

Ministry of War Transport,
Berkeley Square House,
Berkeley Square,
London, W.1.

13th October, 1943.

Sir,

I have the honour to report for the information of the Minister of War Transport, in accordance with the Order dated 10th August 1943, the result of my Inquiry into the collision which occurred at about 10.57 a.m. on that day at Scarborough (terminal) station in the North Eastern Area of the London and North Eastern Railway.

The 9.5 a.m. express passenger train from Hull, running 20 minutes late, should have been received into No. 3 platform line, but it was wrongly diverted by the Station box signalman into No. 5, and struck the leading coach of the 11.18 a.m. ordinary passenger train to Hull which was standing in this platform awaiting its engine. The coach was fully loaded with a military detachment, and I regret to report that 4 soldiers were killed and that 8 were injured and detained in hospital; a further 22 were discharged from hospital after receiving attention. The remaining coaches were also well loaded, but only one passenger in them complained of slight shock. There were no casualties in the express.

The 8 coaches of the standing train were against the buffer stops with the vacuum brakes applied. Their total weight was 202 tons and their length 145 yards. The majority were non-corridor vehicles of older type now relegated to secondary services, with wooden bodies, composite underframes and gas lighting. The leading coach was No. 22948, an 8-compartment third of the clerestory type, weighing $23\frac{1}{2}$ tons; the solebars were of comparatively light steel sections and the remaining members of the underframe, including the headstocks, were of hard wood. Although the impact probably took place at 10 m.p.h. or less, the leading headstock was smashed in and the solebars were driven apart, and 3 compartments were wrecked. The main gas pipe was broken and all the gas escaped but there was no fire. The coach as a whole, including the two bogies, was damaged beyond repair, but damage to the remaining 7 was comparatively slight, including a few bent buffer rods and a broken headstock.

The incoming train was hauled by engine No. 2024, of the 4-4-0 type, running chimney first; the engine was fitted with the Westinghouse brake on the coupled and tender wheels, controlled by the vacuum ejector working the brakes on all the wheels of the 7 coaches. The weight of the engine was $95\frac{1}{4}$ tons in working order with tender, and of the coaches $176\frac{1}{2}$ tons. The total weight of the train was thus approximately 272 tons, and the combined brake power was approximately 68% of that weight. The length was 148 yards. Damage to this train was confined to fittings at the front of the engine, and there was no derailment.

The rescue work was promptly taken in hand by the station staff, assisted by military and civilian passengers. In response to calls initiated by the Stationmaster, Mr. Dowson, ambulances were on the platform in about $\frac{1}{4}$ hour and doctors a little later, and there was no lack of first aid attention. Valuable help was given by the Police, the National Fire Service, and A.R.P. Rescue staff. The last of the injured was extricated from the closely packed wreckage at about 12.35 p.m., $1\frac{1}{2}$ hours after the accident.

There was no damage to the permanent way, and No. 5 platform line was reopened to traffic at 3.30 p.m., after a lapse of $4\frac{1}{2}$ hours.

The weather was fine and clear and the rails were dry.

The Director General,
Ministry of War Transport.

DESCRIPTION.

1. Scarborough station is a large terminal, which has been developed to handle a considerable volume of summer holiday traffic in peace-time, but under present conditions it is not used to anything like its capacity. The attached line diagram shows the relevant features of the layout and signalling.

2. The Station box controls movements into and out of Nos. 3 - 9 platform and the carriage sidings. Nos. 6, 7 and 8 platforms, however, are now out of use and have been dismantled for their timber; the lines are used occasionally for shunting or stabling. Movements into and out of Nos. 1 and 2 platforms are controlled by Falsgrave and do not concern the Station box.

Except for occasional movements over the Departure line, the traffic between Falsgrave and the Station boxes is worked over "C" Road in both directions under the control of interlocked direction levers. There are no block instruments and trains are offered and accepted by bell code, with separate bells for "C" Road and the Departure line; the "Train Entering Section" and "Train out of Section" signals are not exchanged. The Station box is thus simply equipped; it contains a mechanical frame of 40 working and 7 spare levers and there are no track circuits.

The view from the box of the outer platform ends could hardly be improved and No. 5 platform is in direct line with the door at the north end, the upper half of which is glazed and is unobscured; the main windows are blacked out except for the lower row of panes. There is also an excellent view of the approach lines through the panes of another door leading to the gallery at the south end.

The view of the far ends of the platforms under the station roof is kept so good, and as a reminder of the position of any vehicles which may be standing there, notes are chalked on a board provided in the box for this purpose. Trains are allowed to enter occupied platforms if there is room, subject to a check at the incoming signals, and a hand caution signal from the box.

Booking is not normally carried out in the Station box, but it is done during four selected weeks in each year, the information forming the basis of any desired review of classification. The week in question was one of the selected periods and the signalmen were recording all train and shunting movements. The box is not a busy one at the present time, and on the 10th August a total of 63 movements into and out of the station had been recorded during the 5 hours and 20 minutes the signalman had been on duty up to the time of the accident, and 6 movements during the hour preceding it.

3. With regard to the view from a train approaching on "C" Road, I travelled on the footplate of the engine concerned, No. 2024. Coaches were standing in No. 5 platform in the same position as those of the 11.18 a.m. train on the day of the accident. From the driver's position on the right hand side of the footplate I observed that, until reaching the overbridge, the view of the coaches was obscured by the retaining wall on the right hand (East) side of the line. On passing through the bridge, the end of the leading coach in the platform came into view and remained so for about 80 yards until passing under the gantry of the incoming signals. It did not, however, stand out well from the general dark background of the station, and neither the side of the coach nor the rest of the train were visible. On passing the signal gantry the coach was lost to view behind the signal box, and did not again become visible from the driver's side until just after passing the box (on a left hand curve), at a range of 45-50 yards.

From the left hand or fireman's side of the engine, the view was very similar. Although the coach could be seen a little earlier clear of the retaining wall, it was obscured correspondingly earlier by the signal box, again becoming visible on reaching the latter, a few yards before it could be seen from the driver's side.

4. The "C" Road incoming signals comprise 7 arms on posts of equal height disposed on the overhead gantry as shown on the diagram; they are first seen in an approaching engine at a range of 98 yards, under the bridge. For No. 3 platform, No. 35 signal requires Nos. 32 and 34 facing point bolt levers reversed for No. 5 platform, No. 37 signal requires No. 33 points reversed, also Nos. 9, 22 and 34 bolts.

R E P O R T.

5. The accident occurred at approximately 10.57 a.m.; the 9.5 a.m. train from Hull, which is due at Scarborough at 10.37, was thus running 20 minutes late. If its arrival is punctual or nearly so, it is normally dealt with at No. 1 or No. 2 platform, independently of the Station box. During July and August it had been running consistently late, and in these circumstances it was well understood by all concerned that it should be received into No. 3 platform by the Station box, owing to the occupation of Nos. 1 and 2 by other trains. The Station Inspector's record confirms that it ran into No. 3 platform on the day before the accident, and on every weekday of the preceding month except one.

At the time of the accident No. 3 platform had been vacant since the punctual departure of the 10.40 a.m. train to York. No. 4 also was vacant, but the 9.5 a.m. train is not received into No. 4 in order to avoid confusion with passengers entraining at No. 5 platform opposite, which is regularly occupied by the coaches of the 11.18 a.m. train from about 9.45 a.m. onwards. No. 9 platform was occupied at its outer end by the Sentinel rail car which had arrived at 10.42 a.m. and was due to leave for Pickering at 11.0 a.m. A minute or two before, this rail car had returned from a short shunt to leave its trailer on the Departure line. This is referred to later.

6. Ordinarily the 11.18 a.m. train to Hull consists of a 4-coach set from the 5.37 a.m. service from Hull, but on the morning in question 3 special through coaches had been transferred from another train and were standing against the buffer stops when the ordinary coaches were backed into No. 5 platform by the pilot engine at 9.54 a.m. Also during the holiday period the 4-coach set is strengthened at Hull on the 5.37 a.m. service daily by the attachment of an ordinary 3rd class coach at the rear. The 11.18 a.m. train thus comprised 8 coaches in all with third No. 22948 leading from Scarborough, and this vehicle was reserved for the military party. The train engine was due to arrive from the shed (beyond Falsgrave) at about 11.0 a.m.

7. Signaller H.W. Scholes had been on duty at the Station box since 5.40 a.m., and was due to finish his turn at 1.40 p.m.; he had been off duty since 1.40 p.m. the previous day. After 34 years service with the Company he had been promoted to Special Class Signaller at Waterworks box, York, in March 1942, but he had suffered from kidney trouble since 1936, and had found that the heavy work and night duty turns at this box were overtaking his strength. Acting on medical advice, he applied for lighter work, and was appointed to Scarborough Station box in January 1943. He said that the change had proved beneficial, and that at the time of the accident he felt better than he had for some years. He stated further that his ill health in no way affected him mentally.

8. Scholes frankly admitted and deplored his mistake, for which he accepted the sole responsibility. He was, however, quite unable to account for it, and said that he was thoroughly practised in the simple working of the box, that there was no undue pressure of work at the time, and that his mind was not in any way distracted. He was well aware that, owing to its late arrival, he would have to accept the 9.5 a.m. train from Hull on "C" Road and direct it to No. 3 platform. In fact when it was offered to him by Falsgrave (3 consecutive beats on the bell for a train from Hull), he recorded "No. 3" in the Train Register.

The following is an extract from a statement which he made to the Company's Officers:-

"I recall the lever movements I made on August 10th last between the departure of the 10.40 a.m. to York and the arrival of the 9.5 a.m. from Hull in No. 5.

Points 33, 8 and 5 were reversed for the passage from "C" line to Platform No. 9 of the Pickering rail car and trailer - the facing points were locked by bars 34, 9 and 6. After the passengers had been discharged, the rail car and trailer was shunted from No. 9 platform to Departure line - for this movement I unlocked Nos. 8 and 33 points, and restored No. 8 to normal, but did not restore No. 33.

I was hand signalling the Pickering rail car from Departure line back to No. 9 when Falsgrave offered the 9.5 a.m. ex Hull. I reversed No. 22 bar (locking No. 21 facing points), No. 9 bar (locking No. 8 facing points at normal) and No. 34 bar, which locked, in reverse, No. 33 facing points, which I had overlooked putting back earlier. The route was thus set to No. 5 platform."

His recollection of pulling No. 37 signal lever and of the significance of this action, was not clear, but he appears to have been under the impression all the time that the road was set for No. 3 platform. It was not until he saw the train pass in front of, instead of behind, the box that he realised it was going into No. 5, which he well knew was occupied. He went to the window at once and shouted a warning. He added that there was nothing unusual about the speed of the train as it passed him.

He denied that he had mistaken the arrival of the train from Hull for that of the engine for the 11.18 a.m. train, which would receive No. 37 signal to enter No. 5 platform, and explained that a light engine would have been signalled differently by Falsgrave, viz. 2 pause 3. He mentioned the shunting movement of the rail car, which he was hand signalling back into No. 9 platform at the time he received the offer of the train from Hull, but he did not seriously suggest that this had distracted his attention. Scholes had no criticism of the view from the box generally, which he said was not impaired by the blackout arrangements, and he referred to the direct view of No. 5 platform through the unobscured panes of the door.

9. He also said that he was well accustomed to the use of lever collars as a reminder of track occupation. Prior to his appointment at Waterworks box, he had been employed at the Class I South Points box at York. A part of the work of this box is to control the entrance to a group of 4 goods reception lines, which are not track-circuited, and Scholes considered that he could not have done this safely without the regular use of lever collars; he thought that the present circumstances at Scarborough were very similar. He said further that it was his practice to put "a ring" on No. 37 lever after replacing it behind the movement of the empty coaches into No. 5 platform at about 9.45 a.m. daily. He could not say what had led him to omit this precaution on the morning of the accident, except that there was just the possibility that his attention might have been diverted momentarily by a brief conversation with the shunter through the window, regarding the next movement of the pilot engine.

10. Mr. F. Dowson, the Stationmaster, and Mr. J.W. Leckenby, the Station Inspector, both spoke well of Scholes' work during the 7 months he had been at the Station box, and both of them referred to his frank admission of responsibility and obvious distress when they spoke to him shortly after the accident. Mr. E.L. West, District Signaller's Inspector, York, had examined Scholes in the working of Scarborough Station box on 3rd February 1943, and in the Rules and Regulations. He had found him satisfactory in every way and considered him to be a steady and reliable signaller, although he had not been one of the best men at the Waterworks box owing to a certain slowness in decision.

11. The habitual late running of the train from Hull appears to have been due mainly to the additional time required at intermediate stations by the heavy passenger traffic. Driver R. Langfield and Fireman H.P. Andrews, both of Bridlington shed, referred to the good general condition of engine No. 2024, and to the satisfactory working of the train brakes throughout their journey.

Langfield is a driver of 36 years' experience and is thoroughly familiar with the working into Scarborough. His evidence was to the effect that he was in no doubt as to the platform into which he was running, that he approached the station with great caution and that he had reduced the speed to about 5 m.p.h. by the time he passed the signal box; he received a warning shout from Andrews on his left as he passed the box but was unable to prevent the collision, although the brakes, which were already partially applied, responded well to his emergency action.

Apart from station delays, the journey from Hull had been normal. He had observed a temporary speed restriction of 20 m.p.h. about $\frac{1}{2}$ mile before reaching Falsgrave, after which he re-opened the regulator for a few moments to

keep the train going on the rising gradient (1 in 220). The signal at Falsgrave was at "Clear" for "C" Road, and he made a partial application of the brake at the bridge, under which he first caught sight of the Station box incoming signals. He noted that the arm for No. 5 platform was lowered, but he saw nothing of the standing coaches until just after Andrews' warning shout, when he acted as already described.

Langfield added that although this train more usually worked into Nos. 1 or 2 platforms, his reception into No. 5 on this occasion caused him no surprise, as he was aware that platforms were changed according to the circumstances prevailing at the station.

Fireman Andrews generally confirmed Langfield's evidence with regard to the cautious approach. Andrews was looking out through the left-hand cab side window, and he understood clearly from the signal indication that the train was to be run into No. 5 platform. He stated that after observing the signal he locked towards the platform, but that the coaches were hidden by the signal box until he drew level with it. He then shouted a warning to Langfield, who at once applied the brake fully. He said that there was no heavy impact; he was standing at the time and was holding on, and was hardly thrown forward.

The guard, F. Whittles, was not looking out, as he was attending to the instruction of two women employees in the van, who were learning the road as passenger guards; he was thus unaware of the platform into which the train was running. He said that the brake was fully released after the speed restriction referred to by Driver Langfield, and that a reduction of vacuum to 10 inches was made on passing Falsgrave signal box, after which he did not think that the speed could have been higher than 10 m.p.h. He also said that the vacuum was not restored before the emergency brake application just prior to the collision, which knocked over two milk churns in the van and threw him to his knees.

12. At my inspection of the site on the 18th August, I observed the 9.5 a.m. train from Hull running into No. 3 platform, and I noted that the engine passed the Station box at about 15 m.p.h. or rather more, decelerating smoothly to a normal platform stop.

In the opinion of Mr. W. Atkinson, Chief Inspector, Carriage and Wagon Department, the extensive damage to the standing coach might have been caused by an impact at less than 10 m.p.h. having regard to its comparatively light construction and the weight of the incoming train.

C O N C L U S I O N .

13. There can be no doubt that this unfortunate accident was brought about by the failure of Signaller W.H. Scholes to concentrate his attention on a simple series of lever movements. I have no reason to doubt his statement that he had not overlooked the occupation of No. 5 platform by the coaches of the 11.18 a.m. train, and had made up his mind to send the 9.5 a.m. train into No. 3, as was habitual when the latter was running late. It is especially to be regretted that on this occasion he failed to make his customary use of the lever collar, which affords protection against inadvertent lever movements, in addition to its primary function as a reminder of line occupation, in the absence of more positive safeguards.

This is an unusual case of human failure, and in the absence of any special circumstances, such as heavy pressure of work, fatigue, or even unsatisfactory view from the box, it is difficult to suggest the cause. Scholes is a man of 55 years of age, and has been a signaller for 31 years; his record hitherto has been one of consistent reliability. Whether or not his power of concentration has been adversely affected by his physical condition, in spite of his denial, I am unable to say; whatever the cause, his failure, which he did not attempt to excuse, is all the more to be regretted after his long and satisfactory service.

14. The question arises whether Driver Langfield should have been able to prevent the collision. His evidence was mainly directed to emphasise the cautious nature of his approach, but if he had passed the Station box as slowly

as he suggested, viz. at 5 m.p.h. or less, an emergency brake application at the box, or even a little later, should have stopped the train short of the obstruction without any difficulty, in the 50 yards which remained.

Langfield, however, was running under clear signals and there was not to suggest the need for more than ordinary caution. In fact I doubt whether speed was any less than 15 m.p.h. as usual, when the engine passed the box, in which case he would have had practically no chance to avoid the collision, after he received Andrews' warning. Nor would it have been reasonable to expect either Langfield or Andrews to appreciate that No. 5 platform was occupied while they were running between the overbridge and the signal gantry. Although the end of the leading coach was just visible over this distance, it was by no means conspicuous, and both men were rightly concentrating on the pattern of signals during the 10 seconds or so they were in view.

REMARKS.

15. This accident would have been prevented if there had been track circuits in the platform lines, locking the relevant incoming signals. The absence of such equipment at a terminal of this size and importance is the exception rather than the rule nowadays, but the present traffic conditions at the Station box, with 3 of the 7 platforms which it controls out of use, are not such as to require the assistance of track circuits, having regard to the excellent view; track circuits are in fact provided in Nos. 1 and 2 platform lines, as they cannot readily be seen from Falsgrave box, from which they are signalled.

Scarborough station and its signalling are old-fashioned and awkward to work in many respects, as is often the case when a layout has been developed to meet growing traffic requirements over a long period of years. The need for extensive reconstruction is fully appreciated by the Company, and when this is put in hand, I understand that opportunity will be taken to provide a modern colour light signalling installation, with all the appropriate safeguards. Even if for any reason a comprehensive scheme of modernisation has to be deferred, I think that this station should be included in any general extension of track-circuiting which the Company may undertake after the war.

16. If there had been a brake compartment at the leading end of the stationary train, the results of this comparatively low-speed collision would clearly have been less serious but, having regard to all the circumstances, I do not consider that its absence on this occasion is a matter for criticism.

I have the honour to be,
Sir,
Your obedient Servant,

(Sgd.) G. R. S. WILSON.

Major.

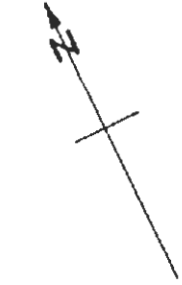
POINT OF COLLISION

SCARBOROUGH
(TERMINAL)
STATION

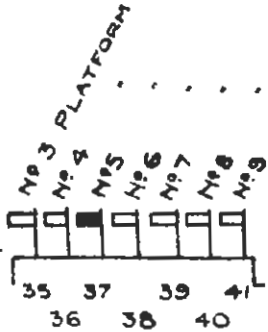
54 YDS

STATION BOX

104 YDS.



'C' ROAD
INCOMING
SIGNALS



10 YDS.

POINTS & INCOMING SIGNALS
WORKED BY STATION BOX. 80 YDS
POINTS & SIGNALS
WORKED BY FALSGRAVE BOX.

OVERBRIDGE

NOTES.

PATH OF 9.5 a.m.

TRAIN FROM HULL → → →

NO 6, 7 & 8 PLATFORMS

DISMANTLED AND OUT OF USE.

NUMBERED POINTS SHOWN 126 YDS.

'NORMAL'

FALSGRAVE BOX.

L.N.E.R.
NORTH EASTERN AREA.

COLLISION

AT
SCARBOROUGH.

10TH AUGUST 1943

NOT TO SCALE.

T.C.

DEPARTURE
LINE

CARRIAGE
SIDINGS.

WALL

RETAINING

4-WAY
ROUTE
INDICATOR

- 1. TO NO 1 PLATFORM
- 2. - NO 2.
- 5. - DEPARTURE LINE
- C. - 'C' ROAD

DOWN MAIN
UP MAIN

FROM HULL
& YORK.

