IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE LOUISVILLE & NASHVILLE RAILROAD NEAR MULLINS, KY., ON AUGUST 27, 1920

September 27, 1920.

On August 27, 1920, there was a derailment of a freight train on the Louisville & Nashville Railroad near Mullins, Ky., which resulted in the death of 2 employees and the injury of 1 employee. After investigation of this accident the Chief of the Bureau of Safety reports as follows:

The accident occurred on that part of the Kentucky Division which extends between Patio, Ky., and Corbin, Ky., a distance of 89.8 miles, and in the vicinity of the point of accident is a single-track line over which trains are operated by time-table, train orders, and an automatic block signal system. Approaching the point of accident from the north, beginning at the automatic signal north of tunnel 18 in which the accident occurred, there is a spiral 147 feet in length followed by a curve to the right of 5° 20'; this curve is about 250 feet in length and extends to the north entrance of the tunnel. The track through the tunnel, which is 928 feet in length, is on a curve to the right of 6 degrees; there were slight variations in the superelevation, which was 5-1/8 inches at the highest point. The accident occurred near the middle of the tunnel. The grade approaching the tunnel is level, while inside of the tunnel is 0.5 per cent descending for southbound trains. The track is laid with 90-pound rails, 33 feet in length, with from 18 to 21 ties to the rail length, tie-plated, and single-spiked. In the tunnel all ties are treated and the track is ballasted with about 12 inches of crushed stone. The track was well maintained in all respects. The weather at the time of the accident was clear.

The train involved in this accident was southbound freight train extra 1528, consisting of 32 cars and a caboose, hauled by engines 1528 and 1568, and in charge of Conductor Frank and Engineman Poer and Crowe. It left Wildie at 8.13 a.m. passed Brush Creek, 4.4 miles south of Wildie and 3.5 miles north of Mullins, at 8 27 a.m., and was derailed at about 8.30 a.m., while traveling at a speed estimated by various members of the crew to have been between 25 and 50 miles an hour.

Engine 1528 was entirely derailed and came to rest in an upright position on the west or right side of the track about 150 feet north of the southern end of the tunnel, no damage was sustained by this engine. Engine 1568 stopped nearly 200 feet farther back in the tunnel and came to rest on its right side against the wall of the tunnel,

being quite badly damaged. The first 15 cars were derailed and more or less badly damaged, while the track was badly torn up from the head end of engine 1568 to the rear of the wrecked cars, a distance of about 300 feet, making it impossible to determine the exact point of derailment or to trace the marks of the derailed wheels The employees killed were the engineman and fireman of the second engine.

Engineman Poer, in charge of engine 1528, noticed nothing wrong until he felt his engine suddenly drop from the rails, following which he immediately shut off steam and applied the air brakes in emergency He estimated the speed to have been from 25 to 30 miles an hour and said that at no time had he noticed anything wrong with the track Engineman Poer examined his engine carefully, but was unable to find any defects, and after it had been rerailed it was again placed in service. Engineman Poer thought the accident was due to a rail overturning on the outside of the curve. He did not notice any overturned rail at the point where his engine stopped, although he said the rails on the east side of the track between his engine and engine 1568 were displaced. Fireman Bryan thought the engine was derailed first, followed by the derailment of the tender. No additional facts of importance were brought out in the statements of the fireman or of those of Brakeman McKee, who was riding on the engineman's side of the leading engine.

Brakeman Mullins, who was riding on the second engine, said the speed was so high that he remarked both to the engineman and fireman that they had better hold on going through the tunnel, he estimated the speed of the train when entering the tunnel to have been about 45 or 50 miles an hour. At the time of the derailment he did not notice any rocking of the engine, saying that it seemed to drop down and then to travel about an engine-length before striking the left wall of the tunnel. Brakeman Mullins was unable to express any opinion as to which of the two engines was the first to leave the rails; he thought the accident was due to excessive speed.

Conductor Frank, who was riding in the caboose, estimated the speed to have been about 35 miles an hour, or about 10 miles an hour in excess of the speed limit covering this particular territory, while Flagman Burns, who was also riding in the caboose, thought the speed was between 25 and 30 miles an hour. Conductor Frank examined the track and found the west rail turned over under engine 1568, but said that the rails between the two engines were in place. Neither the conductor nor the flagman was able to say what caused the accident.

The section foreman had inspected the track on the

previous day, while a track walker had passed through the tunnel in a southerly direction just ahead of extra 1528; neither of these inspections had disclosed anything wrong. After the accident, the section foreman, H. T. Ball, found that the west rail at the northern end of the wreckage had been turned over to the west. The spikes on the outside of the rail were in position but the spikes on the inside had been partially withdrawn from the ties; he said that the east rail at this point was intact. He was at Brush Creek when extra 1528 passed and thought the speed much higher than usual, estimating it to have been about 45 or 50 miles an hour, and said that some of his men had commented on the speed. It was his opinion that the accident was due to high speed. Track Supervisor S. S. Ball, had inspected the track 8 days previously and at that time found it to be maintained in good condition.

Master Mechanic Feather and Foreman Root made a careful examination of engines 1528 and 1568. The master mechanic thought that on engine 1568 either the left front driving-wheel center was bent, or the axle bent close to the wheel, but he considered this to be a result of the derailment. Neither of these officials found anything which they thought could have caused the accident.

Engineman Young, of northbound train first No. 44, the last train to pass through the tunnel before extra 1528, said that the speed of his train was about 20 miles an hour and that he had noticed no indication of any defective condition of the track. This statement was verified by the engineman of northbound train No. 92, which passed through the tunnel just ahead of train first No. 44.

In clearing up the wreckage a broken rail was found under the first car; one piece was 16 feet 3 inches in length and the other 16 feet 9 inches in length. These sections matched and were both intact with the exception of a piece about 9 inches in length which was missing from the base of one section. It was impossible definitely to locate the position of this rail in the track.

This rail was an open hearth Tennessee rail, rolled in November, 1918, and laid in the track in 1919. The receiving end of the northern section of the rail was battered for a distance of about 1¼ inches on the outer side of the running surface and the metal forced outward a distance of fully ¼ of an inch.

Owing to the complete demolition of the track for a distance of about 300 feet, resulting in inability to determine the initial point of derailment, the cause of this accident could not be definitely ascertained. With the

exception of the broken rail no defects of any kind were discovered either in the track or equipment and it could not be determined whether this broken rail was a result of the accident or its cause. The evidence also indicated that the speed of the train was in excess of that allowed freight trains operating over this territory, but there is no direct evidence to indicate that excessive speed was the cause of the accident.

All of the employees involved were experienced men, and none had been on duty in violation of the hours of service law.