

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
CHICAGO, ROCK ISLAND & PACIFIC RAILROAD NEAR WHITE,
S. D., ON APRIL 8, 1919.

April 26, 1919.

On April 8, 1919, there was a derailment of a passenger train on the Chicago, Rock Island & Pacific Railroad near White, S. D., which resulted in the death of one employee. After investigation of this accident, the Chief of the Bureau of Safety submits the following report.

The Watertown Branch is a single-track line extending from Ellsworth, Minn., to Watertown, S. D., a distance of 125.9 miles. Trains are operated by time table and train orders, no block signal system being in use. Approaching the point of derailment from the east, there is 2217 feet of tangent track, followed by a 2-degree curve to the right, the derailment occurring on this curve 33 feet from its eastern end. The grade in this vicinity varies from .75% to 1% ascending for westbound trains. The track is laid with 54-pound rails 50 feet in length, with 17 oak and cedar ties under each rail section. It is single spiked, and no tie plates or rail braces are used. The track is dirt ballasted, and at the time of derailment was in fair surface and alignment. The weather was clear.

The train involved was westbound passenger train No. 417, which consisted of 3 cars, hauled by engine 626, and was in charge of Conductor Davey and Engineman Brown. It left White at 1.47 p.m., 6 minutes late, and at 2.00 p.m. was de-

railed at a point about 4 miles west of White, while traveling at a speed estimated to have been about 15 miles an hour.

The engine and tender turned over to the right, coming to rest with the pilot of the engine 121 feet beyond the initial point of derailment. The first car was derailed and came to rest with its forward end down the slight embankment on which the track was laid. The forward trucks of the second car were also derailed. The employee killed was the engineer.

Examination of the track showed that the initial point of derailment was at a break in a rail on the right side of the track, this break occurring 10 feet 9-1/8 inches from the receiving end, directly over the center of a tie. The spikes holding the rail to this tie were staggered and the crack occurred between the spikes. The spike holding the leaving portion of the rail was on the outside and was not disturbed. The spike holding the receiving portion was on the gauge side. The head of this spike was broken off, and this break was found to be new. Flange marks on the head of the leaving portion of the rail, beginning at the break, indicated that at that point the receiving portion had been forced outward, allowing the wheel flanges on the engine to strike the head of the leaving portion. These flange marks continued in a diagonal direction across the ball of the rail for a distance of 4 feet 5 inches, where the wheels apparently dropped off on the outside of the rail. Neither portion of the rail was turned over by the derailment. The rail which broke was a Joliet rail, rolled and

laid in 1884. Examination of the break showed that both surfaces were somewhat smoothed, as if the ends had been chafing, this undoubtedly being due to the passage of previous trains after the rail broke. The running surface of the receiving portion was also slightly beveled at the break, apparently caused by the wheels of some eastbound train.

Fireman Griffith stated that the derailment occurred suddenly and that he was unable to say whether or not the engineman applied the air brakes. The speed at the time was about 15 miles an hour. He had been over the track on train No. 418 the previous day, but did not notice anything unusual. The track was not of the best, but did not ride as roughly as the track on other parts of the road.

Conductor Davey stated that he thought the speed was about 15 miles an hour, the train having slowed down previously for a bad spot in the track where a car had been derailed on the preceding day. He thought the engineman applied the brakes just as the derailment occurred. On examining the track, he found the broken rail and noticed that the break was not a fresh break. There were also marks indicating that it had been passed over by some previous train.

Engineman Kester, who was on train No. 417 on April 7 and on train No. 418 on the day of the accident, stated that on neither of these trips did he notice anything unusual or feel anything indicating a broken rail. He thought the general condition of the track was good.

Section Foreman Koester stated that he went over

this part of the track on the morning of April 7, but did not detect anything wrong. The track was in fair condition and there were no soft spots. After the accident he examined the broken rail and thought there was a flaw in the base about 1/2 inch long, but there was no sign of any flaw in the web or the head. He did not notice any signs of the ends having chafed and was unable to say whether the rail had been broken by train No. 417 or by some other train.

Section Foreman Lewis of the next section to the west stated that at about 9.30 a.m. he passed by the point where the derailment occurred, riding on his motor car, and at that time he noticed nothing wrong, the track apparently being in good condition.

Read Master Buseman stated that on his arrival at the scene of the accident he examined the broken rail and thought that there might have been a little crack in the base. There was also some evidence of chafing where the ends of the rail had worked up and down. He also found a flange mark on the leaving portion of the rail, previously described. In his opinion, the break could have been detected if it had existed at the time Section Foreman Lewis went over it, and for this reason he thought it broke under train No. 417 at the time the accident occurred. He considered the condition of the track in the vicinity to be good and did not think the fact that the inside rail on the curve had settled about one inch had any effect on the breaking of the rail.

This accident was caused by a broken rail. When this rail broke was not definitely ascertained, but it seems probable that it was broken before train No. 417 passed over it. The statements of the road master and section foreman indicated the possibility of a slight defect in the base, but at the time the Commission's inspectors examined the rail it was impossible to settle this question definitely.

None of the employees involved had been on duty in violation of any of the provisions of the Hours of Service Law.

G.V.L.