

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE PHILADELPHIA & READING RAILWAY AT PORT CLINTON, PA., ON DECEMBER 12, 1922.

January 5, 1923.

To the Commission:

On December 12, 1922, there was a derailment of a freight train on the Philadelphia & Reading Railway at Port Clinton, Pa., the wreckage of which was struck by a passenger train on an adjoining track, resulting in the death of 2 passengers, and the injury of 20 passengers and 4 employees not on duty. This accident was investigated in conjunction with a representative of the Public Service Commission of Pennsylvania.

Location and Method of Operation.

This accident occurred on that part of the Reading Division extending between West Manayunk, near Philadelphia, and Pottsville, Pa., a distance of 85.6 miles, which in the vicinity of the point of accident is a double-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The point of accident was at the station at Port Clinton; approaching this point from the north there is a curve to the left, then 430 feet of tangent and a curve of 8° leading to the right and extending to the point of accident, a distance of 1,368 feet, the grade varies from 0.34 per cent descending to level at the point of accident. The weather was clear at the time of the accident, which occurred at 9.30 p. m.

Description.

Southbound freight train extra 1712 consisted of 72 cars and a caboose, hauled by engine 1712, and was in charge of Conductor Reed and Engineman Patton. It left the yard at Mill Creek Junction, near Pottsville, at 8.47 p. m., passed Stony Creek, 2.7 miles from Port Clinton, at 9.21 p. m., and was derailed at Port Clinton while traveling at a speed estimated to have been 15 or 18 miles an hour.

Northbound passenger train No. 9 consisted of one combination car, two coaches, one parlor car, and one coach, hauled by engine 315, and was in charge of Conductor Hass and Engineman Pflueger. All the cars were of steel construction except the parlor car. This train arrived at

Port Clinton at 9.27 p. m., 11 minutes after its scheduled departing time; after the station work had been performed, including the cutting off of the rear coach, the train started and had moved about a car length when the second and third cars in the train were struck by the derailed cars of extra 1712.

Engine 1712, with its tender, was entirely derailed with the exception of the pony truck wheels; the first 18 cars in this train were derailed, and in turn caused the derailment and overturning of the second and third cars in train No. 9.

Summary of Evidence.

When about opposite the first car in train No. 9, which was just departing from Port Clinton on the north-bound track, Engineman Patton felt engine 1712 vibrate and then begin to rock, and he immediately applied the air brakes in emergency. Brakeman Fey was sitting on the left side of the engine and stated that just before the general derailment occurred, the engine rocked to such an extent that he was dislodged from his seat. Conductor Reed was riding in the caboose, and the first knowledge he had of anything wrong was when the air brakes were applied. Immediately after the accident, Engineman Patton found that the trailer truck radius bar had broken, there being an old flaw on the right side.

Head Brakeman Mengle and Flagman Knoblauch, of train No. 9, were watching extra 1712 as it passed their train and saw fire flying from under the engine, while Towerman Fitzpatrick, on duty at Port Clinton at the time of the accident, was also watching the approach of extra 1712, and noticed nothing unusual until the engine was a short distance from the tower, at which time he saw the headlight bob up and down, followed by the freight cars piling up against the cars in train No. 9.

General Locomotive Inspector Hines arrived at the scene of accident at 11.10 p. m., and immediately made an inspection of engine 1712. The trailer truck radius bar was broken on the right and left sides; the break on the left side was new, while the break on the right side showed an old flaw, constituting 75 or 80 per cent of the cross-sectional area of the bar. Grease and dirt adhering to the bar obscured this defect to such an extent it would have been difficult to detect it. The outside face of the right front driving wheel was polished, while the inside face of the left front driving wheel was cleaned, indicating these wheels had derailed to the left and were then carried for a considerable distance, hugging close to the rails,

there were also a few nicks in the wheel treads. None of the other driving wheels showed any such marks. General Locomotive Inspector Hines was of the opinion that the primary cause of the accident was the breaking of the trailer truck radius bar, and this had a tendency to transfer some of the weight from the front pair of driving wheels, thereby permitting them to climb the rails. To support this conclusion there was evidence of excessive weight having been on the trailer truck spring, the ends of the leaves being flattened out.

An examination of the southbound main track disclosed the first mark of derailment to be on an angle bar on the gauge side of the west rail, at a point approximately 330 feet north of a crossover switch frog. Between this point and the frog, several bolt heads had been sheared from the angle bars on the gauge side of the west rail. The gauge side of the head of the west rail, and the outside face of the head of the east rail, showed evidence of contact with wheel faces. With these exceptions, there were no marks of derailment on the ties or roadbed north of the switch frog, or anything to indicate dragging equipment, but south of the frog the track was completely torn up for a distance of 450 feet.

Conclusions.

This accident was caused by the breaking of the trailer truck radius bar on engine 1712.

Apparently the engine had reached a point just in advance of the crossover when the trailer truck radius bar broke completely at the old flaw, and this caused the engine to sag at the rear, thereby reducing the weight on the front driving wheels, and resulting in these wheels being derailed to the left, after which they were carried in a semi-suspended position until the switch frog of the crossover was reached, beyond which point the track was torn up and the engine and cars immediately following were entirely derailed.

None of the employees involved had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BOPLAND,

Director.