INTERSTATE COMMERCE COMMISSION

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REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURED ON THE NEW YORK, NEW HAVEN,& HARTFORD RAILROAD NEAR WORCESTER, MASS., ON MAY 29, 1925.

September 28, 1925.

To the Commission:

On May 29, 1925, there was a derailment of a passenger train on the New York, New Haven & Hartford Railroad near Worcester, Mass., resulting in the death of one employee, and the injury of one passenger and one employee. This accident was investigated in conjunction with a representative of the Massachusetts Department of Public Utilities.

Location and Method of Operation

This accident occurred on the Providence Division, which in the vicinity of the point of accident is a single-track line over which trains are operated by time-table, train orders, and a manual block-signal system. The accident occurred within yard limits, 1,100 feet east of the west yard-limit board, this point being 1.33 miles west of South Worcester station, at a switch which leads off the main track to the left or south to what is known as the Linde Air Products siding, approaching this point from the east the track is tangent, followed by a 1° 30' curve to the left 981 feet in length and then a tangent of about 1,150 feet to the point of accident, and for a considerable distance beyond. The grade is slightly ascending for westbound trains. The switch stand is located on the engineman's side of a westbound train and the switch is a facing-point switch. Automatic signal G 69.9, governing certain yard movements only, is of the two-position, upper-quadrant, semaphore type, and is located 7,215 feet east of the switch, this signal works in conjunction with the switch.

The track is laid with 100-pound rails, with an average of 20 ties to the rail-length, well ballasted with gravel. The switch is a No. 10 turnout, with a curvature of 7° 10', tie plates are used at and in the vicinity of the switch. The general maintenance of the track is good.

The weather was clear at the time of the accident, which occurred at about 1:05 a.m.

Description

Westbound passenger train No. 93 consisted of two mail cars, one express car, one combination car, one coach, and four Pullman sleeping cars, all of steel construction, hauled by engine 1326, and was in charge of Conductor Reinecke and Engineman Early. This train left Worcester at 12:54 a.m., four minutes late, and was brought to a stop at signal G 69.9, which was displaying a stop indication, it then proceeded, and on reaching the switch leading to the Linde Air Products siding was derailed while traveling at a speed estimated to have been between 20 and 25 miles an hour.

Engine 1326 came to rest on its left side, between the siding and the main track; the tender was torn from its frame and came to rest on its side, south of the siding and opposite the engine. The first three cars and the forward truck of the fourth car were derailed, but these cars remained practically upright; the first car came to rest across the siding, its head end being south of the tender and its rear end fouling the main track, while the next three cars were in line with the main track, the last of these coming to rest spanning the switch points. The employee killed was the fireman.

Summary of Evidence

Engineman Early stated that signal G 69.9 was displaying a stop indication, that he brought the train to a stop and then proceeded. Approaching the switch he observed that the switch lamp was burning properly and displaying a green indication, but on reaching the switch the fireman shouted and Engineman Early applied the air brakes in emergency. Immediately after the accident he examined the switch and found the switch lock hanging on the end of the chain, unlocked, and the switch lever in normal position; the switch points, however, were slightly open.

Conductor Reinecke was riding in the fourth car at the time of the accident. He examined the switch immediately afterwards and at that time the switch lamp was burning properly, a green indication being displayed, and the switch lever was in its proper position, while the switch points were lined for the main track, the switch lock, however, was suspended by the chain, unlocked. He crawled under the car that spanned the switch points in order to examine them but did not see any opening between the points and the stock rail. He also looked carefully around the switch for any foreign substance that might have caused the derailment,

but found nothing of this character, while the track appeared to be in good condition. Conductor Reinecke estimated the speed to have been between 20 and 25 miles an hour at the time of the derailment.

Flagman Haughs immediately went back with flagging equipment and protected the rear end of the train, while Baggagemaster Ryant protected the head end; the statements of these employees brought out no additional facts of importance.

Division Engineer Ruff, who arrived at the scene of the accident about 4½ hours after its occurrence, said the first mark of derailment appeared on the south switch point, consisting of a small nick at the extreme end of the point. His statements as to the condition of the switch and its appurtenances also practically agreed with those of Conductor Reinecke. Division Engineer Ruff said he found no track or other condition that would have contributed to the accident, and that in repairing the track the same switch points were used.

Signal Supervisor Wright made an examination to ascertain the reason for signal G 69.9 displaying a stop indication just prior to the accident and found a broken bond wire at Hope Avenue crossing, about 700 feet west of the switch, he did not know, however, whether this condition existed prior to the accident, and he had no explanation to offer as to the cause of the accident.

The switch rod lugs at this particular switch had been rubbing on the ties, and on the afternoon prior to the accident, before Section Foreman Hellen moved the headblock ties in order to eliminate this condition, Signal Maintainer Gribben unlocked the switch and disconnected the pipe line leading to the derail. After the ties had been moved the signal maintainer adjusted the switch circuit controller and it was then tested, after which the switch was closed and locked. The derail pipe line was too short to operate the derail after the headblock ties had been moved, and so he fastened the derail off the rail, and out of service, pending proper repairs, the work of disconnecting the derail pipe line in no manner affected the proper operation of the switch. He left this point about 2:20 p.m. The statements of Assistant Signal Maintainer Brady, who assisted Maintainer Gribben, brought out no additional facts of importance except that he did not look to see if the switch was locked before they finished their work and departed, it was unlocked when he looked at it about five minutes before leaving the scene.

Section Foreman Hellen stated that the switch was un-

locked when he arrived at about 2 p.m. for the purpose of moving the ties, that he performed this work and then departed before the signal maintainers had finished. At this time the switch was lined for the main track, and he thought it was locked but he was not certain on this point, the switch and track were in good condition when he left. After the accident he found a slight bend at the tip of the switch point, apparently caused by the flange of the lead wheel coming in contact with it, indicating that the switch point must have been partly open at that time; subsequently he tested the switch lock with his key and it work properly.

Assistant General Yardmaster Keevan stated that he arrived at the point of accident about 15 minutes after its occurrence and on examining the switch he found the switch lock open and hanging by the chain, the lever in the socket, and the switch lamp clearly displaying a green indication. The north switch point was turned over and lying on its side, the derailment having torn up the rail. He further stated that at 9:00 p.m., about four hours before the accident occurred, he noticed signal G 69.9 displaying a stop indication and at about 10:30 p.m., as this condition still existed, he reported it.

Signal Maintainer Gilbert was notified about 10.30 p.m. that signal G 69.9 was giving trouble. At this time the track was occupied and as it was not unoccupied until within about 10 minutes of his time for stopping work he turned over to the third trick maintainer the work of locating the trouble. Signal Maintainer Heron reported for duty at about 11:05 p.m., and was informed of the trouble with signal G 69.9. He took his lantern and started out, but had not reached the switch prior to the occurrence of the accident. He did not examine the switch until about 3 a.m., at which time the rear of the train was being moved. He found that a very small piece had been chipped off at the tip of the north switch point, while the south switch point was in good condition, at this time there was a slight opening between the switch point and the stock rail, while the switch rods were bent, due in his opinion to the derailment itself.

Track Supervisor Sullivan also noted that the switch rods were bent, indicating to him that the wheels had encountered both switch points, and he said the indications were that a wheel or wheels had gone inside of both points; he expressed the opinion that the switch lever might have been pulled out of its socket by some unknown person and the switch points partly opened.

Trainmaster Williams stated that he arrived at the

scene of the derailment about one hour after its occurrence, at which time that part of the train east of the switch had been pulled back to South Worcester, but there had been no movement over the switch itself. He found the lock in the condition previously described and then crawled under the car which spanned the switch points and found that the south switch point was open about ¼ inch, about the width of a lead pencil, while there was a slight mark on the left side of this switch point, apparently from being nicked by a wheel. He looked around the switch for any foreign substance which could have caused the accident, but found nothing of this character, he then examined the track as far back as South Worcester but found nothing to indicate that there had been any dragging equipment. Trainmaster Williams further stated that a westbound freight train consisting of 82 cars and a caboose departed from South Worcester at 6.55 p.m., May 28th, passing over the switch as a facing-point switch shortly afterwards, and that he had a message signed by Engineman Nevin of that train that signal G 69.9 was displaying a clear indication when he approached it, this being the last westbound movement prior to the accident, it also appeared that two westbound passenger trains, sections of train No. 94, due at Worcester at 11.55 p.m. passed over the switch as a trailing-point switch between this time and the time at which the accident occurred.

Yard Brakeman McAuliffe stated that he was on the switch engine that performed work at the Linde Air Products siding at 10 a.m., May 28th, and that the switch engine left this point about 10:20 or 10:30 a.m ; at this time he experienced no trouble with the operation of the switch.

A thorough and painstaking examination of engine 1326 after the derailment failed to disclose any defect that would have caused or contributed to the accident.

Conclusions

This accident was caused by a locked or partly open switch.

Careful examination indicated that there could have been no defective condition of track or equipment which would have caused the accident. The switch was last used for train movements at about 10 a.m. on the preceding day. Between 1.30 and 2:30 p.m. of that day the section foreman, signal maintainer and assistant signal maintainer had worked at the switch, the section foreman was the first to depart, and about five minutes before the signal men departed the assistant signal maintainer noted that the lock was hanging down by its chain, this being the position in which it was

found after the accident, the signal maintainer, however, stated positively that he placed the lock in the hasp and locked it after finishing his work. At about 7 p.m. a long westbound freight train passed over the switch, nothing unusual being noticed, while signal G 69.9 at the time was displaying a clear indication. At about 9 p.m. the signal was seen in the stop position and was reported to the towerman at 10:30 p.m., the towerman in turn notifying the signal maintainer. The first and second sections of eastbound train No. 94 passed the switch at 11:52 p.m. and 12:18 a.m., respectively, nothing unusual being noticed, while the train which was derailed was the first westbound train to pass after the freight train previously mentioned. After the accident a broken bond wire was discovered, as well as evidence indicating that the switch was locked at the time the accident occurred, either of these conditions would have caused signal G 69.9 to display a stop indication, consequently it is not known which of these conditions caused the signal to display a stop indication from 9 p.m. until the time of the accident.

There were no marks on the switch lock or stand to indicate that they had been tampered with, the person who opened the lock apparently being in possession of a switch key. It is possible that the signal maintainer did not lock the switch and that the vibration of passing trains caused the switch lever to be moved enough to allow the points to open, on the other hand some unknown person in possession of a switch key may have opened the swith with malicious intent, but no definite conclusion could be drawn on this point.

The employees involved were experienced men, at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P BORLAND

Director.