INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN ACCIDENT ON THE NEW YORK, CHICAGO & ST. LOUIS RAILROAD AT CLEVELAND, OHIO, ON AUGUST 19, 1932

November 21, 1932.

To the Commission:

On August 19, 1932, there was a derailment of a passenger train on the New York, Chicago & St. Louis Railroad at Cleveland, Ohio, which resulted in the death of 1 employee and the injury of 5 passengers and 1 employee. The accident was investigated in conjunction with the Ohio Commission of Public Utilities.

Location and method of operation

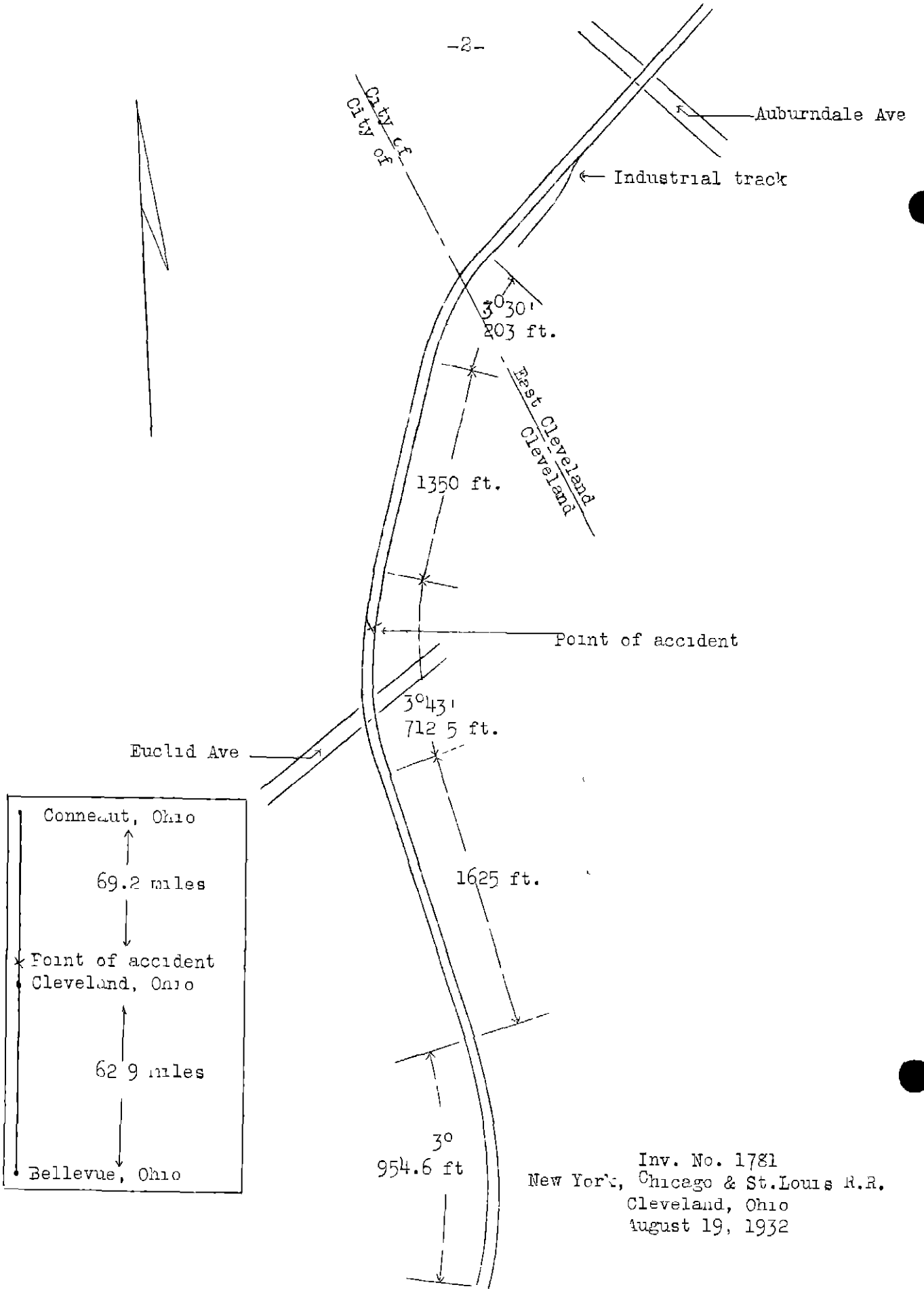
This accident occurred on the Cleveland Division extending between Conneaut and Bellevue, Ohio, a distance of 132.1 miles. In the vicinity of the point of accident this is a double-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The derailment occurred on the eastbound track approximately 350 feet east of Euclid Avenue, Cleveland, while the derailed equipment finally stopped about 2,300 feet beyond that point. Approaching the point of accident from the west, there are 1,625 feet of tangent, followed by a 3° 43' curve to the right 712.5 feet in length, the derailment occurring on the curve at a point about 144 feet from its eastern end. The track is then tangent for a distance of 1,350 feet, followed by a 3° 30' curve to the right 203 feet in length, and then tangent track to and beyond the point at which the derailed equipment stopped. The grade is 0.144 per cent descending at the point of accident.

In this vicinity the tracks are elevated from 15 to 18 feet above the original highway crossing levels. The track is laid with 110-pound rails, 39 feet in length, with 24 treated oak ties to the rail-length, single-spiked, fully tie-plated, and ballasted with 8 or 10 inches of crushed slag laid on 3 inches of granulated slag. The track was maintained in good condition.

The weather was clear at the time of the accident, which occurred about 9.04 a.m.

Description

Eastbound passenger train No. 6 was hauled by engine 176 and was in charge of Conductor Bixler and Engineman Stape. At West 38th Street, Cleveland, engine 176 was cut off and run to East 37th Street, while the train was handled through the Union



Inv. No. 1781
New York, Chicago & St.Louis R.R.
Cleveland, Ohio
August 19, 1932

Terminal by an electric engine. At East 37th Street engine 176 was again coupled to the train, which consisted of 3 baggage cars, 3 coaches, 1 dining car, 1 Pullman sleeping car and 1 cafe-coach, it then departed from that point at 8.52 a.m., two minutes in advance of scheduled leaving time, according to the train sheet, and on approaching East Cleveland, 5.2 miles beyond, was derailed while traveling at a speed estimated to have been between 30 and 45 miles per hour.

Engine 176 stopped on its left side parallel with and between the two main tracks at a point about 2,300 feet east of the initial point of derailment; the tender remained upright but across the eastbound track. The first two cars stopped across both main tracks, and the next three cars were derailed but remained upright and in general line with the eastbound track. The employee killed was the fireman and the employee injured was the engineman.

Summary of evidence

Engineman Stape stated that after leaving East 37th Street the engine rode smoothly and there was no indication of anything wrong after passing Euclid Avenue until they reached the switch near Auburndale Avenue, at which time he saw dust flying and the engine lurched and turned over. He was operating the train at a speed of about 30 miles per hour and the brakes had been applied before the engine turned over. Engineman Stape stated that he had carefully inspected his engine at Bellevue and again at East 37th Street while waiting for his train to arrive from the Union Station.

Conductor Bixler was in the fifth car in the train when he felt the air brakes apply and he knew that they were off the track by the way the train was stopping; he estimated the speed at the time of the derailment to have been 35 miles per hour. After the accident he found nothing to indicate the cause of the derailment.

Flagman Huff stated that immediately after the accident he went back to flag, going back almost to Euclid Avenue, he saw marks on the ties where the engine truck had been derailed but saw nothing lying on the rails or track that might have caused the accident, although he was not paying any particular attention to the track.

Assistant Chief Engineer Wallace arrived at the scene of the accident soon after its occurrence and at a point about 55 feet east of the Euclid Avenue Bridge he found a bent spike lying between two ties near a joint on the north rail, there was a depression on the top of the rail where the spike had hooked into the joint and a depression and bulging on the outside of the head of the rail where the head of the spike had been lying on the rail east of the joint. This spike, the pointed end

of which was bent practically at a right angle to the main portion of the spike, fitted into the joint and these depressions. Immediately east of this joint there was what appeared to be a flange mark on the ball of the rail, and farther east there were marks on the rail which he could not account for; these marks ended where the wheel dropped off the rail, 280 feet east of where the spike was found. When this pair of wheels dropped off the rails, two bolts were sheared off from an angle bar on the south rail, and from that point eastward there were wheel marks on the ties to the point of final derailment. The spike was an old one, badly corroded, and had been flattened to about half its original thickness, it was his opinion that the spike had been flattened in order to insert it between the ends of the rails, the opening between them then being between 1/4 and 3/8 inch.

Assistant Engineer Taylor also inspected the track and another spike was found by a bystander and handed to him, this spike was found about 30 feet east of the point where the first wheel marks were found on the ties, and was north of the westbound track, or about 15 feet north of the eastbound track.

Engineer of Track Hales stated that measurements were taken of the elevation and gage and the track was found to be in good condition. He also stated that the bent spike no doubt had been flattened prior to having been placed in the joint, but he was unable to say whether it had been heated and hammered flat, or whether it had been placed on the track previously and flattened by a train running over it.

Foreman Engineer Trim stated that after examination of the engine and track he was of the opinion that the leading engine-truck wheels were the first to be derailed. On the left No. 2 engine-truck wheel there appeared to be a mark in the tread of the wheel as if the wheel had struck something about the size of a spike, this, however, could have been caused at the time the engine struck the switch rail, and he did not think that an engine-truck wheel would run 250 feet around a curve with the flange on top of the rail before dropping off. He found no evidence that the pedestal braces might have been down previous to the time the engine encountered the switch just west of where it was turned over.

Examination of the engine by Master Mechanic Baldwin showed that the left No. 2 engine-truck wheel had the appearance of having been on top of the rail; it had a flat spot near the top of the flange about 1/4 inch or more in width, and another indication that the rear wheels were the first to be derailed was the fact that the wheel marks on the ties north of the south rail were farther from the ball of that rail than the marks made by the north or left wheel were from the ball of the north rail, indicating that the rear of the truck had swung toward the north. At one point the marks north of the south rail were 14½ inches

away from it while the marks north of the north rail were only 12½ inches distant. Master Mechanic Baldwin was of the opinion that the front wheels could remain on the track with the rear wheels derailed and marking the ties at points 9 and 13 inches from their respective rails, on a curve, but he could not say as to tangent track unless there was some condition on the engine that would hold the truck in that position. He found no mechanical defects on the engine that would tend to create this condition.

Commercial Photographer Hanna stated that when taking pictures of the track and wreckage, he noticed a mark in the center of the south rail at a point about 25 feet east of the joint in which the bent spike was found, it appeared to be a mark made by something dragging and continued along the rail for a distance of about 35 feet.

Examination of track and equipment made by the Commission's inspectors disclosed no defects which contributed to the cause of the derailment. There were two spikes found in the vicinity of the point of accident, apparently the point of one of them had been inserted between the ends of two rails at a rail joint, and the other had been laid on the high rail about 250 feet farther east. It further appeared that no derailment took place when the first spike was encountered, but that when the second spike was encountered, the lead engine-truck wheel mounted the rail and ran along on top of the rail for a distance of about 7 feet, and that the front wheels then dropped off on the ties, marking a spike and the base of the rail on the north side of the south rail. This pair of wheels then continued on the ties until it reached the switch where the engine became entirely derailed. The Commission's inspectors found no evidence that the engine-truck center castings had been thrown out of place at the time the first pair of wheels was derailed, and no evidence that the second pair of engine-truck wheels had been derailed first and then had run along on the ball of the rail for a distance of 230 feet or more, although it did appear that this pair of wheels had been grinding along the inside edge of the north rail a sufficient distance to groove the flange of the left No. 2 wheel entirely around its circumference. It was thought that the marks on the ball of the north rail, between the points where the two spikes had been placed, had no connection with the cause of the accident.

Subsequent to the investigation of this accident, a thirteen-year old boy was arrested, and was said first to have admitted and then to have denied placing the spikes on the rails, although he said he had placed spikes on the rails at other times for the purpose of flattening them so they could be used for daggers in play. This boy was committed to the City Farm for Boys at Hudson, Ohio, by the Juvenile Court at Cleveland on September 7, 1932.

Conclusions

This accident was caused by spikes having been placed on the high rail of a curve.

The evidence indicated that spikes had been placed on the track at two different points, and that one of these resulted in the derailment of the lead pair of wheels of the engine truck, this condition not being noticed by the engineman until the engine reached the switch where the engine became entirely derailed, there was no evidence that the spikes were placed on the track with malicious intent.

There have been five instances of spikes, stones, and tie-plates having been found on the tracks of this railroad in the vicinity of Cleveland since January 20, 1932, three of which resulted in juveniles being arrested and placed on probation. The Commission's inspectors found many spikes, bolts and nuts along the track, some of which did not appear to have been in use for long periods of time. In this connection it is to be noted that track rule 98 reads in part: "All surplus material left after the completion of any job of work must be picked up and cared for before the job will be considered finished." Track rule 99 reads in part: "Section foremen must pick up daily and care for all scrap bolts, spikes, angle splices, tie plates, etc., found along the track or right of way, taking same to tool houses and assorting them." These rules are of much importance in lessening the hazard of accidents. Such material often is made use of, sometimes maliciously, and at other times possibly placed on the rails by children without thinking of the consequences. A person deliberately trying to wreck a train could find material elsewhere, but it is believed that railroads should give greater attention to the enforcement of track rules of this character.

Respectfully submitted,

W. P. Borland,

Director.