

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
PHILADELPHIA & READING RAILWAY NEAR LINFIELD, PA., ON
NOVEMBER 2, 1920.

February 3, 1921.

On November 2, 1920, there was a rear-end collision between two freight trains on the Philadelphia & Reading Railway near Linfield, Pa., which resulted in the death of 1 employee and 1 other person. After investigation the Chief of the Bureau of Safety reports as follows:

The Reading Division, on which this accident occurred, extends between Reading, Pa., and Philadelphia, Pa., a distance of 59.6 miles. In the vicinity of the point of accident this is a 4-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The signals are of the inclosed-disc type, mounted on bracket posts carrying two signal masts, two disc signals being supported vertically on a single mast, the color indications are red and yellow, green and yellow, and double green, for stop, caution and proceed, respectively. The signals involved in this accident are signals 125 and 127, located 8,796 feet and 3,843 feet, respectively, north of the point of accident, which occurred 3,249 feet north of the station at Linfield. Approaching the point of accident from the north, beginning at signal 125, there are several curves and tangents, followed by a 4-degree curve to the left on which the accident occurred, at a point 1,862 feet south of its northern end. At this point the track is laid in a rock cut about 18 feet in depth; this cut, together with the abutment of an overhead bridge located 230 feet north

of the point of accident, restricts the view across the inside of the curve to 820 feet. The weather at the time was clear.

Southbound freight train No. 58, en route from Tamaqua, Pa., to Philadelphia, consisted of engine 1581, 50 cars and a caboose, and was in charge of Conductor McGlinchey and Engineman Rolland. It left Reading at 11.48 p.m., November 1, and arrived at Linfield at 12:50 a.m., November 2. The train was ready to proceed after having set out a car, when its rear end was struck by train No. 258 at about 1:10 a.m.

Southbound freight train No. 258, en route from Rutherford, Pa., to Philadelphia, consisted of engine 1578, 34 cars and a caboose, and was in charge of Conductor Strawhecker and Engineman Fox. It passed Keim Street, 5 miles from Linfield and the last open telegraph office, at 12:55 a.m., 17 minutes behind train No. 58, passed signal 125 in the caution position and signal 127 in the stop position, exploded two torpedoes, passed the flagman of train No. 58, and collided with the rear end of that train while running at a speed estimated to have been from 25 to 30 miles an hour.

The caboose and two cars of train No. 58 were destroyed, and three cars considerably damaged. Engine 1578, of train No. 258, was partly derailed and its front end badly damaged. The employee killed was the head brakeman of train No. 58.

According to Conductor McGlinchey, after the car had been set out the engineman sounded the whistle signal to call in the flagman. About a minute afterward the engineman attempted to start the train and then told him, the conductor,

that something was wrong with the air. On going back to the rear of the train the conductor found that the collision had occurred. Flagman Walker had put down two torpedoes, but his statements as to their location do not agree, at first he said he put them down about 350 yards from the rear of his train, while afterwards he estimated this distance to have been about 60 car-lengths. After putting down the torpedoes, according to Flagman Walker's statements, he walked back a little farther, could not see anything coming, walked in toward his train, stopped and listened, and then started to run toward his train, thinking he was a considerable distance from it and that he might get left if it should depart. While running in he heard an engine working steam, stopped and then started to run toward the approaching train, swinging his red and white lanterns. He said he received no response to his signals but thought the engineman shut off steam after exploding the torpedoes and he said he also noticed fire flying from the wheels. Flagman Walker thought he was about 5 car-lengths north of the over-head bridge, which would be about 450 feet from the rear of his train, when the engine of train No. 258 passed him.

Signal 125 was displaying a caution indication when it was passed by the engine of train No. 258. Engineman Fox saw the indication of the signal but did not make any attempt to reduce the speed of his train, which he estimated to have been about 30 miles an hour, because he thought he would see the indication of signal 127 in ample time to enable him to stop

if it should be displaying a stop indication. On account of thinking of family troubles, Engineman Fox failed to observe the indication of signal 127, not looking for it until just after he had passed the signal, although it was in plain view on straight track for a distance of more than 4,000 feet. He did not realize that there was a train immediately ahead of him until the engine exploded two torpedoes and at about the same time he saw Flagman Walker and the rear end of train No. 58; he then applied the air brakes in emergency, opened the sanders, and sounded the whistle. Engineman Fox afterwards estimated the position of the flagman when he first saw him to have been 13 car-lengths north of the overhead bridge and 4 or 5 car-lengths in front of the engine.

Conductor Strawhecker and Head Brakeman Hinckle were riding on the left side of the engine. Both of these employees saw signal 125, but Conductor Strawhecker said he then turned to look back along the train and did not see signal 127, while Head Brakeman Hinckle said he was doing the same, thinking that the conductor would look for the next signal. According to Conductor Strawhecker, the torpedoes were only a short distance north of the overhead bridge. He said the engineman sounded the whistle and applied the air brakes just before the torpedoes were exploded and that at about the time of their explosion he saw the rear end of train No. 58 and also the flagman, who was in the vicinity of the overhead bridge. On going over the ground at the

scene of the accident Conductor Strawhecker decided that when he first saw the flagman he was about 500 feet from his train. Head Brakeman Hinckle saw the flagman and the rear end of train No. 58 when about 15 car-lengths distant, and estimated the flagman to have been about 3 car-lengths from the rear of his train. Engine 1578 is of the double-cab type, and Fireman Eisenacher said he was working on the fire and did not see either of the automatic signals, his first knowledge of anything wrong was the explosion of the torpedoes, at about which time the whistle was sounded and on looking out he saw the flagman near the overhead bridge.

Engineman Fox was very positive that he was wide awake, although he said he had only 5 hours sleep in the preceding 24 hours. Conductor Strawhecker had had about the same amount of sleep, and while he said he did not feel the need of any more sleep he thought his eyes closed for about a minute at Sanatoga, a station 2.9 miles from Linfield, and he thought he might have been asleep approaching the point of accident.

The accident was caused by the failure of Engineman Fox, of train No. 258, properly to observe and be governed by automatic block-signal indications, and by the failure of Flagman Walker properly to protect his train. A contributing cause was the failure of Conductor Strawhecker properly to observe signal indications and the stop signals of Flagman Walker.

Engineman Fox admitted that he observed the caution indication of signal 125, but did not take any steps toward

reducing the speed of his train in readiness to stop at the next signal, and that he failed to see the indication of that signal. While Flagman Walker's statements vary as to the location of the torpedoes, it is believed his statement that they were put down about 350 yards from the rear of his train is more nearly correct. This location agrees roughly with the location of the torpedoes as indicated by the statements of the crew of train No. 258. Train No. 258 had been stopped about 20 minutes when the accident occurred. On account of the long curve and obscured view, extending over a distance of more than 1800 feet from the rear of the train. Flagman Walker should have made particular effort to utilize the time he had at his disposal and give his train the protection which should have been provided.

Conductor Strawhecker was riding on the engine and not only failed to observe the indication of signal 127 but it seems probable that at some time after passing signal 125 he fell asleep and did not awaken until the torpedoes were exploded under the engine. While ordinarily not responsible for the observation of signal indications, in this particular case Conductor Strawhecker was in a position to observe the signals and he is at fault for his failure to do so.

Engineman Fox was employed as a fireman in 1903 and promoted to engineman in 1905; he had been disciplined on two occasions for responsibility in connection with rear-end collisions. Flagman Walker was employed as a brakeman in 1892, his record was good. Conductor Strawhecker was em-

ployed as brakeman in 1900 and promoted to conductor in 1907; he had been disciplined on one occasion for responsibility in connection with a collision.

Engineman Fox and Conductor Strawhecker had been on duty about $4\frac{1}{2}$ hours, after over 14 hours off duty.