

March 10, 1915.

In re: Investigation of accident which  
occurred on the Baltimore & Ohio  
Railroad, near Youngstown,  
Ohio, February 19, 1915.

On February 19, 1915, there was a derailment of a freight train on the Baltimore & Ohio Railroad, near Youngstown, Ohio, resulting in the death of one employee, and injury to one employee. After investigation of this accident, the Chief of the Division of Safety submits the following report.

. Eastbound freight extra drawn by engine 4109, consisted of 44 loaded cars, one empty car and a caboose, and was in charge of Conductor Burdge and Engineman Wallace. It left Chicago Jct., Ohio, at 12.30 a.m., and at Ohio Junction, the last telegraph office, about 4.2 miles west of the point of derailment, they were held 45 minutes, taking water and allowing trains to pass. It departed from that station at 6.55 a.m., and was derailed at a switch leading to the Youngstown Garbage Plant, about 1.1 miles east of Youngstown passenger station, at 7.10 a.m., while running at a speed of about 50 miles per hour.

The locomotive was derailed, but remained upright on the road-bed. The tender went down the bank on the south side of the track. Ten loaded stock cars were piled up on both sides of the locomotive. The weather at the time of the accident was clear.

The New Castle Division, of the Baltimore and Ohio Railroad, on which this accident occurred, is a double track line extending from Chicago Junction, Ohio, to New Castle Jct., Pa.

The movement of trains is controlled by time table, train order and a manual block signal system. The track in the vicinity of the accident is laid with 90-lb. steel rails, 33 feet in length, on oak ties, about 18 ties to the rail. The track is ballasted with slag. The accident occurred on a curve to the south, 990 feet in length, the curvature ranging from 3 to 5 degrees. At this point the track is on an 8-foot fill and there is a slight descending grade for eastbound trains. The switch, leading to the Youngstown Garbage Plant on the south side of the main track, is a facing point Martin switch, and is located about 300 feet east of the west end of the curve.

Engineman Wallace stated that the first intimation he had of the impending accident was a slight jerk of the engine. He stated that he looked around and saw that the front tender truck was derailed; the rear truck he could not see. He at once made an emergency application of the brakes and almost immediately the tender turned over. He further stated that approaching the point of accident his train was running at a speed of 30 or 35 miles per hour.

Conductor Burdge stated that his train was held at (his) Jet., about 45 minutes, and during that time he walked around the entire train, making a thorough inspection, but did not discover anything wrong.

An examination of the forward tender truck after the accident disclosed a broken arch bar on the right side. The breaking of this arch bar permitted the bolster to drop down so that the nut on the forward column bolt was a fraction of an inch above the top of the rail, and about 10½ inches south of the gauge side

of the south rail, the nut and the end of the column bolt were worn bright and badly scored, evidently caused by having scraped over some part of the track or roadway.

Yard Conductor Dixon, in charge of a switching engine in the Youngstown yard, stated that he had used the Barton switch at the Garbage plant every day since February 2nd. He stated that the thread on the end of the No. 1 switch rod was stripped for about two inches, allowing that much lost motion, and also that one side of the yoke connecting No. 2 switch rod to the riser rail was broken. He also stated that when an engine was pulling out of this switch the rear wheel, after leaving the riser-rail, frequently rode the main track rail from 3 to 5 inches before dropping down into place. He had called the attention of the Asst. Yardmaster, the track supervisor, and the Asst. Div. Engineer to this condition. About a week before the accident occurred, the Asst. Div. Engineer accompanied him to the switch and made an examination of it. He further stated that while he considered the switch safe for main track movements, in his opinion it was not safe for trains pulling out of the siding.

Section Foreman Clementi stated that he examined this switch about 3 days prior to the accident and at that time the thread on No. 1 switch rod was loose and one connecting bar was broken. He stated that the switch had been in this condition about three months and that he had talked with Supervisor Everhart about it. He stated further that he had no rod with which to make necessary repairs.

Track Supervisor Everhart stated that Yard Conductor Dixon had called his attention to the condition of this switch and upon examining it, he found that when a car or engine came out of the siding, the first pair of wheels passed in the proper manner, but that the flange of a following wheel after leaving the riser rail would ride the main track rail 4 or 5 inches before dropping down. He renewed several of the ties and raised the riser rail, but this did not seem to better conditions. He then tightened up everything he could and let it go that way. He did not know that the thread on No. 1 switch rod was stripped. The last examination which he made of the switch was some time in January. After the accident he made measurements and found the switch point had a throw of 4-7/8 inches.

Assistant Division Engineer Cassel stated that his attention was called to the condition of this switch, by Conductor Dixon about February 10th. At that time he examined it and found that the thread on the connecting rod joining to No. 1 switch rod was stripped and that one side of the yoke on No. 2 switch rod was broken. He also found that the flange, of the rear driver, of an engine leaving the siding, rode the main track rail for 3 or 4 inches, after leaving the riser rail, before dropping down into place. He stated that he considered the switch safe for main line movements, as the remaining switch and connecting rods would hold the switch point away from the stock rail.

Division Engineer Gordon stated that after this switch had been reported to him he discussed it with Supervisor Everhart

and had been informed by him that the trouble had been corrected. He did not know that any of the switch parts were broken. He stated that shortly after the accident he examined the track, west of the point of derailment, to see if any marks could be found. At a crossing in front of Youngstown passenger station he found a mark 22 inches long on the end of the crossing plank. About fourteen feet further east on the east end of the crossing plank he found a similar mark about 21 inches in length. Both of these marks were level with the top of the rail and about ten inches south of the gauge side of the south rail. On the wing rails of three switch frogs between the station and the point of the accident, he found fresh marks about ten inches south of the gauge side of the south rail. He stated that when the switch was set for the main track, the outside of the riser rail was 9-11-12 inches from the gauge of the stock rail. The southwest corner of the riser rail bore a mark indicating that something had struck it and slid along the outside of the riser rail for a distance of about four feet. This mark was fresh and bright.

Master Mechanic McGuire stated that shortly after the accident he examined the switch and found No. 1 head rod stripped and No. 2 head rod disconnected from the stock rail due to No. 2 connecting rod being broken; this was a fresh break. One side of the yoke on No. 2 rod was broken. He also found No. 1 connecting rod was not connected to the switch point and apparently had been in that condition some time.

This accident was caused by the broken arch bar on the forward tender truck of engine 4109 allowing the bolster to drop

down so that the forward column bolt came in contact with the riser rail of a defective switch.

It is known that the switch was defective and that this condition permitted considerable lost motion in the switch point and riser rail.

The location of the marks made upon the crossing plank at Youngstown passenger station and on the switch frogs between the station and the point of derailment, indicate that they were made by the column bolt of the forward tender truck and that the bolt was in a position to engage the riser rail of the Wharton switch.

The marks on the outside of the riser rail indicate that it had been engaged by something along its outer edge, the lost motion in the switch connections allowing it to be forced inward until the wheel flange on the north rail caught the switch point and forced it up against the stock rail, breaking No. 2 connecting rod and allowing the rear tender truck to take the switch point and be derailed.

This switch was defective and had been so for some weeks. It had been reported to several officials and they had examined it and knew of its condition; notwithstanding this, nothing had been done toward replacing or repairing its defective parts.

It is believed that had this switch been in proper repair, the column bolt would have passed over the top of the riser rail, as it had passed over the wing rails of the three

preceding switch frogs, without displacing the rails, and the train would not have been derailed.

A proper regard for the safe operation of trains should have required that this switch should have been immediately repaired when its defective condition was first discovered.