

## INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE  
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE  
GRAND TRUNK WESTERN RAILWAY NEAR FLUSHING, MICH.,  
ON JULY 8, 1928.

August 16, 1928.

To the Commission:

On July 8, 1928, there was a derailment of a mixed train composed of circus equipment on the Grand Trunk Western Railway near Flushing, Mich., which resulted in the injury of 13 circus employees

Location and Method of Operation

This accident occurred on the Saginaw Sub-division of the Detroit Division, extending between Durand and Wenona Beach, Mich., a distance of 58.99 miles; 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 approximately 1 mile south of Flushing; approaching this point from the south the track is tangent for a distance of more than 1 mile, and for a short distance northward. The grade for northbound trains is 0.62 percent descending at the point of accident. In the vicinity of the point of accident the track is laid with 60-pound rails, 30 feet in length, laid in 1888, with an average of about 13 soft-wood ties to the rail-length, single-spiked, and ballasted with gravel and cinders to a depth of about 8 inches.

The weather was clear and very warm at the time of the accident, which occurred at about 12:25 p. m.

Description

Northbound circus train extra 891-681 consisted of 5 stock cars, 23 flat cars, 7 coaches and a caboose, in the order named, hauled by engines 891 and 681, and was in the charge of Conductor Ferstel and Enginemen O'Connor and Steels. This train left Durand, the last open office, 12.87 miles south of Flushing, at 11:40 a. m., and was approaching Flushing when it was derailed while traveling at a speed estimated to have been 12 or 15 miles per hour.

The rear truck of the second coach and the third to sixth coaches, inclusive, were derailed. The rear end

of the second coach, the third coach and the forward end of the fourth coach came to rest at the bottom of an 8-foot fill, the third and fourth cars being partly overturned while the balance of the derailed equipment remained on the roadbed in upright position.

#### Summary of Evidence

Engineman O'Connor, of the leading engine, stated that the air brakes were tested before leaving Durand; they functioned properly at that time and they were not again applied prior to the accident. After his train had passed over the summit of the grade on which the accident occurred and while it was drifting he felt the slack stretch which was immediately followed by an emergency application of the air brakes and upon looking back he noticed some cars near the rear of the train were derailed, the forward part of the train moving a distance of about two car-lengths before coming to a stop. He stated that the speed of his train was restricted by train order to 20 miles per hour and that it was moving at a speed of about 12 or 15 miles per hour at the time of the accident. He did not know what caused the accident; the track appeared to be all right as his train approached the point of accident and he did not notice anything unusual as his engine passed over the point where the derailment occurred.

The statements of Fireman Stone, of the leading engine, and Engineman Steele and Fireman Ellers, of the second engine, practically corroborated those of Engineman O'Connor; none of these employees made an inspection subsequent to the accident to determine the cause. The statements of Conductor Forstel, and Brakeman Houghton and Emberton were to the effect that they were unaware of anything unusual prior to the occurrence of the accident; they estimated the speed of the train at the time at not more than 15 miles per hour. Conductor Forstel was of the opinion that the track kinked under the train due to the extreme warm weather; Brakeman Emberton was of the same opinion as he observed a bent rail at the point where the cars first left the rails, while Brakeman Houghton made no examination of the track.

Road Foreman of Engines Rice, who was riding on the fireman's side of the leading engine at the time of the accident, stated that some time after its occurrence he went back to the point of derailment and found a rail buckled on the east side of the track, several rails north of this point were overturned, while the rails south of where the track was buckled did not show any wheel or flange marks. He continued southward beyond the point where the caboose came to a stop but could find

no indications of anything having been dragging. He said at the time the engine on which he was riding passed the point of derailment he noticed no irregularities.

Trainmaster Tait, who was riding in the caboose at the time of the accident, stated that his first intimation of anything unusual was when the conductor informed him that something was wrong and reached for the brake valve but about the same time the brakes seemed to be applied from another source. Upon making an examination of the equipment and track after the accident he found no evidence of any part of the equipment having been dragging but did notice that the track was buckled and shoved out of line as well as a number of rails turned over on the east side of the track.

Car Foreman Grout stated that he arrived at the scene of accident at 3:45 on the day of its occurrence and made a thorough inspection of the derailed equipment and could find nothing that would indicate the accident was due to defective equipment, the only damage being noted was that which resulted from the derailment.

Section Foreman Lester stated that he passed over the track at the point of accident at about 8 a. m., on the day it occurred and at that time found nothing wrong. He arrived at the point of derailment shortly after it occurred and found the track was buckled out of line about 16 or 17 inches for a distance of 30 feet. He thought this was caused by the excessive heat, although it might have been contributed to by a weak spot in the track, these suppositions being based on the fact that about a week previous to the date of the accident a section of rail was cut and removed from the track which was found buckled out of line at a point about 10 rail-lengths north of the point of accident, together with the fact that several joints were raised in the vicinity of the point of accident on the day prior to its occurrence. He also said he had noted rails creeping on his section quite frequently.

Supervisor Dodge stated that he made an inspection of the track shortly after the accident and found it buckled out of line about 17½ inches for a distance of approximately 30 feet at the point of derailment. The ties were of soft wood but the spikes remained intact causing the entire track structure to shift towards the east. He said trouble had been experienced by rails creeping in that vicinity for the past three years, or since larger types of engines were put in use, but his only knowledge of the track buckling during that time was on two former occasions, the last time being about 10 days prior to the accident. As there are no tie plates or rail anchors in use the only thing that could be done to

remedy this condition was to tighten the bolts and spikes.

At the time the track was examined by the Commission's inspectors the ties and rails had been replaced at the point of accident and about 4 inches of ballast had been placed on top of the ties. The track south of the point of accident was inspected for a distance of about 900 feet and all of the ties were found to be rail-cut to a depth of from one-half to one inch and marks appearing on the ties immediately south of the rail joints indicated that the rails had crept toward the north about 18 inches. In several places the ties were bunched at the rail joints; at these locations the spikes were loose which permitted the rails to move in a lateral direction.

#### Conclusions

This accident was caused by the track buckling under the train, due to excessive heat and the poor condition of the track.

There was nothing found about the derailed equipment that would have caused or contributed to the cause of the accident. At the time the track was inspected by the Commission's inspectors the rails and ties had been replaced and the ties covered with sand and gravel ballast almost to the tops of the rails; consequently the exact point of derailment could not be determined. An inspection of the track immediately south of the scene of accident where the track had not been disturbed, however, disclosed that the surface of the track varied from three-eighths inch to one inch for a distance of about 400 feet; the gauge was fair. The ties were cut to a maximum depth of one inch and there was practically no ballast against the ends of the ties. In some places where spikes had been driven at the ends of the angle bars to prevent the rails from creeping the spikes were sheared off even with the base of the rails.

The evidence also indicated that heavier types of engines have recently been put into use in the territory in which the accident occurred and, according to the statements of Supervisor Dodge, the use of these heavier engines causes the rails to creep and the track to buckle to a greater extent. These conditions apparently will prevail until the track is put into such shape as to enable it to support the engines now being used.

The employees involved were experienced men, and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.