

Meyer
2/24/21
IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
PENNSYLVANIA RAILROAD AT MOUNT CARMEL, PA., ON NOVEMBER
15, 1920.

February 17, 1921.

On November 15, 1920, there was a collision between a Lehigh Valley light engine and a Lehigh Valley passenger train on the tracks of the Pennsylvania Railroad at Mt. Carmel, Pa., resulting in the death of 1 employee and the injury of 8 passengers. After investigation of this accident the Chief of the Bureau of Safety reports as follows:

The section of track on which this accident occurred, between Mt. Carmel Station and Mt. Carmel junction, a distance of approximately 330 feet, is used jointly by the Lehigh Valley and Pennsylvania Railroads. At Mt. Carmel Junction this track connects with the Mahanoy-Hazleton Division of the Lehigh Valley Railroad. Between Mt. Carmel Junction and Diamondtown, on the Lehigh Valley Railroad, a distance of about .3 mile, this is a single-track line, and between Diamondtown and Hazleton Junction, a distance of about 36.3 miles, it is a double-track line. Trains are operated by time-table and train orders, no block signal system being in use. Approaching the point of accident from the east, beginning at the end of double track at Diamondtown, there is a tangent about 100 feet in length, near the western end of which is located a facing-point switch for westbound trains, normally set for movements to Sioux Junction, from this switch westward for about 1,300 feet the track is made up of a series

of short, sharp curves and short sections of tangent track leading to the point of accident. Approaching the point of accident from the east the grade is about 1.71 per cent descending for more than a mile and a half to Diamondtown, and from Diamondtown to within a short distance of the point of accident it is 2.71 per cent descending. The weather at the time of the accident was cloudy.

Eastbound passenger train No. 180, consisting of engine 1632, 1 combination baggage and express car, 1 smoking car and 1 coach, in the order named, all of all-steel construction, in charge of Conductor L. H. Beltz and Engineman Canahan, was standing at Mt. Carmel Station ready to begin its eastbound trip when, at about 7.05 a.m., it was struck by light engine 336.

Eastbound freight train extra 336, consisting of engines 336 and 362, 41 cars, helper engines 324 and 341, and a caboose, in the order named, was in charge of Conductor M.D. Beltz and Enginemen Shaup and Trout. It left Mt. Carmel yard at about 6.28 or 6.30 a.m., intending to run ahead of train No. 180 as far as Centerville, about 5 miles east of Mt. Carmel, but owing to a heavy train and the poor steaming of engine 362 the train was so much delayed that upon arriving at Morris Ridge Crossover, approximately $2\frac{1}{2}$ miles east of Mt. Carmel Station, it was decided to stop the train west of the crossover switches and back the leading engine on the westbound main track to the crossover located at Sayre

Colliery, about 7,980 feet west of Morris Ridge Crossover, there flag train No. 180, and pilot it along the westbound track around extra 336. Engine 336 was backing light on the westbound track and had reached a point about 6,930 feet west of Morris Ridge Crossover when the left main crank pin broke. This was followed by the main rod crippling the reverse gear, and also by the knocking off of the main reservoir and piping, rendering the brake equipment inoperative. At about this time the left back side rod punctured the left front corner of the fire box at the arch tube location, tearing a hole in the throat sheet and flue sheet and permitting the boiler and firebox contents to be blown through the opening and into the cab. The escaping steam forced the employees in the cab to jump from the engine, the conductor being killed in jumping, and the fireman, engineman and flagman being injured, the fireman fatally. Engine 336 continued down the grade and collided with train No. 180 while traveling at a speed estimated to have been about 30 miles an hour.

As a result of the collision train No. 180 was driven backward a distance of about 140 feet and engine 1632 considerably damaged. Its tender was driven against the baggage car and both the baggage car and the tender were somewhat damaged. The employee killed by the collision was the baggage-man of train No. 180.

Engineman Shaup, in charge of engine 336, stated that as the train was ascending the grade he had noticed a slight

pounding which he thought was located in the cross head. After the engine had been cut off and while it was backing down the westbound track he heard a noise and knew that something had broken. He then tried to apply the independent brake but without success, following which he tried to make an emergency application of the automatic brakes and then placed the reverse lever in the forward position. The fireman told him that there was something wrong on the left side of the engine but Engineman Shaup said it was difficult to see on account of the dust. At about the time Engineman Shaup tried to reverse the engine, steam came back into the cab, forcing the employees in it to jump. Engineman Shaup's statements were practically corroborated by those of Flagman Donat, who was riding on the engine at the time.

Flagman Markle, of train No. 180, had remained at the crossover at Diamondtown while his train was at the station at Mount Carmel. At this time the switch at the end of double track was lined for the eastbound track, while the switch normally lined for movements to Sioux Junction was lined for a movement to the station at Mount Carmel. Flagman Markle saw engine 336 approaching when it was about $\frac{1}{4}$ mile distant, moving at an unusual rate of speed, with the cab partially concealed by escaping steam. The flagman said he walked toward it giving stop signals, and when no answer to his signals was given it occurred to him that the engine was running away and he ran toward the Sioux Junction switch in the endeavor to open it and thus divert the engine from the track

leading to the station, but he had only reached the switch when engine 336 passed it. None of the other members of the crew of train No. 180, who were with the train at the station, knew anything of the approach of engine 336 until a few seconds before it collided with their train.

Examination of engine 336 subsequent to the accident disclosed that there had been a flaw in the broken crank pin covering approximately one-third of its area; this flaw started at the key-way and extended to within 5/8 inch of the hollow bore of the pin. The flaw was inside of the hub bore and it would not have been visible to inspection even if the side rods had been removed. The engine was in the back motion of the right or undamaged side, with the link and its connections on the left side bent upward. The reverse lever was in the forward position, while the reach rod was broken. The boiler contents had been blown through the fire box into the cab with sufficient force to blow all the fire from the grates, in addition to blowing some of the bricks from the arch through the fire-box door into the tender. Engine 336 had received general repairs in 1919, while on June 6, 1917, 6 new crank pins were applied, one of them being the one the breaking of which resulted in this accident.

This accident was caused by the breaking of the left main crank pin of engine 336, resulting in subsequent damage of such a nature as to render the reverse gear and power brakes

inoperative, the engine running down the grade and colliding with train No. 180.

The members of the crew of extra 336 were experienced men; at the time of the accident they had been on duty about 4 hours after periods off duty varying from 12 hours to 33 hours.