

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE PENNSYLVANIA RAILROAD AT WARWOOD, W. VA., ON OCTOBER 14, 1935.

January 19, 1936.

To the Commission.

On October 14, 1935, there was a derailment of a passenger train on the Pennsylvania Railroad at Warwood, W. Va., which resulted in the death of three employees, and the injury of five passengers and two employees.

Location and method of operation

This accident occurred on the P. W. & K. Subdivision of the Wheeling Division, which extends between Wheeling Junction and Wheeling, W. Va., a distance of 23.9 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table, train orders, and a manual block-signal system. The accident occurred at the switch leading to the plant of the Center Foundry and Machine Company at Warwood; approaching this switch from the east there are 1,155 feet of tangent, followed by a compound curve to the right 3,465 feet in length, the foundry company's switch being located on this curve at a point 165 feet from its eastern end, where the curvature is 1°. The grade for westbound trains is 0.45 per cent descending for 3,960 feet and is then level to the point of accident 1,650 feet distant.

The switch involved is a facing-point switch for westbound trains, with the switch stand located on the fireman's side of the track. The switch stand is of the New Century intermediate type, having a switch target 7 feet 3 inches high. Owing to the curve the view of this switch approaching from the east is limited to a distance of about 1,300 feet.

The track is laid with 100-pound rails, 33 feet in length, with about 20 pine and hardwood ties to the rail-length, being tie-plated on the pine ties; it is ballasted with gravel to a depth of about 18 inches.

The weather was cloudy and a light rain was falling at the time of the accident, which occurred at 3.10 p.m.

Description.

Westbound passenger train No. 531 consisted of one baggage car, three coaches and one business car, in the order named, hauled by engine 8238, and was in charge of Conductor Ikehorn and Engineman Daugherty. The baggage car was of wooden construction, while the other cars were of all-steel construction. It departed from Pittsburgh, Pa., at 12.50 p.m., on time, left Wheeling Junction at 2.24 p.m., seven minutes late, passed KR block station, 6 miles east of the point of accident, at 3.03 p.m., 11 minutes late, and was derailed at Warwood while traveling at a speed estimated at from 35 to 50 miles an hour.

The engine, tender, the first two coaches and the forward truck of the third coach were derailed; the engine and tender came to rest on their sides 326 feet west of the point of derailment; the baggage car was demolished, while the derailed coaches came to rest leaning toward the south at an angle of about 45°. The employees killed were the engineman, fireman and a road foreman of engines who was on the engine at the time of the accident.

Summary of evidence.

The last train to pass the point of accident was east-bound freight train extra 7434, known as the Warwood shifter, which it was developed stopped with a part of the train standing over the foundry company's switch while work was being performed at a traction company's switch located about 800 feet east of the point of accident; this extra then proceeded to KR block station and cleared train No. 531 at that point at 2.49 p.m. Shortly afterwards, while switching at what is known as Glenn's Run, a brakeman noticed that two of the drop doors were down on one of the hopper cars and upon investigation it was found that a part of the drop-door mechanism was missing. The door hanger, together with a piece of the broken eye-bolt which secured it to the door, later was found under the bent tie rod of the switch involved in this accident.

Investigation developed that the winding mechanism of the old type Symington winding gear on P.R.R. hopper car 177625 failed to hold the hangers in a vertical position by reason of the key bolt having come out of the center hanger, permitting the hanger, still attached to the drop door, to fall to the track, where the hook shaped upper end of the hanger arm engaged the No. 1 tie rod of the switch and bent the tie rod upward a sufficient distance and in such a manner as to pull the switch point away from the stock rail and to leave the switch point partly cocked, without changing the position of the switch target.

P. R. R. Hopper car 177625 was the 28th car from the engine in the train of extra 7434 as that train left 4th Street Yard, Wheeling, on the day of the accident. The testimony of the train crew and of the car inspector on duty at that point was to the effect that all the drop doors in the train were closed when the train left the yard. The testimony also indicates that this car stood a short distance west of the foundry company's switch while work was being performed at the traction company's switch a short distance east of the point of accident. No marks were found on the ties or track which would indicate that the drop doors had been down at any point between 4th Street Yard and the point where the car stopped near the foundry company's switch, and it appeared probable that the doors were jarred down when the head portion of the train coupled to the balance of the train after completing the work at the traction company's switch, the hanger arm catching in the tie rod of the switch as the train moved eastward from that point.

The members of the train crew stated that the accident occurred without warning, their first knowledge of anything wrong being when they felt the jar of the train as it left the rails. The four members of the train crew each estimated the speed of the train to have been between 35 and 40 miles an hour, while the officials who were riding in the business car thought it was about 50 miles an hour. Conductor Ikehorn also stated that the switch target was still displaying a clear indication when he examined it after the accident.

Conclusions.

This accident was caused by a cooked or partly opened switch, due to damage it had sustained as a result of dragging equipment in a preceding eastbound train.

The investigation developed that the key bolt had come out of the center hanger on a hopper car in the eastbound train, extra 7434; this had allowed the doors to drop down and the free end of the hanger to come in contact with one of the tie rods of the switch, bending the rod, opening the switch point, and at the same time tearing the hanger loose from the door. This hanger, together with a portion of the bolt which had secured it to the door, was found under the tie rod. It also appeared that this damage to the switch failed to change the indication of the switch target and apparently the engine crew had no warning of danger prior to the occurrence of the accident.

The hopper doors were found to be open on another car which had been in the same eastbound freight train and which had been placed on the mine track at a nearby mine, while one of the hangers had come off and was found on the track in that vicinity. The opening of hopper doors on two cars in the train of extra 7434 suggests the need of better inspection and maintenance of the door-closing mechanism on these cars.

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.