

In re investigation of an accident which occurred
on the St. Louis Southwestern Railway,
near Waldo, Arkansas, on December
15, 1916.

January 12, 1917.

On December 15, 1916, there was a derailment of a passenger train on the St. Louis Southwestern Railway, near Waldo, Ark., which resulted in the injury of 7 passengers and 2 employees. After investigation of this accident the Chief of the Division of Safety submits the following report:

Southbound passenger train No. 5, en route from Memphis, Tenn., to Ft. Worth, Texas, consisted of 1 combination mail and express car, 1 coach, 1 chair car and 1 Pullman sleeping car, hauled by locomotive 865, and was in charge of Conductor Clark and Engineman Hope. The first and fourth cars were of all-steel construction, while the others had steel underframes. The locomotive was equipped with a high power electric headlight. Train No. 5 passed Milner, the last open telegraph office, 10.7 miles from Waldo, at 5.25 a. m., 55 minutes late, and at about 5.40 a. m. was derailed at a point a few feet north of bridge No. 912, located about two miles south of Waldo. The speed of the train immediately preceding the derailment was between 35 and 40 miles an hour.

The locomotive and all of the cars were derailed, but passed over the bridge in safety. The entire train came to rest in an upright position at a point 542 feet beyond the point of derailment, on the right side of an 8-foot fill. No damage was sustained by the locomotive, while only slight damage was sustained by the cars.

This part of the St. Louis Southwestern Railway is a single-track line. No block signal system is in use, trains being operated by time-table and train orders. The track is laid with 75-pound rails, 30 feet in length, laid in the year 1902. There are about 18 white oak and treated red oak ties under each rail, ballasted with about 12 inches of gravel and clay. The track is single-spiked, and no tie-plates are used except on curves. At the time of the accident the weather was clear.

Investigation developed that on the previous day Section Foreman Harwell worked on about 160 feet of track

just north of the bridge, inserting 42 new ties. When through working for the day 11 of the ties were left unspiked, and the track had not been properly tamped. At the time this work was being done a light rain was falling. The section foreman stated that when he stopped work at 6.00 p. m. the track was in good condition, but that a few of the ties were not spiked.

Engineman Hope stated that while descending the grade from Waldo toward the point of accident he had shut off steam and was drifting. When about 3 or 4 car lengths from the northern approach of the bridge, at which time the speed of his train was between 35 and 40 miles per hour, the electric headlight on his locomotive showed the track to be badly out of line, and he at once applied the emergency air-brakes. The locomotive rolled considerably, and when it reached the northern end of the bridge the rails had spread sufficiently to allow the wheels to drop between the rails. The right forward engine truck wheels rode on the web of the right hand rail and turned it over as the train proceeded. After the train had come to a stop he made an examination of the track and found that it had been worked on and the work left in an incompleated condition, 11 ties not being spiked, while the ballast and tamping was not completed. He further stated that the fireman, who was riding on his seat-box, saw the track condition at the same time he did and called to him.

Fireman Wilson stated that the train was drifting down the grade at a speed of 35 or 40 miles an hour when he saw that the track about 4 car lengths from the bridge was badly out of line. He at once called to Engineman Hope to stop, and at about the same time the engineman applied the emergency air brakes.

The train and engine crews of one passenger and two freight trains which had passed over this part of the track during the night, one of the freight trains having passed within an hour before the derailment, stated that they did not notice anything wrong with the track. Inspection of the track from Waldo to a point about 1 mile south of the trestle, or a total distance of about 3 miles, showed that there were about 15 serviceable ties under each rail, while new ties were distributed along the track for the purpose of replacing those which might be renewed.

This accident was caused by the failure of Section Foreman Harwell to comply with the requirements of rule No. 478 of the rules for the government of the operating department, that when the track is rendered unsafe for the opera-

tion of trains at full speed, caution signals must be displayed in each direction. That part of the rule which applies to this case reads as follows:

"When the conditions render the track unsafe for trains to pass at full speed, caution signals must be displayed in each direction, on the outside of the rail, on the engineman's side, a sufficient distance from such unsafe place."

In this case Section Foreman Harwell had been renewing ties, which necessarily involved the disturbing of a portion of the ballast; many of the new ties were left unspiked, and as the work had been done in a light rain the ballast was rendered soft and the track placed in such a condition that it would be affected by the passing of traffic. It is believed that the irregular condition of the track at the time of the accident was due to the passage of trains over this track at an unrestricted speed while it was in this insecure condition. Had Section Foreman Harwell placed caution signals on each side of this insecure track, as required by rule No. 478, this accident might have been averted.

Section Foreman Harwell entered the service as a section laborer in March, 1910, and was made section foreman in November of the same year. He resigned twice, and was taken out of service twice on account of regular foremen returning to duty. He had been in service as section foreman continuously since July, 1914. Before entering the service of the St. Louis Southwestern Railway in 1910 he had nearly one year's experience as section laborer on another railroad.