LONDON MIDLAND AND SCOTTISH RAILWAY.

MINISTRY OF TRANSPORT,
Metropole Buildings,
Northumberland Avenue,
London, W.C.2.
24th May, 1939.

SIR,

I have the honour to report for the information of the Minister of Transport, in accordance with the Order of the 30th March, the result of my Inquiry into the circumstances of the accident which occurred at about 11.43 a.m. on Sunday, the 19th March, at the south end of Crewe Station on the London Midland and Scottish Railway.

After the 8.45 a.m. up passenger train, Preston to Euston, arrived at No. 5 up platform, the engine and the two leading vehicles, a bogie van and a bogie passenger coach, in that order, were detached, for the purpose of being shunted on to the adjacent up through line at the south end of the station. The engine drew the vehicles ahead, but when the setting back movement was being made the shunt was incorrectly diverted into No. 1 up slip siding.

As a result, the right-hand leading corner of the passenger coach came into contact with the corresponding corner of another (loaded) passenger bogie vehicle, which had just previously been placed in No. 2 up slip siding and was standing foul of No. 1 siding. The three vehicles concerned were considerably damaged; seven passengers in the stationary coach were injured, one seriously, while one passenger in the leading coach of the shunt was also injured. There was no damage to the permanent way and signalling material.

The engine concerned was No. 2565, tank type 2-6-4, travelling chimney first during the propelling movement; it weighed 88 tons in working order. No. 37862 luggage and parcels van next to it weighed 24 tons, and No. 1287 Corridor Third, which was leading, weighed 28 tons. The total weight of the shunt was, therefore, 140 tons, and the overall length 153 feet 6 inches.

The stationary vehicle was No. 9920 Vestibule Third brake weighing 30 tons, and, on being placed in the position already described, it had been coupled to four other passenger vehicles (empty) in No. 2 siding, their weight being 112 tons; the overall length of the five standing vehicles was 296 feet 8 inches, just too long for the siding (which is dead ended), and hence the fouling of the adjacent No. 1 line by the fifth vehicle.

The collision was the result of verbal misunderstanding between those in charge of the shunt movement and the signalman concerned; the former, including the enginemen, were under the impression that the movement had some distance to proceed along the main line, and speed was, therefore, 10 to 15 m.p.h., much in excess of that which would have obtained had it been realised that movement into the siding was to be made. On the other hand, the signalman thought that it was intended to move into No. 2 siding to pick up the five vehicles.

The weather was clear.

Description.

The south end of Crewe is controlled from Crewe South Junction signal box, which is situated 280 yards south of the end of No. 5 up platform, and on the west side of the main lines. It is a double storey structure, from which an excellent view of this end of the station is obtained, and it contains a Crewe type all-electric power frame of 232 working and 10 spare levers.

No. 5 up through line, namely the up main, is situated alongside, and immediately to the west of, No. 5 platform line, while No. 5 bay line serves the east side of the platform; No. 6 bay line and No. 6 platform line serve the respective faces of the next platform further east.

Between No. 5 platform line and No. 5 bay line are located No. 1 slip and No. 2 slip lines, and the trailing connection serving them in No. 5 platform line is No. 77; the points lie normal for the main line and are situated 65 yards north of the signal box. The connection between Nos. 1 and 2 slip sidings is worked by hand with a weighted lever, the points being thereby "held" so that they lie normal for No. 1 slip. To move the points, the shunter must operate the lever and hold it in the worked position while movement is taking place; the points, however, are trailable when moving out of No. 2 slip.

The point of collision, viz., the corner of stationary coach No. 9920 (on No. 2 slip, but foul of No. 1), was 147 yards north of the box, and the shunted vehicles came to a stand on No. 1 slip with the leading end of coach No. 1287 40 yards further north, viz., the distance traversed by the movement after the collision occurred.

Opposite the box there is a gantry of down home and up starting signals, and shunt-back signal No. 18 from the up slow is situated under it. This shunt signal is solenoid worked and leads in 13 directions, including the two into Nos. 1 and 2 slips, for which No. 77 trailing points have to be set. The other 11 directions relate to separate routes worked from the box, and include that on to No. 5 up through line, for which No. 77 trailing points do not require to be set.

Report and Evidence.

1. The 9.20 a.m., Llandudno to Coventry, passenger train arrived on time at No. 6 platform line at 11.23 a.m.; the leading Third Brake, No. 9920, Rhyl to Euston, loaded with a theatrical party, was shunted into No. 2 slip siding, as it was destined to go forward from Crewe on the Preston to Euston train, which arrived on No. 5 platform line at 11.25 a.m., six minutes late. Marshalled next to the engine of the Preston train was luggage and parcels van No. 37862, destined for Walthamstow on the 2.25 p.m. passenger train to Derby, while the following vehicle, Third Class No. 1287, loaded with another theatrical party for Bath, was to go forward on the 11.55 a.m. passenger train to Bristol.

It was intended to draw the last-named two vehicles from No. 5 up platform line, and then to propel them on to No. 5 up through line to attach No. 1287 to another vehicle which was already standing on that line, pending despatch to Bath by the 11.55 a.m. train. Thereafter, van No. 37862 was to be drawn forward again and shunted into No. 2 slip siding for attachment to coach No. 9920 and the four others already mentioned; all six vehicles were then to be drawn out on to the main line and propelled back on to the Preston train on No. 5 platform line, due to depart at 12.4 p.m. Van No. 37862 was finally to be drawn from No. 5 platform line and placed in No. 1 slip, to await despatch by the 2.25 p.m. train to Derby.

2. Acting Inspector T. H. Ollier was in charge, and his intentions were fully understood by Yard Foreman H. E. Bourne and by Shunter D. J. Morgan, the traffic staff immediately concerned with the operations in question. The movements seem to have been affected by the late arrival of the Preston train; it was booked to reach Crewe earlier than the Llandudno train by four minutes, but followed it by two minutes. In the first instance, Ollier appears to have instructed Bourne to initiate the intended shunts in connection with the Preston train on No. 5 platform, and he said that Bourne telephoned accordingly, in his hearing, from that platform, to Signalman S. Jones; two minutes later, however, according to Ollier's account, he telephoned himself from No. 6 platform, with Bourne's knowledge, and pressed Signalman Jones to make the move first with coach No. 9920 from the Llandudno train into No. 2 slip siding.

In fact, Ollier said he cancelled the instructions which Bourne had previously given, his object, which he attained, having been to save delay in the departure of the Llandudno train by first finishing the work in connection with that train; it was to depart at 11.33 a.m. and did so, whereas the Preston train was not due to depart until 12.4 p.m. Ollier was satisfied that Signalman Jones understood what was required. He did not think that the cancellation of instructions, as described, caused confusion in any way.

3. Foreman Bourne, however, said that there was no contradiction; so far as Bourne's memory served him, Ollier initiated the instructions to Jones by speaking from No. 6 platform, after which Bourne dealt with the shunt of coach No. 9920, the return of the engine to the Llandudno train, and the despatch

of that train. Thereafter, according to Bourne, he proceeded to No. 5 platform, informed Shunter Morgan and Driver Dickinson (of the Preston train) what to do with the two leading vehicles, Nos. 37862 and 1287, as already described; he said that he subsequently rang up Signalman Jones and gave him the following instructions in Ollier's hearing and with the latter's concurrence:— *" Out of No. 5 platform to the main line, off the main line into No. 2 slip, out of No. 2 slip into No. 5 platform, and draw up the slip with one."*

Bourne said that at this time an engine and coach (the latter for Bath) were standing on No. 5 up through line, the intention being that No. 1287 was to be attached to the coach and that both would proceed on the 11.55 a.m. train to Bristol. Bourne stated that he knew Signalman Jones well and was satisfied that the latter understood his instructions and what was intended; there was also no disagreement with Ollier as to their intentions.

4. On the other hand, Signalman S. Jones said that he received the first instruction for the Preston train, which was due before the Llandudno train, although, as described, the order of arrival on this occasion was reversed; he was also quite clear that Foreman Bourne was the first to give him instructions regarding the former train:—

> *" The 8.45 a.m. ex Preston arrived at No. 5 platform and I received a telephone call from the station and instructions from Foreman Bourne that the 11.55 a.m. North Stafford engine was on No. 5 main line: ' Put him in 6 bay on his train, and then out of 5 platform to pick up out of No. 2 slip, back into 5 platform, and draw from 5 platform up the slip '. Before this move had been commenced, I received orders on the telephone from Foreman Ollier that there was one vehicle to come off the Bangor for London: ' Put it on them in No. 2 slip, and then back up.' The instructions which I received were not repeated to me. . . .*
>
> *I received my first instruction from Bourne and the second instruction from Ollier, but I worked the second instruction first. There is no doubt in my mind that that was the order, and I knew who I was talking to. . . .*
>
> *After the vehicle had been detached from the Llandudno-Coventry train and the engine had backed up, the train left. Then I commenced the movement from No. 5 platform as ordered. The engine with two vehicles drew out of No. 5 platform and came to a stand behind the gantry signal. I set the road then to the slip, No. 77 points, and turned off No. 18 disc signal, the road being then set for the slip. The driver commenced to set back at excessive speed towards the slips and went into No. 1 slip, damaging the coaches; the two coaches and half an engine length passed the damaged coach before he stopped. The damaged coach was standing foul."*

Jones contended that there was no misunderstanding of instructions on his part: *" My setting of the movement into the siding was not a mistake, it was a deliberate movement, and I thought it was obeying the instructions of the Inspector, my idea being that they were going to pick up those Londons and put them in No. 5 platform "*. Jones said that had Bourne advised him of the intention to leave coach No. 1287 on the main line, he would have asked *" what he wanted to go on No. 5 main line for, and what the second engine was for, because he had already mentioned the engine for the 11.55 a.m. North Stafford train "*.

Jones had worked with Bourne and Ollier for years and they knew each other well; there had never been any misunderstanding before, and their instructions were *" always quite definite "*. Jones felt that he was misled in this instance, which, in his experience, was quite exceptional. He drew attention to the speed at which the movement was made, and he obviously realised the situation too late to take preventive action.

5. Driver W. Dickinson's evidence made it clear that, after arriving at No. 5 platform, he received instructions from Shunter Morgan to commence the intended series of shunt movements with the two leading coaches of his train, by proceeding in the first place on to No. 5 up through line. He knew Crewe yard well; he had seen the engine and coach standing on this line and therefore knew how far the propelling movement was to proceed.

After leaving No. 5 platform he brought the shunt to a stand on the south side of the box; Shunter Morgan was on the footplate, and informed him when signal No. 18 was cleared. After that, Morgan crossed to the fireman's side of the engine, viz., the side (right in direction of movement) on which the sidings were located. Dickinson said that he immediately commenced the propelling movement, but he closed the regulator when the engine was passing the gantry, possibly before the coaches commenced to enter the siding from the main line. To his surprise, he realised that this was happening when he observed the coach next to the engine turning to the right, and he made a full brake application on hearing screams and a shout from the fireman's side of the footplate.

Fireman H. H. Williams confirmed his driver's evidence; he heard Shunter Morgan's instructions, and there is no doubt that all three men on the footplate were taken entirely by surprise; the collision appears to have occurred before the brake was applied, and at a minimum of 10 m.p.h.

Shunter Morgan also generally confirmed Driver Dickinson's evidence; he had assisted Bourne to place coach No. 9920 in No. 2 slip, and thereafter, under instructions from Bourne, he proceeded to No. 5 platform while Bourne returned to No. 6 and dealt with the despatch of the Llandudno train. Morgan detached the two vehicles from the Preston train and passed on to Dickinson the instructions received from Bourne for the intended movements, as already described. He said that the instructions were explicit, and that both he and Dickinson clearly knew what was required to be done; he would obviously have been on the ground, and not on the footplate, had he intended the movements to enter the siding, in which case it would have been necessary for him to operate the points leading to No. 2 siding, in which he had just previously placed coach No. 9920.

Morgan estimated that the speed of the collision was 10-12 m.p.h.; he said that the movement was made normally, and that this was a reasonable speed for the proposed shunt along the main line; it was the first occasion on which he had been wrongly routed at No. 18 disc, and he had had five years' experience as a shunter at Crewe. He appears to have shouted directly he realised that the coaches were entering the siding, and unfortunately it was too late then to prevent the collision.

Conclusion and Remarks.

6. The first point which appears to arise in connection with this accident is the use of slip siding No. 2, via hand-worked points, for stabling a loaded passenger coach. Provided the Preston train brings in no theatrical vehicles on Sundays, or other vehicles which require to be detached, I understand that the normal practice is for the engine, on its arrival at Crewe, to proceed into this siding to pick up empty coaches, which are stabled therein for strengthening purposes; further, that although No. 1 siding is regularly used for stabling loaded passenger coaches, it is very unusual to use No. 2 slip for this purpose.

On this occasion, however, it appears that the latter siding was so used for stabling coach No. 9920, in order to save an additional shunt in re-attaching this coach to the four vehicles, which, as described, were already standing in the siding and were destined for strengthening the Preston train. On the other hand, so far as the collision itself was concerned, had coach No. 9920 been placed in No. 1 slip, instead of where it was in No. 2, it seems reasonable to assume that the results of the collision might have been worse, as the coach would have received the full impact of the moving shunt, instead of the glancing blow which shattered one corner only.

Moreover, it is clear that the use of either of these sidings for stabling loaded passenger vehicles really had no bearing on the collision, which was solely due to incorrect diversion of the shunt movement into the sidings, contrary to the intentions of the traffic staff concerned. I understand, however, that the placing of loaded passenger coach No. 9920 in No. 2 slip was contrary to practice, and perhaps to instructions, having regard to the fact that the siding points are operated by hand; it seems desirable at least to ensure in future that any vehicles placed therein are not permitted to remain standing foul of No. 1, whether time can thereby be saved or not.

7. With regard to the circumstances of the accident itself, there is no doubt that Driver Dickinson, Fireman Williams, and Shunter Morgan all acted on the assumption that the shunt movement in question was bound for No. 5 up

through line; they were taken entirely by surprise, and the collision can hardly have occurred at less than 10 m.p.h. The distance subsequently run indicated that the brake was not applied until the collision had taken place.

The cause of the incorrect routing of the shunt was clearly misunderstanding between Signalman Jones and the two men who telephoned to him from the platform. The weight of Ollier's and Bourne's evidence (although they themselves disagreed as regards the sequence of the conversations), added to that of Shunter Morgan and the two enginemen, leaves no alternative but the conclusion that Jones must have misinterpreted the instructions from the platform. The presence of the engine and coach standing on No. 5 up through line may also have contributed in putting him off his guard for, as he explained, he would have raised the question of the disposal of the engine had he realised that a shunt movement along that line was desired.

There is no doubt, however, that Jones thought he was acting correctly, and the only reasonable explanation appears to be that he must have jumped to the erroneous conclusion that the *usual* movement was required, namely, from No. 5 platform to No. 2 slip road, with a view to returning at once to the Preston train, instead of the *unusual* movement on to No. 5 up through line. I can only suggest that he may have paid insufficient attention to the instructions from the platform, or more probably forgot what had been said, due to the change in sequence which both he and Ollier stated had taken place.

Moreover, Jones knew that he had just previously routed loaded coach No. 9920 into No. 2 slip road, an exceptional movement, and that its destination was London; in any case, he would have been anticipating the shunt leaving No. 5 platform line for the siding in accordance with normal working. He would have expected Morgan to operate the hand points, and he was naturally surprised to find that the propelling movement was proceeding so fast.

I do not overlook the possibility that the change in sequence of the instructions may have emanated as the result of the reversal in normal sequence of arrival of the Llandudno and Preston trains; nor the fact that, at the time, the staff were naturally anxious not to cause undue delay, while the instructions from the platform evidently covered at one time a number of movements. In all the circumstances, I do not feel that individual responsibility can reasonably be assessed in this case; it amounts to an extraordinarily unlucky mischance, which fortunately had no worse results.

All the men concerned had long experience, a full knowledge of the working, and excellent characters. I recommend, however, that the attention of the traffic staff be drawn to the necessity for exercising the utmost care in describing their requirements to the signalman, in keeping him informed of the reasons for the same, and in ensuring that their wishes are understood. I do not feel satisfied that the platform staff were sufficiently explicit on this occasion, and the change of sequence in their instructions may have indicated some lack of co-operation or foresight, which it is particularly necessary to safeguard under present-day pressure of movement.

8. The non-existence of track circuiting had no bearing on this accident, and the only thing which would have safeguarded Signalman Jones's error would have been an indication at shunt signal No. 18 to show which route had been set up; the erroneous routing of the movement should thus have become apparent to the shunter, and/or to the enginemen, before it was started. This signal leads in 13 directions, and I have discussed with the Company's officers the practicability of providing a separate indication for each. It appears that the majority of shunt-back movements towards the station are covered by it, and there is a corresponding signal on the adjacent up main which leads in 12 directions.

These signals were introduced some years ago, but, under modern conditions of pressure of shunting movement of the character in question, it seems very desirable that a definite indication should be displayed to inform the driver of the intended route. Having regard to the colour-light re-signalling which is now in progress at Crewe, and to the rebuilding of the South Junction box (on a new site from which such a good view of the yard will not be obtained), I recommend that consideration be given to the provision either of full route

indication at the two signals in question, or of additional shunt signals for each junction in succession. The driver would thus receive the requisite indication of the route over which he is expected to proceed, and, in connection with the re-signalling generally of this important installation, I hope it will be found practicable to adopt this principle for all movements controlled by shunt signals.

I have the honour to be,

Sir,

Your obedient Servant,

A. H. L. MOUNT,

Lieut.-Colonel.

The Secretary,

Ministry of Transport.

(1584(1—51)) W1 [illegible]—3/72 [illegible] P. St. G. [illegible]