July 27, 1912.

IN RE INVESTIGATION OF ACCIDENT ON THE NASHVILLE, CHATTANOOGA & ST. LOUIS RAILWAY, June 12, 1912.

On June 12, 1912, there was a derailment on the Nashville, Chattanooga & St. Louis Railway near Dalton, Ga., which resulted in the death of the fireman, one section man and one passenger, and the injury of three employees and sixty-two passengers, one of whom died afterwards. The section hand was standing beside the track waiting for the train to pass.

After investigation, the Chief Inspector of Safety Appliances reports as follows:

Extra No. 179, the train involved in this derailment, was a north-bound extra passenger train carrying a Knights of Pythias excursion from Calhoun, Ga., to Chickamauga Park, south of Chattanooga, Tenn. It consisted of 1 baggage car and 6 coaches, hauled by engine No. 179, and was in charge of Conductors Hill and Adams and Engineman Kitchens. This train left Calhoun a few minutes behind its scheduled leaving time, which was 6:30 a. m., and left Dalton at 8:15 p. m. It was derailed at a point about two miles beyond Dalton while running at a speed of approximately 40 miles per hour.

The engine turned over on its side at the right of the track, while the baggage car was badly damaged by being thrown against a small stone-arch bridge over Mill Creek. The next three coaches were derailed and overturned; the next two coaches were derailed but remained upright, while the last car did not leave the rails and was not damaged. When the engine left the rails it turned over in such a way as to be clear of the passenger cars, and this no doubt prevented the coaches from being badly damaged or telescoped. The passenger who was killed was in the baggage car attending to the lunches of the picnic party.

This accident occurred on track owned by the Western & Atlantic Railroad, extending from Atlanta, Ga., to Chattanooga, Tenn. It is operated under lease by the N. C. & St. L. Ry. No block signals are in use, trains being operated by train orders and being spaced ten minutes apart at open telegraph offices. The track is laid with 80-pound rails, 33 feet long, with 19 or 20 ties to each rail. The rails are single-spiked, and tie plates are used. The track is ballasted with crushed stone, and is well maintained. The grade from Dalton north is descending for about two miles, but at the point of the derailment the track is practically level. The section on which this accident occurred is about seven miles long and was in charge of a section foreman and ten

men. The foreman has had 22 years' experience as a section foreman, and is considered a thoroughly reliable man.

An examination of the track after the derailment showed that the engine trucks first left the rails on a curve of about 3½ degrees, leading to the left. The elevation of the curve at the point of the derailment is 4½ inches. The outside or right hand rail was much worn. The top or ball of the rail varied from 1-7/8 to 1-15/16 inches in width, while the opposite rail had flattened in many places to a width of three or three and one-half inches. To remedy this trouble the elevation had been reduced from 5½ inches to 4½ inches. The first flange marks showed on the outside of the outer rail at a point about 1000 feet beyond the beginning of the curve. Two rail lengths beyond this point the splices of a rail joint were broken, and at this point the cars left the rails. This rail joint was eleven rail lengths south of the point where the engine finally stopped. At the point where the engine trucks first left the track nothing was found which could have contributed to the derailment. The facing end of the rail at the broken joint was battered by wheel flanges, but this apparently occurred after the engine trucks were on the ties.

There are no speed restrictions governing the movement of passenger trains at this point. The train left Dalton at 8:15 a. m., and the first message relative

to the accident was sent at 8:22 a. m. from a farm house near the scene of the accident. No one, however, seemed to know the exact time of the derailment, so that it is impossible to estimate the speed of the train from the time consumed in running from Dalton to the point where the derailment occurred.

Engine No. 179 is of the 2-8-0 type, weighing 140,700 pounds on its driving wheels. The total weight of the engine and tender is 133 tons. The tires of this engine were found to be in excellent condition, while examination of the wheels and flanges throughout the train showed them to be in good condition and there was nothing about them which could have led to this derailment.

When the derailment occurred the speed of the train had not been checked. The engineman stated that he did not know whether or not he had shut off steam or applied the brakes. He saw rocks flying from under the truck wheels and had started to reach for the brake valve when the engine left the rails and ran along on the ties, throwing him around the cab. The engineman further stated that for several months past the track at this point had been rough. The section foreman and other employees stated that last summer during extremely hot weather the rails on this curve would frequently creep and buckle.

While it is impossible to determine with certainty the cause of this derailment, from these statements, and in view of the recent reduction in the elevation of the track, it is believed that the derailment was caused by the high speed of the passenger train, this speed probably being excessive with existing track conditions.

All of the employees composing the crew of this train were experienced men with good records.