

METROPOLITAN AND METROPOLITAN DISTRICT RAILWAYS—(SOUTH KENSINGTON JOINT STATION).

Railway Department,
(Board of Trade.)

Whitehall, 3rd August 1871.

Sir, In compliance with the instructions contained in your minute of this day, I have the honour to report, for the information of the Board of Trade, the result of my inquiry into the circumstances which attended the accident that occurred last evening at the South Kensington station, which is now the joint property of the Metropolitan and Metropolitan District Railway Companies.

In this case the 8.20 p.m. Metropolitan District Company's train from the Mansion House to Moorgate Street, came into collision, at the entrance of the tunnel at the west end of the South Kensington station, with the 7.16 p.m. Metropolitan Company's train from Moorgate Street to South Kensington, as the latter train was crossing the line by which the former train was starting from the station. Thirty-one passengers, principally in the train from Moorgate Street, and a guard, were more or less injured.

At the South Kensington station there are at present six lines of rails, of which two are main lines between Moorgate Street and the Mansion House; and two run between High Street, Kensington, and the Mansion House; while one, situated between the two former and the two latter, is a dock-line, leading towards the Moorgate Street station; and the sixth, on the north, is a dock-line leading towards the Mansion House station.

Up to the 3rd July there were only two main lines of the Metropolitan Railway in use through the South Kensington station, which was opened for traffic under the sanction of the Board of Trade in December 1868 with these two lines of rails only; but certain works were commenced in March last, with the view of constructing and employing the other four lines through or in the station; and the junction between the Metropolitan and the Metropolitan District Railways was, as a part of the scheme, transferred from the west end to the east end of the station. The dock-line on the south of the station has not yet been brought into use; but what I may call, for the sake of distinction, the Metropolitan District lines through the station, have been used, without the sanction of the Board of Trade, since the 3rd July; and the dock-line intermediate between the Metropolitan and Metropolitan District lines, has been used, also without the sanction of the Board of Trade, since the 1st August. It is to this latter dock-line, in combination with the two Metropolitan main lines on the north of the station, to which I have now occasion particularly to refer; as well as to a cross-over road, to connect the two main lines, which has been laid in the tunnel on the west of the points connecting the dock-line with the up line.

Under the new arrangements above described, the position of the signal-cabin appears to have been changed, and three signals have been placed on a pillar on the island platform between the Metropolitan main lines and the Metropolitan dock-line. The upper signal of the three applies to a train starting from South Kensington to Moorgate Street, the second signal applies to an engine proceeding in the same direction, and the third signal applies to an engine to be turned into a siding at the west end of the station. Similarly, there are two signals, the one for a train and the other for an engine, applying to the Metropolitan line next to the north platform, to be used in the event of a train being started back towards Moorgate Street from that line; and there are two other signals, the one for a train, and the other for an engine, applying to the intermediate dock-line.

The signal to which I have specially to call attention is the uppermost of the three signals above referred to on the island platform, which was, as well as the two signals under it, connected with the signal-box in the first instance in a temporary manner, by means of wires, pending the more permanent arrangement of connecting it with the box by means of rods.

The three signals are stated to have worked satisfactorily with their temporary connections; but Messrs. Saxby and Farmer (the manufacturers of the signals) proceeded yesterday morning, the 2nd August, to substitute permanent rod-connections for the temporary wire-connections. The rods from the signal cabin along the dock-line had already been laid in; and it was estimated that the work which required to be done, in preparing for and fixing the cranks and connections with the rods, and in taking away the connections between the signals and the wires, would occupy about three hours.

A foreman employed by Messrs. Saxby and Farmer came, accordingly, to the station at 6 a.m. yesterday, and, after communicating with the inspector and signalman on duty, but without permission from the company, disconnected the signals from the wires by which they had thus been temporarily worked, and began to make his preparations for putting in the permanent connections;—expecting that those permanent connections would arrive at the station by the time he was ready for them. On finding that they did not arrive, the foreman again communicated with the signalman and the inspector, and informed them that he was obliged to leave the station, in order to do some work which was urgently required on the Earls Court line, where an officer of the Board of Trade was expected in the course of the day, to inspect the new signals at Addison Road.

The signal-foreman returned to the South Kensington station at 2.30 p.m., but found that the permanent connections were still wanting; and he therefore went on with other work at the station until 6.30 in the evening, when they at length arrived. He at once set to work to attach them; but he did not complete, even the upper signal until 11.30 that night, and it was half past two on the following morning before the whole of the three signals were finished.

According to the statement of the inspector on duty, the foreman reached the station between six and seven o'clock in the morning; and he then remonstrated, in the first instance, against the alterations being made at all at so busy a time; but the foreman denies that such a remonstrance was made at that time by the inspector. The inspector further states, that the foreman next informed him that he "must" do the work in accordance with his instructions; and the inspector then said he should have, in that case, to do the best he could in working with hand-signals in place of fixed signals. The inspector heard nothing more from the foreman before he went away from the station; and was much surprised to find that he had left the signals in a disconnected state. On the return of the foreman, at 2.30 in the afternoon, the inspector remonstrated again with him for having gone away, for leaving the signals disconnected, and for having caused him to work for so long a time with hand signals; and he then asked him how long it would take to finish the work. The foreman replied that he had been called away on other urgent work, and he could not tell when the signals would be completed, as he was still waiting for the fittings. The inspector then threatened to report him to the out-door superintendent of the line, and he made the following report before leaving duty at 3 o'clock:—

METROPOLITAN RAILWAY.

Memorandum.— August 2nd, 1871.
From South Kensington to King's Cross.

Sir,

I beg to report that Mr. Saxby's men came this morning at 7 a.m., and disconnected the up main line starting signal, and then they all left the station and the signal disconnected, and not any of them returned to attend to it till 2.30 p.m., and in consequence all the up main line trains had to be signalled with a flag from the signal box.

I am, Sir,

Yours obediently,

T. EXALL.

Mr. Crapp.

The traffic worked without accident under this system (with hand signals) until about 8 20 in the evening; and the inspector, who relieved the previous inspector at that hour, made it his business, on finding that the signals were disconnected, to stand at the west-end of the island platform, and there to satisfy himself, by close observation of the hand-signals made by the signalman, that the line was clear, before he allowed any train for Moorgate Street to leave the station. He was still taking this precaution when the 8 o'clock train from the Mansion House reached South Kensington, and drew up at the station at 8 19 or 8 20 p.m. Before starting this train, he looked towards the signalman's cabin, and saw a green light there displayed; and he gave, accordingly, a signal to the guard, who communicated with the engine-driver by his hand-flag at 8 21; and the train was then put in motion, very nearly its proper time, for Moorgate Street.

This train consisted of a tank-engine and eight carriages, of which the two first and the three last were fitted with continuous breaks. The engine-driver saw the green light displayed from the signal cabin, received the signal to start from the hand-flag of the guard, and, knowing from his previous journeys, that the signals were out of order, he started in obedience to these instructions towards Moorgate Street. He had not gone many yards before he saw two white lights on the head of an engine in the tunnel, which was crossing towards the up line, and approaching the station in the opposite direction. He shut off his steam, reversed his engine, whistled for the breaks, re-applied his steam, and had already got his train into backward motion before the engine of the train from Moorgate Street came into collision with it. The buffer beam of his engine was shattered, but the engine was not otherwise much damaged; and neither the engine nor any of the carriages were thrown off the rails.

The train from Moorgate Street consisted of a tank-engine and four carriages, of which the first and last were break-carrriages. It left Gloucester Road about 18 minutes late, and the engine-driver, as he approached South Kensington, found the signals turned off for him to run into the station, and the points of the cross-over road in the tunnel set for him to run from the down to the up line, which he had to cross in order to reach the dock-line. He was approaching the east end of the tunnel at a speed which he estimates at five or six miles an hour, when he saw the head light of the Metropolitan District train approaching on the up line in the opposite direction. He was about to open his regulator, and to apply a little more steam to run into the station; but, on seeing the District train, he reversed his engine, applied his steam, and endeavoured to pull up. The fireman and guard had not time to apply their breaks, but the breaksman in the front of the train had his break partially applied. The engine-driver considers that he had only 12 to 15 yards of warning, and that his speed was therefore hardly reduced before the collision took place. The buffer-beam, buffer, and brackets, as well as the guard-iron and bogie of this engine, were somewhat damaged, but neither the engine nor any of the carriages left the rails. The buffers and rods of the carriages were, however, more or less fractured, and, as already stated, 31 of the passengers, principally in this train, as well as the guard, have complained of injury.

There were in the signal-cabin at the time of the collision two signalmen;—one signalman who had been there and in the previous cabin at the same station for about 10 months, and who had previously worked the signals at the Notting Hill Gate Station for 12 months;—the other signalman, who had been employed for two years in the Praed Street cabin, and had been for four days learning the duty in the South Kensington cabin. The latter, under the instructions of the former, worked the points and signals for admitting the train from Moorgate Street into the South Kensington Station, and for turning it from the down to

the up line in the tunnel; and while this train was approaching, as they were aware, in consequence of its having been telegraphed from Gloucester Road, the regular signalman directed his mate to show a red light to the train from the Mansion House, which had meanwhile been admitted to and was standing at the platform. The latter took his hand-lamp, for the purpose of so exhibiting a red light, but he turned the handle of the hand-lamp from right to left, in place of from left to right, as he should have done, and he thus exhibited a green instead of a red light to the Mansion House train. The green light is used at these stations, and on this railway generally, in place of a white light, as a signal to start or to proceed;—it being considered that, as all movements should be made with caution, it is better not to exhibit a white light to the engine-drivers, either in the hand-lamps or in the fixed signals used on the line; and a signal of "all right," in place of a signal of "danger," was thus virtually made to the engine-driver of the train for Moorgate Street, and to the inspector, who was also guided by it in starting that train.

The collision was, therefore, directly caused by a mistake of the signalman who was under instruction in the signal cabin, and who, while deprived of the use of the fixed signals, and of the locking-apparatus by which their action was controlled, exhibited, by a turn of his wrist in the wrong direction, a signal to start instead of a signal to stop to the engine-driver of the train for Moorgate Street. The mistake could not have been made if the fixed signals and their locking apparatus had been in good working order, either with temporary or with permanent arrangements, because the lever, which actuated the starting signal for Moorgate Street, would, in that case, have been mechanically immovable while the signals were down, and the points were turned over, to admit the train from Moorgate Street across the up-line to the dock-line. The signalman made a mistake,—with a description of hand-lamp which is capable of improvement,—which any man is liable to make under similar circumstances; and no blame can obviously be attached to the engine-drivers of the trains, who simply obeyed the signals which were made to them; but the constant and important traffic which is carried on at South Kensington ought not to have been exposed to the risk of accident from such a mistake, and particularly at so dangerous a spot. The alterations to the signals should not have been commenced until after the arrival of the necessary fittings, and should then have been carried out within the shortest possible time. They should have been made during the night, when the trains were not running, and not in the daytime. The fact of the signals having been left disconnected for a whole day, from 7.0 a.m. to 11.0 p.m., and even 2.30 the next morning, without the sanction of the company, by the mere act of a foreman of the signal manufacturers, at so important a station, indicates that some improvement is wanting in this respect; and I would submit, not only that the company's permission should, in such a case, be formally obtained, but also that the alterations should be carried out under the supervision of a responsible officer of the company. The crossing from the down-line, across the up-line, to the dock-line, being so awkwardly situated in the tunnel, and being subject to so much traffic, it appears to be further desirable that it should, by an altered construction and laying out of the station, be avoided.

This collision led, unfortunately, to a second accident; but I retain my report upon this latter case until I have an opportunity of examining an inspector at Gower Street, and, if possible, the out-door superintendent of the company, who has been so much upset by these occurrences as to be, from severe illness, incapable, at present, of giving evidence.

I have, &c.

H. W. TYLER,

*The Secretary,
(Railway Department),
Board of Trade.*