

May 21, 1915.

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**In re Investigation of accident which occurred  
on the Chicago & Eastern Illinois Railroad,  
At Shelby, Ind., March 14, 1915.**

On March 14, 1915, there was a derailment on the Chicago & Eastern Illinois Railroad at Shelby, Ind., which resulted in the death of the engineer and the injury of 4 passengers, 2 mail clerks, 2 trespassers and 1 employee. After investigation of this accident the Chief of the Division of Safety reports as follows:

The train involved in this accident was southbound train No. 95, known as the Dixie Flyer, en route from Chicago, Ill., to Jacksonville, Fla. It consisted of 1 mail car, 1 baggage car, 2 coaches and 3 Pullman sleeping cars, all of all-steel construction, hauled by locomotive 1007, and was in charge of Conductor Barnes and Engineer Baldwin. It left Terre Haute, Ind., at 3.31 a. m., six minutes late, passed Ellettsburg, Ind., 15 miles beyond Terre Haute, at 3.56 a. m. and at 4.02 a. m. was derailed just north of the station at Shelby, six miles beyond Ellettsburg, while running at an estimated speed of 60 miles per hour.

The locomotive came to rest on its right side nearly 700 feet beyond the point of derailment. The first 7 cars were derailed but all remained upright, excepting the baggage car and the first coach, the former being partly on one side, while the coach was on its left side directly across the track. None of the cars were badly damaged. The weather was cloudy.

This part of the Chicago and Eastern Illinois Railroad is a single-track line, train movements being protected by the

manual block-signal systems. The track is laid with 80-pound steel rails, 33 feet in length, with an average of 18 treated oak ties under each rail, ballasted with from 12 to 15 inches of gravel. Just north of the Mill Street crossing and about 500 feet north of the station, is a switch leading to the old passing track on the left side of the main track. Immediately south of the street crossing is a switch leading to the new passing track on the right side of the main track. Both of the switches were facing point switches for southbound movements.

The first signs of derailment were on a rail joint on the outside of the right hand rail opposite the heel of the frog of the switch leading to the old passing track, about 5 feet north of the street crossing. At this point two bolts had been sheared off, while just beyond was a mark on a tie, close to the rail, made by a wheel flange. The next marks made by this derailed wheel were on the crossing planks, the marks gradually working away from the rail until they were 12 inches distant therefrom at a point 25 feet beyond the initial mark. They then ran parallel to the rail for a distance of 45 feet, at which point the derailed wheel came in contact with the lead of the new passing track. It then followed this for about 20 feet, at which point it was 21 inches away from the main track rail. Beyond this point, the ties were bunched and broken and the track practically destroyed for a distance of about 400 feet, and on this account it was impossible to determine exactly where the locomotive was derailed. The marks on the ties and on the crossing planks, however, appeared to have been made by only a single

pair of wheels and it is believed that they were made by the forward wheels of the forward tender truck, as the left forward wheel on the forward truck had a mark on the outside of the tread, where the metal had been sheared off of the outer edge for one-third its circumference, which indicated that this particular wheel had mounted a rail, and that this mark was made by this pair of wheels coming in contact with the lead of the new passing track.

Examination of the locomotive and tender showed that the wheels were in good condition and nothing was found that could have contributed to the accident. The tender had been equipped with a full set of rolled steel wheels and new axles a short time previously. One of the rear tender wheels had a small piece of metal chipped out of a flange, but this was believed to have been due to a blow delivered crosswise to the flange, parallel with the axle, during the derailment.

Examination of the track showed that the gauge and alignment were generally in good condition. The surface, however, was not good. The rail joint on the left side of the track, 113 feet north of the street crossing, was practically level with the opposite rail. The next rail joint on the left side of the track, 35 feet from the crossing, was nearly 1 inch lower than the opposite rail. The next joint on this side, 56 feet from the crossing, was practically 1-1/3 inches lower than the opposite rail, and 20 feet nearer the crossing the left rail was more than four-fifths of an inch low, while the joint 5 feet farther south, 40 feet from the crossing, was

level with the opposite rail. The frog, the toe of which was 18 feet from the crossing, was nearly level with the right hand rail, while the heel of the frog was about one-third of an inch higher than the right hand rail. This frog, however, was a new one placed in the track after the accident, and examination showed that when it was put in, the ties had not been disturbed and that in order to bring it up more nearly to the level of the opposite rail, it had been necessary to place under it a shim 1-1/8 inches thick. The section foreman in charge of this division, who had had 9 years' experience as a section foreman, stated that he did not place any shim under the old frog.

Fireman Van Lieu stated that when approaching Shelburn he sat down on his seat box and looked at his watch, at which time it was 4.02 p.m. He had just put his watch into his pocket when the engine left the track. He stated that the engineman at once shut off steam and applied the brakes and had gotten on to the deck of the engine and had just taken hold of the reverse lever when the engine turned over. The fireman further stated that he did not notice any derailment of the tender prior to the derailment of the engine. He thought the tender was about half full of water at the time, and estimated that the speed of the train was about 60 miles per hour.

Superintendent Glidden stated that there was a mark on the running surface of the right rail when he first

examined it, evidently made by a wheel, or by some object dragging, but this mark could not be found when the track was examined, although no traffic had moved over it with the exception of the wrecking train.

It is believed that this accident was caused by the derailment of the forward tender truck wheel, due to the low spots in the left hand rail and the high rate of speed at which the train was moving at the time.

This accident again calls attention to the desirability of using all-steel cars in fast passenger train service. This train was derailed while moving at a high rate of speed, yet the equipment was not badly damaged, and none of the passengers was killed or seriously injured.