of his train on the Down line before beginning the shunt as 6.16 a.m., though in fact it must have been a few minutes later.

Driver A. A. Sears of the pilot engine said that he was familiar with the work at Herne Hill Sorting Sidings. He said that he followed the freight train after a short pause as far as shunt signal No. 14 which was at danger, and immediately sounded the engine whistle. As the signal did not come off he told his fireman to go to the box and then sounded the whistle again after an interval of perhaps a minute and a half. He said that the fireman left the engine to go to the box about half a minute after the first whistle.

Sears continued his evidence as follows:

"After I had been standing about a minute or two I saw a train coming and I immediately put on my large ejector and attempted to reverse engine as I had lever in back gear ready to move off into the Down sidings where the engine was required. I am unable to say whether the engine brakes were on or off at the moment of impact".

He added, when questioned, that he must have heard the train before it became visible.

I told Driver Sears that the whistle had not been heard by the signalman or by other witnesses in the vicinity, but he insisted that he had sounded it firmly on two occasions though the blasts were not prolonged. He added that the whistle was in good order and made the normal sound. Sears was injured in the collision and shocked.

Passed Fireman R. J. Alderman, who was the fireman of the pilot engine, said that he was not Driver Sears' regular fireman, though he had worked with him before. He confirmed that the pilot engine followed the departing freight train fairly closely as far as shunt signal No. 14, and that Sears told him to go to the box within one half of a minute of the engine stopping. He said that he picked up the tea can before leaving the engine, and continued his evidence as follows:—

"On my way to the Box I dropped into the Shunters' Lobby which is halfway between the shunt signal and the Box, and as the kettle was on the boil I poured the water into the can and left it on the table and was just leaving the Lobby when the collision occurred. I could see an electric train had stopped as soon as I looked up and I immediately went back to my engine which had been pushed forward some way by the force of the collision. I found my Driver in a dazed condition on the footplate and I immediately took some detonators and placed them on the Up line about 200 yards away to protect. I met somebody else who said he would advise the Signalman. I then went back to my Driver, who had by this time just got off the footplate and as the tender appeared to be leaking I filled the boiler up and put the fire out.

I do not recall whether or not the Driver sounded the engine whistle after we had come to a stand at No. 14 shunt signal, but the Driver usually does so when he comes to a stand during shunting operations".

Alderman was sure that he had only spent about a minute in the shunters' cabin before the accident occurred. When I asked him to think carefully whether he had heard the driver's whistle or not when the engine stopped at the shunt signal he replied, "I would not like to say."

Passenger Guard C. W. Brooke was in the rear coach of the 6.14 a.m. passenger train. He estimated the speed of the train at the moment of collision to have been 35 m.p.h. He was thrown forward and was injured but was able to protect the line and to see that the passengers were being looked after before he went to hospital.

Signalman W. D. Jeary at Loughborough Junction said that the freight train passed his box at about 6.14 or 6.15 a.m.; this time was an estimate as no booking was carried out at the box before 7 a.m. He was offered the 6.14 a.m. electric passenger train at about 6.23 a.m. from Camberwell and offered it on to Herne Hill Sorting Sidings at once though he admitted that he could not recall whether he had received the Train Out of Section message for the freight train before he offered the passenger train. He was sure, however, that the block indicator was in the lowered position and explained that there were two other train movements with which he had to deal at the time so that the Train Out of Section message might have been sent without his hearing it. With the block indicator in the clear position, he was satisfied that the section was clear.

Signalman D. T. Jeary at Herne Hill Sorting Sidings box (brother to the signalman at Loughborough Junction) had come on duty at 10 p.m. on the previous evening. He should have been relieved at 6 a.m. but he had agreed to work for an extra half hour to fit in with the travelling arrangements of the relieving signalman. This was a regular arrangement between the men though it had not been reported, as it should have been, to the Station Master for his agreement.

Jeary said that he was not unduly tired. He had had to visit the lavatory, which is in an outside hut behind the signal box, after accepting the freight train. He gave evidence as follows: -

"After having pulled off for the 5.22 a.m. Brockley Lane freight and before it arrived, I had been downstairs to the lavatory. When I got back again the freight train was just arriving on the Down line and I enquired of the Yard staff what they wanted done with the Pilot engine and was told it was to go into the Down sidings. The Shunter went to uncouple the Pilot engine from the freight train. When I heard that the train was uncoupled from the Pilot engine, I reversed No. 12 points (the down to up line trailing crossover), pulled No. 11 shunt signal, having previously given a four pause three bell code to Loughborough Junction Box, who has to give me a release on No. 11 shunt signal. The freight train then proceeded on the Up line about two minutes after having arrived on the Down line. After the train had cleared No. 12 crossover points I reset the road and then when it was clear of No. 28 shunt signal I reversed No. 26 points (up line to up sidings at No. 28 signal) to go back into the Up sidings. The movements are always slower when there is a fog.

I then spoke to the platform staff at Loughborough Junction Station and asked them to tell the Driver it was all right to set back into the Up sidings. This again is normal practice in order to clear the Up line as quickly as possible.

After I had come off the telephone I was offered by Loughborough Junction the 6.14 a.m. Holborn Viaduct to West Croydon passenger train; thinking that the Down line was clear I accepted the train. I cannot actually recall keying out the instrument as I would have to do in any case when the line was clear, and I cannot remember sending the 'Train out of Section' signal for the 5.22 a.m. Brockley Lane freight train. I did not hear the engine whistle and nobody came up into the Box to remind me of its presence on the Down line. I do not remember any train being offered to me on the Up line at this time. The switch hook must have been off the plunger when I accepted the passenger train, I cannot recall putting it over the plunger when I received 'Train Entering Section' signal for the 5.22 a.m. Brockley Lane freight train.

After having accepted the 6.14 a.m. Holborn Viaduct to West Croydon, I immediately offered it on to Herne Hill and it was accepted. I therefore operated Nos. 19, 18 and 20 signals and the passenger train came down within a minute or two. It was going fairly fast past the Box. I then heard a bang and first thought it was normal shunting operations into the sidings with the Brockley Lane freight which by that time had practically cleared into the Up sidings. However, the rear of the electric train stopped opposite my Box and I suddenly remembered the engine on the Down line and realised what had occurred. I then spoke to the signalman at Loughborough Junction Box on the telephone and followed it by the 'Obstruction Danger' signal in both directions."

Jeary should not have lowered the home signal No. 19 for the freight train until he had checked or stopped the train at it in accordance with Rule 39(a) of the Rule Book, since the starting signal ahead was at danger, but he excused himself for having done so because of his need to visit the lavatory. He admitted, however, that he had failed to observe this rule previously. He also admitted that he had not used the switch hook on a number of occasions when receiving Train Entering Section, his reason being that the train passed in a matter of seconds after the message was received.

Jeary said that pilot engines usually whistled when they arrived at shunt signal No. 14 and he would have expected to have heard such a whistle even with the door and windows closed as they were on this occasion.

Signalman D. E. Sayers, who relieved Jeary at Herne Hill Sorting Sidings signal box, agreed that he had not asked the Station Master's consent to the variation of the time for taking duty. He said that he always used the switch hook as required by the block procedure and that it was not his practice to omit the observance of Rule 39(a) when admitting trains which were to stop at his box.

I questioned Mr. J. Sims, the Station Master at Herne Hill, and Area Inspector D. Barrell about Jeary's irregularities in box working. They both said that his method of working had been proper during their visits and that Jeary had seemed an intelligent and competent man.

Tests.

I tested the time taken for a freight train to make the movement from the Down line to the Up sidings, with Driver Etheridge in control of a train of similar composition to the one concerned. The train took six minutes after starting from the Down line, to travel at the same speed, so far as Etheridge could judge, to the position where he had been when he heard the collision.

I also tested the audibility of whistle sounds in the signal box from an engine at the shunt signal on the Down line. The sound was clear above the noise of other engines in the yard. The door and windows were closed during the test.

Confirmation of the passenger Guard's estimate of the speed of the train was provided from the electric train running graphs of the Southern Region. These showed that with normal acceleration from a start at Loughborough Junction station an electric train could have reached a speed of 36 m.p.h. at the point of collision.

CONCLUSIONS

The tests carried out after the accident showed that the freight train took six minutes after leaving the Down line to arrive at the position where the driver heard the noise of the collision. Since the pilot engine followed the freight train without delay as far as the shunt signal, it must have been standing there for at least four minutes and probably for five minutes before the collision. I place more reliance on this estimate of the time for which the pilot engine was standing at the shunt signal than on the evidence of the driver and passed fireman.

I believe that Driver Sears failed to sound the whistle properly when he stopped at the shunt signal, as required by the rules. If he had sounded the whistle it should have been heard by the signalman who would have been reminded by it of the presence of the engine on the Down line, and would not have permitted the electric passenger train to approach. Passed Fireman Alderman was dilatory, on his own admission, in going to the signal box. If, instead of loitering on the way, he had gone quickly to the box, also as required by the rules, he should have arrived at least two minutes before the collision, and one minute before the electric train started from Loughborough Junction station, only 500 yards away. The signalman would then have had time to put back the signal levers, including the distant, before the electric train passed the signals; he might even have been able to send the "Obstruction Danger" message in time for the signalman at Loughborough Junction box to put the starting signal to danger before the train started from the station.

I consider, therefore, that both Driver A. A. Sears and Passed Fireman R. J. Alderman have some responsibility for this accident. If they had been conscientious and prompt in carrying out Rule 55 of the Rule Book, each might have prevented the accident by his actions.

The main responsibility, however, rests on Signalman D. T. Jeary who forgot the pilot engine, which he could not see on the Down line through the fog, and released the Block in order to accept the electric passenger train. His failure to carry out the rules for controlling the approach of the freight train and his failure to use the switch book when given Train Entering Section for it did not directly contribute to his forgetfulness on this occasion, but they indicate a perfunctory outlook on his work which may have predisposed him to being less alert. Jeary gave his evidence in a straightforward manner and did not try to cover up his mistakes.

REMARKS

The fact that Jeary was working a little beyond his normal period of duty cannot be considered as material to his lapse of memory. The variations in the hours of work agreed between him and Signalman Sears, though comparatively minor, should nevertheless not have been made without the approval of the station master. I do not think that Jeary's omissions in procedure could have been detected by the station master or by the area inspector; he would no doubt have worked correctly while he was being visited by them.

Track circuiting on the Down line would have indicated to the signalman that the engine was still there and would have prevented the home signal being cleared for the passenger train. The shunt signal at which the light engine stopped is, however, only 76 yards from the box and safety, even in fog, is ensured if the men concerned do not neglect their duties. I do not therefore feel that there is a special justification for providing track circuiting here in advance of the time when the colour light signalling at Herne Hill is extended through the Sorting Sidings towards Loughborough Junction. This work is not yet in the signalling modernisation programme.

The importance of Rule 55 of the Rule Book is illustrated by this accident which also emphasizes the need for enginemen to carry out the provisions of the Rule thoroughly and expeditiously, particularly in fog, in order to ensure safety.

I have the honour to be,

Sir,

Your obedient Servant,

W. P. REED,

Colonel.

The Secretary,
Ministry of Transport.

SIGNALLING BETWEEN LOUGHBOROUGH JUNCTION AND HERNE HILL SORTING SIDINGS

(a) Description

The system of signalling between Loughborough Junction and Herne Hill Sorting Sidings signal boxes is by mechanically operated semaphore signals with Sykes Lock and Block.

Sykes Lock and Block achieves electrical interlocking between the two signal boxes and works in the following manner between Loughborough Junction and Sorting Sidings on the Down line.

The Down through starting signal at Loughborough Junction controls the entrance to the Block section between these two signal boxes. The lever working this signal is held by front and back electrical locks which are indicated in an instrument on the shelf above. The front lock is normally applied and the instrument shows "LOCKED". The lock is released electrically by the Sorting Sidings signalman when, after acknowledging the "Is Line Clear" Block message, he depresses the plunger in his instrument working to Loughborough Junction; the instrument at Loughborough Junction then indicates "FREE" and the signalman can pull the lever to clear the starting signal. When this is done the lever becomes backlocked and the instrument shows "LOCKED". The back lock is released when the train has passed over the Last Vehicle Treadle ahead of the signal, with a corresponding change in the instrument to "FREE", and the lever can be fully replaced to normal, whereupon it becomes locked, the instrument changing in correspondence from "FREE" to "LOCKED".

At Sorting Sidings the plunging instrument, which is on the shelf above the Down home signal lever, has two indication panels. The upper one normally shows "FREE" and the lower shows blank. On depressing the plunger, the lower panel changes from blank to "TRAIN ON", and cannot be restored to blank until the Down home signal lever has been pulled and replaced to normal.

The plunger cannot be depressed unless the upper panel shows "FREE", and it is locked after being depressed until the Down home signal lever has been pulled and replaced. When this lever is pulled it changes the indication in the upper panel from "FREE" to "LOCKED", in which position it will remain until the Down starting signal lever has been pulled and replaced to normal.

The Down starting signal at Sorting Sidings controls the entrance to the block section to Herne Hill and is fitted with an instrument and Block controls similar to those on the starting signal at Loughborough Junction. On replacing the lever for this signal, after the train has passed the Last Vehicle Treadle ahead, the upper panel indication in the plunging instrument to Loughborough Junction changes from "LOCKED" to "FREE".

The effect of this electrical interlocking is that the signalman at Sorting Sidings cannot, with normal working, give Line Clear for a train from Loughborough Junction until the previous train has passed the starting signal at Sorting Sidings and until the starting and home signals, and the starting signal at Loughborough Junction, are at danger. When, however, a Down train is to be shunted into the Down sidings or back on to the Up line at Sorting Sidings instead of going forward into the section ahead, a release on the controls is necessary, and for this purpose there is a release key at Sorting Sidings signal box which can be used to release the lock on the plunger and to replace the upper panel indication in the plunging instrument to "FREE" when the starting signal has not been used.

To remind the signalman at Loughborough Junction of the state of the Block on the Down line there is a Block indicator above the starting signal instrument. This consists of a miniature semaphore arm which is normally in the lowered position; it is raised to the horizontal position to show that the section is no longer free by the depression of the Down plunger at Sorting Sidings signal box and remains in that position until the indication in the upper panel above the plunger shows "FREE".

It can also be raised by the operation of a switch hook on the plunging instrument at Sorting Sidings. This normally lies away from the plunger; when rotated to engage with the plunger spindle, it prevents the depression of the plunger and causes, electrically, the block indicator arm at Loughborough Junction to be moved from the lowered to the raised position if it has not already been placed in that position by the acceptance at Sorting Sidings signal box of a Down train from Loughborough Junction.

When the signalman at Sorting Sidings receives the "Train Entering Section" message from Loughborough Junction, he is required to place the switch hook over the plunger. By this action the Block indicator arm at Loughborough Junction is maintained in the raised position. When the "Train Out of Section" message is sent to Loughborough Junction after the train has cleared the section and the cycle of operations required by the electrical interlocking is completed, the Sorting Sidings switch hook is turned to normal allowing the semaphore indicator at Loughborough Junction to return to the lowered position.

Single needle instruments are provided in place of bell keys between the signal boxes for passing the Block messages.

(b) Train acceptance procedure

The procedure to be followed by the signalmen at Loughborough Junction and Herne Hill Sorting Sidings signal boxes when a Down train is to be terminated at the latter box is briefly as follows. Actions not directly concerned with the movement are not described.

- (a) Loughborough Junction sends the IS LINE CLEAR message.
- (b) Herne Hill Sorting Sidings acknowledges the IS LINE CLEAR message and depresses the plunger to release the lock on Loughborough Junction starting signal.
- (c) Loughborough Junction lowers the starting signal for the train to depart.
- (d) As train leaves, Loughborough Junction sends the TRAIN ENTERING SECTION message.
- (e) Herne Hill Sorting Sidings acknowledges the TRAIN ENTERING SECTION message and turns the switch hook over the plunger.
- (f) Herne Hill Sorting Sidings brings the train to a stand, or nearly to a stand, at the home signal (Rule 39a) to indicate to the driver that the starting signal is at danger, and then lowers the home signal to enable the train to move up to the signal box where he instructs the driver, and thereafter the guard as the train moves forward, about its disposal into sidings.
- (g) Herne Hill Sorting Sidings replaces the home signal to danger and disposes of the train to the Up or to the Down sidings.
- (h) Herne Hill Sorting Sidings verifies that no part of the train, or shunting engine concerned in the disposal of the train, is left on the Down line, uses the key release to restore the plunging instrument to normal and sends the TRAIN OUT OF SECTION message to Loughborough Junction.
- (i) Herne Hill Sorting Sidings disengages the switch hook.

COLLISION AT HERNE HILL SORTING SIDINGS ON 1st. APRIL, 1960

