INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE CHICAGO & ALTON RAILROAD NEAR LADDONIA, MO., ON MARCH 20, 1925.

August 13, 1925.

To the Commission:

On March 20, 1925, there was a derailment of a passenger train on the Chicago & Alton Railroad near Laddonia, Mo., resulting in the death of 1 employee, and the injury of 13 passengers and 1 employee.

Location and method of operation

This accident occurred on Sub-division 2 of the Western Division, extending between Booth and Slater, Mo., a distance of 105.7 miles, in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table and train orders, no block signal system being in use. The accident occurred at a point about 1 mile east of Laddonia, approaching from the west the track is tangent for more than 4 miles, while the grade is practically level. The track in this vicinity is laid with 90-pound rails, 33 feet in length, with an average of 20 oak ties to the rail length, single-spiked and ballasted with crushed stone for a depth of about 24 inches. The weather was clear at the time of the accident, which occurred at about 2.17 a.m.

Description

Eastbound passenger train No. 24, en route from Kansas City,Mo., to Chicago, Ill., consisted of two baggage cars, one coach, one chair car, and one Pullman sleeping car, in the order named, hauled by engine 602, and was in charge of Conductor Mitchell and Engineman Blackman. The cars were of wooden construction with the exception of the sleeping car, which had a steel underframe. This train passed Rush Hill, 4.9 miles from Laddonia and the last open office, at 2.10 a.m., 9 minutes late, and on reaching a point about 1 mile

east of Laddonia was derailed while traveling at a speed estimated to have been between 45 and 50 miles an hour.

The entire train was derailed to the north but remained in general line with the track. Engine 602, together with its tender, was separated from the cars and came to rest on its left side about 500 feet east of the initital point of derailment. The cars remained coupled and came to rest leaning to the left, the rear end of the last car was about 50 feet east of the leaving end of the broken rail. The employee killed was the fireman.

Summary of evidence.

None of the members of the crew noticed anything unusual prior to the accident. Engineman Blackman stated the first he knew of anything wrong was on seeing the stack of the engine dip, then he felt the engine settle. He was of the opinion that the engine truck was the first to be derailed. He said the engine was in excellent mechanical condition and so far as he knew there was no defect about it that contributed to the accident. Conductor Mitchell and Flagman Griffith stated that they noticed no irregular condition of the track in this vicinity, Conductor Mitchell was of the opinion that the engine driving wheels were the first to be derailed.

Examination of the track disclosed that the first indication of the derailment was a broken rail, on the north side of the track, the initial break occurring at a point 18 feet 8½ inches from the receiving end of the rail, at which point there was a transverse fissure in the head of the rail. This rail broke at a number of points, and 13 fragments were recovered; a piece about 29 inches in length was not found. The track was torn up for a distance of about 400 feet.

Section Foreman Sloan last inspected the track in this vicinity about 7.20 a.m. on the day prior to the accident, going over it on a motor car, but noticed nothing unusual.

General Road Master Donahoe arrived at the scene of the accident less than one hour after its occurrence, he was of the opinion that some portion of the engine was first derailed and that the rail was not broken by a preceding train. He said that at the broken end of the

18 feet 6 inch portion of the rail there was a transverse fissure approximately 1 inch in width and 3/4 inch in depth.

Track Supervisor Bledsoe was of the opinion that the rail broke on account of the presence of the transverse fissure, but judging from the battered condition of some of the fragments of the rail he thought that it was broken prior to the arrival of train No. 24. He examined the track west of the point of accident but found no indication of anything dragging nor any marks of derailment on the ties.

Train Master Brown stated he arrived at the scene of the accident several hours after its occurrence; he was of the opinion that the tender was the first to be derailed as practically all of the appurtenances beneath the locomotive were intact while the tender trucks were displaced and came to rest about 40 feet back of the cistern.

Engine 602 is of the 4-6-2 type, having a total weight, engine and tender loaded, of 392,920 pounds, the weight of the engine is distributed as follows: engine truck 38,000 pounds; driving wheels, 138,000 pounds; trailing truck, 43,000 pounds. Its driving-wheel base is 13 feet 4 inches, and total wheel base, engine and tender, 63 feet 10 7/16 inches. A careful examination of the engine after the accident failed to disclose any defect that contributed to the accident.

The rail which failed was rolled by the Illinois Steel Company in January, 1919, being laid in the track in July of the same year. It was branded "ARA-A OH 9020 Illinois G 1 1919".

Conclusions

The cause of this derailment was the fracture of a rail which resulted from the presence of a transverse fissure.

A fracture of this type has an interior origin; the fissure had not reached the peripheral surface of the head and unless it does so before total fracture occurs the defect cannot be detected by track inspection.

Respectfully submitted,

W. P. BORLAND,
Director.