

**IN RE: INVESTIGATION OF ACCIDENT ON THE LOUISVILLE & NASHVILLE
RAILROAD NEAR MOORE'S, KENTUCKY, ON JUNE 28, 1914.**

On June 28, 1914, there was a derailment on the Louisville and Nashville Railroad near Moore's, Kentucky, which resulted in the death of two employees and the injury of one employee and 15 passengers. After investigation of this accident, the Chief Inspector of Safety Appliances reports as follows:

The train involved in this derailment was an excursion train, bound from Louisville, to Hopkinsville, and was running as train second No. 92, proceeding from Louisville to Bowling Green over the First Division; from Bowling Green to Guthrie over the Memphis Division, and from Guthrie to point of accident over the Henderson Division. The train consisted of six coaches, and a mail car being used as a refreshment car, was hauled by locomotive No. 2212, and was in charge of Conductor Stevans and Engineman Healy. Train second No. 92 left Louisville at 12:15 a.m. and at 6:40 a.m. arrived at Guthrie. At this point one of the coaches was out off while the locomotive was turned, the intention being to haul the train from Guthrie to Hopkinsville, a distance of about 24 miles, with the locomotive backing up, the turn table at Hopkinsville being too short to turn the locomotive at that point. The train left Guthrie at 7:17 a.m. and at 7:26 a.m. was derailed at a point just south of Moore's which is 3.6 miles beyond Guthrie, while running at a speed believed to have been about 25 miles per hour.

The tender was the first part of the train to be derailed and landed bottom side up at the foot of the embankment, which at that point is about 15 feet high. The locomotive lay on its left side at right angles to the track, while the forward end of the first coach rested on top of the engine. The next two cars in the train were also derailed but remained upright at the top of the embankment and were not materially damaged. Each of these cars was equipped with steel underframes, while the other cars in the train were of wooden construction. The weather at the time was clear.

This part of the Louisville & Nashville Railroad is a single-track line. No block signal system is in use, trains being operated by train orders and time-card rights. The track was laid in 1911 with 65-pound steel rails, 33 feet in length, with about 18 or 19 oak ties under each rail. It had been re-tied and re-ballasted with crushed stone in the spring of 1914 and was in good condition throughout. The track at the point of accident is straight for several miles, while the grade is .6 per cent ascending in the direction in which this train was moving.

At the time of the accident, the engine was being operated by Engineman Hampton, who was acting as a pilot from Guthrie to Hopkinsville. Engineman Hampton stated that at the time of the

derailment the speed of his train was not in excess of 20 or 25 miles per hour. He heard a rattling sound and thought that possibly there might have been a broken rail. He then looked out of the window, saw that one of the tender trucks had been derailed and at once applied the emergency air brakes. Previous to this he had neither heard nor seen anything out of the ordinary in the motion of the train. Engineman Hampton also stated that Engineman Healy and Fireman Webb, both of whom were killed, were riding on the fireman's seat box at the time and each of them apparently discovered that the tender truck was derailed at about the time he noticed it himself.

Conductor Stevens stated that his first knowledge of trouble was when he felt the application of the emergency air brakes. At this time he was working his train and not paying particular attention to its speed, but was quite sure that it was not moving at a rate of speed in excess of 30 miles per hour. Conductor Stevens further stated that he had received a message directing him to operate the train from Guthrie to Hopkinsville with the engine backing up. The statements of the other employees on this train all agreed with Conductor Stevens' statements as to the speed of the train. None of them shed any further light as to its cause.

Locomotive No. 2212 was new in March 1914. It was of the Pacific type and weighed 228,500 pounds, exclusive of the tender. At the time of the accident, the tender was carrying its full capacity of coal and water, having taken supplies at Guthrie. Careful examination of the wheels, trucks, etc., of the engine, tender and derailed cars disclosed nothing wrong with the exception of such damage as was caused by the derailment.

Examination of the track showed that the forward wheels of the rear truck of the tender mounted the rail and ran along on the ball of the same a distance of about 16 feet, then dropping off the rail and running along the ties about one rail length, at which point the derailed truck slowed to the left to such an extent that the left hand wheels ran off the ends of the ties. The track was practically destroyed for a distance of 250 feet. Examination made of the track from the point of derailment south of Guthrie showed that at a point about 500 feet from where the tender wheel mounted the rail, there was a mark on the ties between the rails, as well as a spot between the second and third ties north of this mark where something had dragged on the ballast, moving in a northerly direction, making a cavity of about 3 inches in depth. As the track had been used by many trains after the derailment and before these marks were discovered, their presence cannot be definitely connected with the cause of the derailment. With these exceptions, no marks or defects of any kind were found to exist in the track.

Measurements of the track as to its gauge, alignment and surface were made for a distance of about 600 feet south of the point of derailment. For a distance of 189 feet south of the point where the tender truck mounted the rail, the east rail was found to be 1/8 inch low. Continuing southward, the surface

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was found to vary to a considerable extent, the greatest difference being at one point where the west rail was $3/4$ inch low. There were two places where the west rail was $11/16$ inch low, one place $5/8$ inch low and two places where it was $7/16$ inch low. At only two places was the track level. At three places the track was slightly out of line.

The cause of this derailment could not be definitely ascertained. It is possible, however, that the irregularities in track mentioned above coupled with the speed at which the train was running with the locomotive backing up, caused the tender to rock back and forth to such an extent that the wheels finally mounted the rail.

In this connection, attention is called to the danger of operating passenger trains hauled by locomotives backing up. Locomotive No. 2212 was sent through from Louisville, over three divisions, even though it was known that the turn table at Hopkinsville would not accommodate a locomotive of that length. It would appear that some arrangement could have been made whereby this excursion train could have been hauled over the last part of its trip by a locomotive which could have been turned at Hopkinsville, thus obviating the necessity of backing up between Guthrie and Hopkinsville.