LONDON AND NORTH EASTERN RAILWAY.

Ministry of Transport,
7, Whitehall Gardens, London, S.W. 1
27th May, 1926.

SIR,

I HAVE the honour to report, for the information of the Minister of Transport, in compliance with the Order of the 11th May, the result of my Inquiry into the causes of the derailment of a passenger train on the 10th May, about 2 p.m., between Annitsford and Cramlington Stations (north of Newcastle) on the London and North Eastern Railway.

The 10.0 a.m. up express passenger train (ex Edinburgh to King's Cross) was travelling on the up main line between the named stations, at a moderate speed, when the engine and five leading vehicles left the rails at a point about 218 yards north of mile post No. 9 from Newcastle. The engine was derailed to the left (east), and ploughed its way through the ballast and along the cess a distance of about 88 yards before coming to rest. It was found on its left side clear of and parallel with the up track, partially supported by low bank, with its buffers in contact with the northern wall of a disused signal box. Fortunately only two passengers were injured. A volunteer fireman on the engine had his wrists scalded.

The train was hauled by Pacific type engine No. 2565 (4—6—2) with 8-wheeled tender. The loaded weight of engine and tender combined was 148 tons 15 cwts. and its length over buffers 70 feet 5⅛ inches. The train included the following twelve corridor coaching vehicles of the London and North Eastern Railway :—

					tons.	cwts.	qrs.
No.	1060	8-wheeled	3rd Class van	weight	32	10	0
,,	149	,,	1st Class coach	,,	33	17	2
,,	6441J	articulated set with 4 bogies.	1st Class Restaurant Car	total weight	83	12	2
,,	6442J		Kitchen Car				
,,	6443J		3rd Class Restaurant Car				
,,	364J	8-wheeled	3rd Class coach	weight	32	0	0
,,	1372	,,	,, ,, ...	,,	32	0	0
,,	146	,,	Brake van	,,	28	15	0
,,	61632	,,	3rd Class coach	,,	34	5	0
,,	42689	,,	1st and 3rd Class Composite brake	,,	33	5	0
,,	10130N	,,	3rd Class brake van ...	,,	32	10	0
,,	69J	,,	3rd Class coach	,,	31	5	0

Weight of coaching vehicles	374 tons.
Weight of engine	148 tons 15 cwts.
Total weight	522 tons 15 cwts.

The train was fitted throughout with the vacuum continuous brake, working blocks upon all wheels except the engine bogie. There was in addition the usual hand brake equipment on the wheels of the tender, and on those of coaching vehicles Nos. 1060, 146, 42689, and 10130N. The continuous brake was in good order, the vacuum maintained on the engine being 20 inches.

The total length of the train with engine was approximately 790 feet. The lighting throughout, and cooking in the kitchen car, was electric.

After the derailment the engine was found as above described. The first coach, No. 1060, also lay on its left side, its leading end still coupled to the tender, but with both bogies ripped off. It lay at an angle of 45° with the direction of the railway, the rear half of the vehicle extending eastwards over the railway fence into the adjoining field. The second coach, No. 149, which also had its bogies knocked off, stood at right angles with the railway astride the railway fence and both lines of rail, its rear end tilted upwards over the down track. The third vehicle, No. 6441J, stood upright (with the front bogie broken away) diagonally across the up and down tracks, with

its leading end under the rear end of No. 149, the connecting coupling being broken. The fourth vehicle, 6442 J, stood derailed across the down track, with the connecting bogie between it and the fifth vehicle also off the rails. The rear bogie of the articulated set, under the trailing end of No. 6443 J, was on the rails, as were also the remaining seven vehicles.

A list of damage to permanent way and stock will be found in the Appendix.

Description.

The railway in the neighbourhood of the scene of this accident has a general direction from north (Berwick) to south (Newcastle). The double track is straight for a distance of about 330 yards north to a point 1,445 yards south of the actual point of derailment. The eastern pair of rails is used by up and the western by down traffic. An up train approaching the scene travels on a falling gradient of 1 in 224. Details of the permanent way laid at the site are as follows:— the rails are British Standard section, weigh 95 lbs. per yard, in lengths of 45 feet, and are secured by outside wooden keys to cast iron chairs, weighing 49 lbs. apiece. Each chair is secured by two spikes and two trenails to creosoted timber sleepers, measuring 9 feet by 10 inches by 5 inches. There are 17 sleepers to a rail length. The rail joints are connected by straight fishplates, 1 foot 6 inches in length, weighing 32¼ lbs. per pair. There are four fish bolts to each joint, $\frac{15}{16}$ inch in diameter. The sleepers are laid on broken stone ballast, which has a depth of 6 inches.

On both sides of the railway is a post and rail fence about 4 feet high. The ground between the up track and the eastern fence is practically level at the site of derailment. On the west, the up track is partly supported on a low embankment. Inside the boundary fence, on the east side, there is an old signal-box now used as a platelayer's cabin. Outside the fence, between this cabin and the actual point of derailment, there is a small pond in the field adjoining the railway. A disused wagon-way crosses the adjoining field in a south-easterly direction, and terminates at the railway fence, between the pond and the site of derailment.

Measured from the disused signal-box, the approximate distances to the under-mentioned stations, mile posts, etc., in the vicinity of the derailment are as follows :—

Annitsford Station	1 mile	632 yards	south.
Dudley Colliery signal box	1 mile	255 ,,	,,
Dam Dykes signal-box and level crossing		864 ,,	,,
No. 9 mile post from Newcastle ...		130 ,,	,,
Pond in field on east side of railway ...		66 ,,	north.
Point of derailment		88 ,,	,,
Dam Dykes up distant signal		93 ,,	,,
Cramlington signal-box		719 ,,	,,
Cramlington Station		1,418 ,,	,,

Report.

1. I examined the scene of this accident on the early morning of the 12th May. At that time the second and third coaches had been moved from their positions across the down line, and the leading end of the fourth vehicle, which had been foul of the down line, was shifted eastward, its front end being supported by timbers. The rails of the down line, which had been put out of alignment by contact with the bogies of the second and third vehicles, had been lined up and the up track made good. This was necessary in order to establish single line working on the down road. The engine, first coach, and the fifth and sixth vehicles, were in the positions they assumed after the accident, and no alteration or repair had been made in the condition of the up track under these vehicles subsequent to the derailment. I found the point of derailment at a rail joint in the left hand rail situated under the fifth coach (No. 6443J), all four wheels of the rear bogie under this coach being in position on the rails north of the point of derailment. The left hand rail in advance (south) of this rail joint was lying outside the sleepers alongside the track. I examined the rail and found it straight, unmarked by wheels, and undamaged at both ends. The central interval between the

sleepers on each side of this rail joint was 2 feet 5½ inches, and the projecting leading end of the rail, north of the point of derailment, was 1 foot 7¾ inches from the centre of the northerly of the two rail joint sleepers. The sleeper south of the rail joint was undamaged, and the left hand chair on this sleeper was in position and unbroken. The inside rounded lip of the higher (outside) jaw of this chair had been scraped off vertically, and the top of the lower (inside) jaw was smoothly indented. The right hand rail, corresponding to the left hand rail which was found lying alongside the track, was in position in its chairs, with the rail joints at each end secure, but with most of the keys knocked out. The up line track in front of this pair of rails was completely destroyed as far as the position assumed by the first coach, the left hand rails being bent, and in some cases broken, all the chairs smashed, and the sleepers broken into splinters and driven forward into the ballast out of their original positions.

2. At my inquiry on the 13th inst., Mr. J. H. McIlvenna, Assistant District Engineer, gave evidence that he had established a patrol of six volunteer platelayers, under the leadership of one of their engineering assistants (Martin). It was the duty of this patrol to inspect daily the permanent way of the section of the railway in the neighbourhood of the accident. This inspection had been made daily during the Strike, and had not been interfered with prior to the 10th instant. Mr. McIlvenna arrived on the scene of the accident about 3 p.m. He found one length of outside rail of the up line was out of position, lying alongside the track outside the sleepers, and held tight by the weight of ballast and pressure from the bogie or frame of the partially derailed restaurant car No. 6443J. The fishplates, bolts and nuts belonging to the rail joint between the southern end of the displaced rail and the northern end of the rail terminating the sound track, were then missing, with the exception of one broken fishbolt, which was found in the four-foot way. A little later, he had the displaced outer rail released, and examined it with Permanent Way Inspector Pemberthy. It was straight, undamaged, and unmarked. The other outside rails of the up track, in the area affected by the derailment, were greatly distorted and in some cases broken. The other portion of the broken bolt, with the nut still screwed on, was picked up later. The nut shewed indentation marks of having been struck by heavy hammer blows. The south end of the rail terminating the sound track, which he thought was obviously the actual point of derailment, shewed on the outside face of the top flange new bright indented marks on the metal, such as would be expected if hammer blows had been struck at the nut head of the fishbolt underneath the rail head. Three other fishbolts were subsequently found, two of which had the nuts loosely threaded on. The fourth fishbolt nut, together with about 27 chair keys, were picked out of the small pond in the field adjoining the railway. Mr. McIlvenna saw Inspector Pemberthy, while searching for any tools which might have been used, discover in some scrub and grass outside the railway fence, a fishplate with hammer marks on it, a sledge hammer marked M.D., N.E.R., a platelayer's pinch bar, and a screw key which fitted the fishbolt nuts. He stored these tools, fishplates, bolts and nuts, and produced them at my Inquiry.

Mr. McIlvenna offered the definite opinion that the derailment was due to the removal of the fishplates from one or more rail joints, and of keys from the chairs under more than one rail length, by some persons unknown. He was unable to state definitely whether the loosened rail had actually been taken out of its chairs before the train arrived, or whether it was thrown out of its position in the chairs by the locomotive. He thought that all the chairs found over the disturbed area of the up track were broken across the base. If the rail had been left loose in the chairs and was thrown out of position by the engine, he would have expected to find the jaws of the chairs broken off. If, on the other hand, the rail was actually toppled out of position in the chairs before the train arrived on the scene, the fishplates and bolts at the leading (south) end of the displaced rail must also have been removed.

Mr. R. W. Martin, Engineer's Assistant, Northern District, gave evidence that he patrolled the main line on the 10th instant between Benton Quarry, 4 miles north of Newcastle, and Plessey, about 11 miles from Newcastle. He left Benton Quarry with six volunteer platelayers at 10.40 a.m., and arrived at Dudley Council Houses near Annitsford Station without interference. At this place men and women commenced throwing stones and clods of earth, accompanied by foul language. The patrol, however, continued on their way past Dudley level crossing, attending to the keys on both lines of road, and reached Dam Dykes crossing about 12.50 p.m. This crossing was in charge of an ex-Police Constable (L.N.E.R.) with three assistants.

They went forward along the railway, and arrived at the old signal-box, now used as a platelayer's cabin, which is about mid-way between Dam Dykes crossing and Cramlington Station, about 1.20 p.m. He found the cabin window had been removed, and could see the platelayer's tools inside. The line was in good order at the point of derailment, all keys being in position about 1.25 p.m. He then heard shouting, and on looking eastwards towards Cramlington Colliery, saw men and youths running towards the line shouting "Kill the———blacklegs, get hold of their gear"—meaning the platelaying hammers, which the patrol were carrying. A perfect shower of stones was thrown at them as they started to run along the railway. A crowd of about 100 followed them along the line throwing stone ballast, one of his patrol being struck behind the ear, and Mr. Martin himself on the leg. The crowd followed the patrol for about 200 yards, and then returned southwards along the railway in the direction of the platelayer's cabin.

On arrival at Cramlington Station Mr. Martin told the station master what had happened and left the platelayers' hammers in his charge about 1.40 p.m. He then left the station master's house, and proceeded northwards along the railway when he saw the smoke of an approaching train. This afterwards proved to be the 10.0 a.m. Edinburgh to King's Cross passenger express. He stood in the four-foot way and stopped the train by waving his arms. The train stopped about 300 yards north of Cramlington Station. The time would then be about 1.50 p.m. He warned the driver, and one of the guards, to expect a hostile crowd at the platelayer's cabin, and then boarded the train with the rest of the patrol. After passing the two bridges south of Cramlington, Nos. 57 and 58, he saw a number of men running away from the railway, and shortly afterwards the coach he was riding in—the third from the engine—rocked violently, the electric lamps and dishes on the tables being thrown on the floor. Two naval men, a passenger, and Mr. Martin himself, were quickly out of the train, and gave chase to some men who were running away across the field from the scene of the accident, but could not overtake them. He then examined the permanent way, and found an outside rail of the up road had been tampered with, the fishplates and bolts at the trailing (north) end of this rail having been removed. The rail which had been removed was found lying nearly parallel with the track, outside the ends of the sleepers. He formed the opinion that the rail had been taken out of the chairs before the train arrived at the spot, because after careful examination no marks of wheels, or out of line, were found on it. The inner corresponding up rail had the keys removed, and the bolts of one of the fishplate joints had been loosened. On the down track also, he found that one of the nuts of a bolt in a fishplate had been eased about 1 inch, whilst the other three bolts shewed signs of having been tampered with. Several of the keys in the chairs on the down road had also been removed. The missing fishplates of the left hand rail joint, as well as tools, were found in his presence. He estimated that the derailment took place at 2 p.m. Police and railway officers arrived on the site between 2.30 and 3 p.m.

Mr. C. S. Clayton, volunteer platelayer, gave evidence that he was one of Mr. Martin's patrol gang, and confirmed the latter's evidence in respect of the stone throwing and foul language which they encountered at Dudley Council Houses. They, however, took no notice but continued their work of inspection northwards, passing the disused signal-box as far as the first bridge which crosses the railway, a distance of about 300 yards. It was in the vicinity of this overbridge that a crowd of people began to attack them with stones. They were followed by this crowd about 100 yards and had to take to their heels.

Mr. R. R. Pemberthy, Permanent Way Inspector of Manors district, who had had 18 years' service as Permanent Way Inspector, arrived on the scene about 5 p.m. He stated that at the actual point of derailment he found a fishplate and a broken bolt lying at the end of a sleeper. He then cleared the ballast off the rail, which was lying outside and alongside of the track, and found it straight, undamaged, and unmarked. He concluded that the rail had been taken out of the chairs before the accident, and placed alongside, and that the fishplates at both ends of the rail must have been removed to allow of this being done. The men responsible must have either had the necessary tools, or have been in sufficient numbers to turn the rail in the chairs and lift it out. Outside the railway fence he found under some bushes a quarter (sledge) hammer, a screw key, a pinch bar, and one fishplate, which paired with the one he had found adjoining the sleeper. He also counted wooden pegs, to the number of 24, which had been taken out of the pond.

3. T. R. Graham, County Police Sergeant of Cramlington Village, stated in evidence that he was in the village talking to a farmer when his attention was drawn by the latter to the fact that a train had been upset and that it was on fire. After telegraphing for assistance to the Police Superintendent and for a Doctor, he bicycled to the scene of the accident and arrived there about 2.10 p.m. He noticed a number of people coming from West Cramlington Colliery going towards the scene. Any person that was at the place when the derailment occurred got away before he arrived. On his arrival, he assisted in releasing from the train a passenger who was injured. In his opinion the accident was due to damage to the track done by some unknown person or persons.

4. R. Sheddon, regular driver employed at Haymarket Depot, Edinburgh, who had 36 years' service with the North British and London and North Eastern Railways, was in charge of engine No. 2565, and worked the 10 a.m. passenger train from Edinburgh on the 10th instant. The continuous brake (vacuum) was in good order, and he had no difficulty in maintaining a pressure of 20 inches. The train left Edinburgh at 10.9 a.m., and at Berwick, as he did not know the road to Newcastle, a conductor driver, Thomas Wedderburn, joined him on the footplate. In addition there were two volunteer firemen. He got off the engine when the train was stopped north of Cramlington and spoke to Mr. Martin. He learnt of the trouble south of Cramlington Station, and subsequently warned Wedderburn to be very careful. He expected, from their experience at Prestonpans, and one or two other places between Edinburgh and Berwick, that the trouble Mr. Martin referred to would be of the nature of stone throwing by persons on bridges and on the track. No stoning, however, took place on this occasion. When they came to the point where derailment took place, the engine began to wobble from side to side. It then dropped off the road towards the left, ploughed its way through the ballast, turned over on to its left side and came to rest partially supported by a small bank of earth. He did not notice as the engine approached the place, that any rail had been taken out of the up track, but had the impression that a rail was loose in the chairs. One of the volunteer firemen, Aitken, got slightly scalded, but he and driver Wedderburn were not injured in any way. The engine was running very steadily before reaching the point of derailment, at a speed of probably twenty miles an hour. Wedderburn shut off steam and applied the brake just after the derailment, and before the engine had overturned. He had previous experience of engines coming off the rails, but the first sensation on this occasion was different, and resembled what would be felt with an engine wobbling from side to side on insecure rails, before it actually dropped off the road. He was standing on the right hand side of the footplate behind Wedderburn, who was driving at the time. He did not notice any persons within the railway fence, or in the adjoining field, until after the derailment, possibly because the firemen standing on the left of the footplate obscured his view in that direction. But he noticed people in the field after the engine had come to rest. These people were standing in a row alongside the railway, laughing and gesticulating, before the police came on the scene. He was unable to leave the engine until he had damped down the fire with earth, and taken other necessary precautions.

R. Aitken, volunteer fireman, with $6\frac{1}{2}$ years' engineering experience, was firing with another volunteer (Hird) with drivers Sheddon and Wedderburn. He was on the left of the footplate behind Hird. He noticed, as the engine passed under bridge No. 57 north of the scene of derailment, that people were standing on the bridge. Automatically, the men on the footplate went under cover of the engine cab, as they had frequently had missiles hurled at them from overbridges since the Strike commenced. On this occasion no stones were thrown, and his first sensation of the derailment was a slight joggling on the engine for a distance of 10 to 15 yards, similar to that felt when an engine passed over points and crossings. This joggle preceded the drop to the left which was caused when the engine wheels left the rails. From his experience of motor speeds, he thought that the speed of the engine might have been from 20 to 25 miles an hour, but certainly not more. After the engine came to rest, finding the men on the footplate were all right, he crawled out on to a small bank of earth, and helped some passengers out of the second coach. He noticed people in the adjoining field after the accident. Their attitude was distinctly hostile. They did not throw stones actually, but they laughed, and it was certainly not a time for laughter.

T. Wedderburn, permanent driver, stationed at Tweedmouth locomotive depot, stated that he had 39 years' service with the London and North Eastern Railway, including 27 years driving. He joined the train at Berwick and drove to the scene of the accident. They stopped at several places south of Berwick to open the gates of level crossings which were across the railway, but were not booked to stop at any station. Wedderburn confirmed the foregoing evidence relative to the stop made by the train north of Cramlington, and thought the warning received there referred to stone throwing. All the windows of the engine cab had been broken by stones on the down journey between Newcastle and Berwick on the 8th instant. On this occasion he gave his complete attention to the track before him, and if there had been a gap in the rails on either side before the engine ran over it, he would certainly have noticed it. The first impression he received of the derailment was that the engine wobbled for a distance of six or eight yards before the wheels dropped off the rails to the left. He applied the continuous brake with full force immediately he felt the engine wobble. There was steam escaping after the engine overturned and he shut off the valves. He afterwards noticed men in the field alongside the hedge close by the engine, but could not say when they arrived. They were laughing and treating the incident as a joke and gave no assistance. They were not wearing railway uniform.

T. Brown, passenger guard, who had 37 years' service with the North British and London and North Eastern Railways, was in charge of the train from Edinburgh to Newcastle. He rode in the last van from Berwick. After the stop made by the train north of Cramlington he went forward to the front, asked the passengers who were standing in the corridors or gangways to get inside the compartments, and had all the blinds pulled down. He did this as there had been stone throwing on the previous trip, between Killingworth and Forest Hall south of Cramlington. He was in the corridor of the fourth or fifth coach from the front when the crash took place. He immediately got out of the coach on the left hand side, and saw there were five or six men inside the railway fence, and about the same number outside the fence. When they saw him they got over the fence and ran away. He followed them and noticed that one man in rear was without a coat or waistcoat as he ran across the field. This man stopped midway in the field and picked up some stones, calling to the men in front of him, who were running away, to come back. They did not do so, however, and Brown continued to follow the man. Before he got to the fence on the far side of the road however, he noticed a number of men standing in the roadway looking into the field. They came out of the roadway into the field on his right and left and would have surrounded him, so he returned to the train. The men advanced through the field and stopped about midway. On his return to the train he went back northwards to protect it in the usual manner. Both men and women came into the field, and stood laughing and jeering. He had made previous journeys with the train between Berwick and Newcastle on the 7th and 8th instants. On both occasions stones were thrown at the train in the vicinity of the accident. He estimated that the speed of the train when it was derailed was 15 miles an hour. The accident happened at 2 p.m. exactly, in accordance with his watch.

R. Murray, volunteer ticket collector, was first employed during the Strike in learning the duties of signalman. He then acted as ticket collector at Waverley. On the 10th he joined the 10 a.m. from Edinburgh as travelling ticket collector. He gave evidence that there were from 250 to 275 passengers on board the train. After the stop near Cramlington, he was walking from the front to the rear of the train, and met four or five of the gang of men that were picked up. He got out when the train had stopped, but did not see any persons standing inside the railway fence. He noticed, however, twenty or thirty who were running away from the railway along the old wagon way. He got over the railway fence and started running across the field in the direction the men had taken, but shortly stopped and went back to the train, as he thought he would be more useful looking after the passengers. He saw guard Brown and a civilian, a passenger, running after the men. About ten or fifteen minutes after the derailment he noticed quite a crowd of people coming towards the railway. They got within 30 or 40 yards of the railway fence and he saw a policeman and a passenger keeping them back. They were quite close to the railway, and were laughing and seemed quite pleased with what had happened. One man, indeed, came forward and spoke to him offering assistance, but he was waved away by the policeman.

J. Fletcher, passenger guard, with 46 years' service on the Great Northern and London and North Eastern Railways, worked the train from King's Cross to Newcastle on the 8th, and from Newcastle to Edinburgh on the 9th, and was with the 10 a.m. from Edinburgh on this occasion. On the 9th instant, when stopping to open the gates at Dam Dykes crossing, a crowd of youths stood alongside, and broke about 20 of the windows in the train with stones after the train started. When the accident took place on the 10th he was in the corridor of the kitchen car, and got out on the near side within half a minute of the derailment. He noticed nobody inside the railway fence at the time, but there were a number of people in the adjoining field.

Conclusion.

1. My examination of the permanent way at the scene of this derailment, and the evidence given by Mr. Martin in charge of the patrol, leave no doubt in my mind, firstly, that, about 1.25 p.m., the rails, keys, and joints of the down main line at the spot where the engine left the road were in position and the track of both lines generally in good order; secondly, that between 1.25 p.m. and 2 p.m. malicious interference with a pair of rails of the down line took place by persons unknown. The interference, in my opinion, comprised at a minimum the removal of a pair of fishplates from a joint of the left hand rail of the down line—three of the four fishplate bolts having been unscrewed, and the fourth broken—and of the wooden keys from the 17 chairs (in front of this joint) which kept the 45 feet rail in position. So much is proved beyond any manner of doubt by the discovery in the immediate vicinity of the down line, or in the field and pond 25 yards east of the railway fence, of a pair of undamaged fishplates; of four fishplate bolts, one broken with a nut attached at one end, and three undamaged, two of which had nuts loosely screwed on; and of from 24 to 27 wooden keys. In the field were also found a quarter hammer, platelayer's pinch bar, and a screw key which fitted the nut heads of the fishbolts. This degree of interference, even if the rail had been left in the chairs, would undoubtedly have caused the derailment of the engine.

In the opinion of the two engine drivers, and of volunteer fireman Aitken, this left hand rail was in position in its chairs when the engine ran over it. Their view is supported by the fact that on the footplate they experienced a preliminary wobbling movement, as if the engine wheels were travelling over a loose rail, or over points and crossings, before they felt the drop occasioned by the wheels coming off the rails. Driver Wedderburn, moreover, stated that he was keeping a very careful look out, and would have noticed if there had been a gap in either line of rail before he ran over it.

2. I give full weight to this evidence. But it must be remembered that the rail in question was found lying outside the ends of the sleepers and alongside the down track, straight, unmarked by wheels, and undamaged. The conclusion in my opinion is inevitable that the fishplates at the leading (south) end of this rail must also have been removed, though up to the time of my inquiry these fishplates and bolts had not been discovered. Otherwise the rail could not have been found straight and undamaged with the fishplate bolt holes intact, after the engine had passed over it. The first left hand chair immediately in advance of the joint at the north end of the rail which was removed, was also found unbroken, and in position on the sleeper. If the opinion of the engine drivers be accepted, the rail must have been in position in that chair, and I think it is not possible that the loose rail could have been toppled out of its position by the engine wheels without breakage of the outside jaw of this chair. I think, moreover, that a loose rail turned out of its chairs by engine wheels riding over it, even if the fishplates at each end had been removed, would not have been found outside and parallel with the track in an undamaged condition.

I think also that the men on the footplate, at all events in the vicinity of the derailment, would naturally have crouched forward, as stated by Aitken, to get as much shelter as possible from the expected storm of missiles. They would not, especially in the case of an engine with so large and long a boiler, have then been in a position to obtain a good view of the track before them. The drivers in particular, being on the right hand side of the footplate, might consequently not have been able to see whether there was a gap in the left hand rail, after passing under the road bridge 300 yards from the scene of derailment, before they actually reached the spot.

For these reasons, I have formed the opinion that not only were the fishplates at both ends of the rail removed, but that the rail itself also had been toppled out of the chairs before the derailment, and either levered or lifted into the position in which it was found.

It also appears, from the fact that keys had been removed from the chairs under the right hand rail of the down track, and a fishplate bolt loosened at a rail joint on the up track, that the persons engaged in interference with the track were interrupted in their work of sabotage by the approach of the train.

The damage to the permanent way and stock resulting from the derailment was in my opinion such as might be expected if the train had been travelling at a moderate speed of about 20 miles an hour.

3. My final conclusions on the case therefore are :—

(*a*) That the Railway Company were taking such measures as were possible by patrolling the line, to ensure that the permanent way was in order for the passage of trains.

(*b*) That the train in question was travelling at a moderate speed when it was derailed, and that the circumstances were such that no responsibility attaches to any of the enginemen or railway personnel for the derailment.

(*c*) That the derailment was due to action by persons unknown, who maliciously removed a left hand rail from the down track, and were engaged in further interference on both the up and down tracks, when the train approached the scene of accident. It appears therefore that a number of persons must have been engaged in this case of sabotage.

I have the honour to be, Sir,

Your obedient Servant,

J. W. PRINGLE,

Colonel.

The Secretary,

Ministry of Transport.

APPENDIX.

I. DAMAGE TO PERMANENT WAY.

(*a*) Up line	10 rails bent or broken. 68 sleepers and 136 chairs destroyed.
(*b*) Down line	2 rails bent

II. DAMAGE TO STOCK.

(*a*) Engine	Side rods and Walschaert gear bent and brake rigging broken and damaged, with other minor breakages.
(*b*) Carriage No. 1060	Both bogies ripped off ; 2 van doors broken ; 2 axle boxes broken ; offside cleading, doors and light broken.
No. 149	Both bogies ripped off, both sides and side panels badly damaged ; four doors pulled off ; windows broken ; one bogie frame bent, one end knocked in and vestibule frame bent ; corridor partition damaged and displaced ; one axle box broken.
Articulated Set. No. 6441J.	One door and one side light broken ; 2 ends damaged ; 2 footboards broken ; 1 buffer rod broken ; leading bogie ripped off.
Articulated Set. No. 6442J.	Derailed at second and third bogies.
Articulated Set. No. 6443J.	Derailed at third bogie.