

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT, WHICH OCCURRED ON THE WABASH RAILWAY NEAR O'FALLON, MO., ON DECEMBER 5, 1923.

January 22, 1924.

To the Commission:

On December 5, 1923, there was a derailment of a freight train on the Wabash Railway near O'Fallon, Mo., which resulted in the death of one employee and the injury of one employee.

Location and method of operation.

This accident occurred on the Fourteenth District of the Moberly Division, extending between Moberly and Ferguson, Mo., a distance of 135 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table, train orders, and a manual block-signal system. This accident occurred on a fill about 15 feet in height at a point about 1.24 miles east of O'Fallon, approaching this point from the west the track is tangent for over $\frac{1}{2}$ mile, while the grade varies from 0.9 per cent descending to level, being practically level at the point of accident. The track at the point of accident is laid with 80-pound rails, 31 feet in length, with an average of 30 oak and pine ties to the rail length, single spiked, tie-plates on pine ties, and ballasted with about 2 feet of cinders. The gauge, elevation and alignment were in fair condition. It was clear at the time of the accident, which occurred at about 10.25 p.m.

Description

Eastbound freight train number 2008, en route from Moberly to Ferguson, Mo., consisted of 35 cars and a caboose, hauled by engine 2008, and was in charge of Conductor Hopson and Engineman Quinley. This train left Moberly, its initial terminal, at 1.20 p.m., passed O'Fallon, the last open office, at 10.21 p.m., and was derailed while traveling at a speed estimated to have been about 25 miles an hour.

The caboose was the only car derailed and after running along on the ties for a distance of about 192 feet it left the road bed and plunged to the right down an embankment, turned over and came to rest in an upright position about 390 feet from the point of derailment. The employee killed was the conductor.

Summary of evidence

After passing O'Fallon and while traveling at a speed of about 25 miles an hour, Brakeman Barnett said that from his position in the cupola he saw fire flying from under the right front corner of the caboose and about the same time the front end of the caboose commenced to raise, and he was of the opinion that the front trucks were first derailed, prior to this he had not noticed any unusual jerking or jarring of the train. He said Conductor Hepson also rode in the cupola, and was in a position to open the conductor's valve, but he did not know whether or not he succeeded in doing so. On his way back to flag after the accident Brakeman Barnett discovered a broken rail. The first intimation other members of the crew had of anything wrong was when the air brakes were applied in emergency, after which Engineman Quinley said he placed the brake valve in the emergency position and the train came to a stop within about 10 car lengths. Going to the rear end of the train he found a rail broken and about 3 feet of it missing. While Fireman Imbler said the engine seemed to ride roughly neither he nor the engineman noticed any irregularity in the track.

The rail which broke was on the south side of the track, 16 feet 10 inches west of bridge 98, and was branded Illinois Steel Company South Works Heat No. 28 IIIIII 1911, and was laid in the track in December, 1911. The rail was broken into four pieces, the lengths of which, beginning at the receiving end, were as follows: 11 feet 1 inch; 19 inches, 20 inches and 18 feet 8 inches. The fractured end of the leaving portion of the rail was beveled at the head and bent downward 3 inches, apparently by car wheels. At a point 10 feet from the receiving end of the rail and 13 inches from the first fracture, there was a diagonal scar across the ball of the rail, while there were two 7/8-inch holes, 15 inches apart, drilled through the web of the rail for the purpose of holding angle bars to strengthen the rail at the point of the scar, one of these holes was 4 1/2 inches from the first fracture. The marks on the base of the rail indicated that the fractures occurred directly over ties, while examination of the three ties which had been used to support the rail where it broke showed a shattered and partly decayed condition. The exposed portions of the rail fractures did not disclose any visible defects in the metal.

Inspection disclosed marks on the ties 7 inches from the gauge side of the north rail, beginning on the second last tie under the leaving end of the first section of the rail, paralleled by the marks of the opposite wheel on the outside of the south rail, which marks continued bearing slightly to the right for a distance of 722 feet at which point the caboose left the road bed. The wheel marks on the ties indicated that only one pair of wheels were off the rails until just before the caboose went down the embankment. The elevation taken at rail joints and centers for a distance of 825 feet west

of the point of accident showed the surface to be fair, with a maximum variation of one-half inch, while the alignment and gauge were also fairly well maintained.

Division Engineer Sheenan was of the opinion that the accident was caused by a broken rail and thought the fractures were fresh breaks. He said he could detect no metal imperfections, but noticed that the fractured ends had been rubbed smooth by contact. He also accounted for the presence of the scar on the ball of the broken rail as an old mark which had been made some months previously in rerailing a car.

Supervisor Cunningham said he found wheel marks on the top of the rail extending a distance of about 13 feet, there were then marks on the ties nearly up to the point where the caboose turned over. About two months previously a rail of the same type and make was broken on the same district, but he could not assign any reason for these failures. He also said the ties under the rail involved were in fair condition and were not more than three years old.

Section Foreman Prize said he reached the scene of the accident about 1½ hours after it occurred and found the receiving and leaving ends of the rail in their original positions, of the two sections broken out, one was found about 35 feet and the other about 150 feet from their respective place in the track. He said he had made an inspection of the track about 6.30 p.m., the day of the accident and found nothing wrong. He noticed that the fractures occurred over ties and said that he used out three ties to replace the ones damaged in the accident. Foreman Prize also said he had not experienced any trouble in maintaining the track at this point and that there was no speed restriction in effect at this point at the time.

Engine 2008 is of the 2-6-2 type, having a total loaded weight, engine and tender, of 364,000 pounds. An inspection of the engine and also of the caboose, failed to disclose anything that could have contributed to the accident.

Conclusions.

This accident was caused by a broken rail.

The rail which failed was laid in 1911, and there were marks upon it which the evidence indicates were made by a car which had been derailed at this point in the Spring of 1923. The three fractures which were found after the accident were fresh, but the metal at some of the ends had been rubbed smooth indicating that the rail had been pressed over by several cars before it finally broke out under the caboose; it is possible it broke under some preceding train. No defects in equipment were discovered which could have contributed to the occurrence of this accident, while examination of the rail itself failed

to show any evidence of its having been subjected to excessive lateral thrusts, nor were any defects in the metal visible at the points where the rail broke. It was not definitely ascertained whether its failure was due to its having been weakened by the previous derailment, or whether it was due to some other cause.

None of the employees involved had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.