

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 2999
THE PENNSYLVANIA RAILROAD COMPANY
REPORT IN RE ACCIDENT
NEAR TRAZEYSBURG, OHIO, ON
JUNE 26, 1946

SUMMARY

Railroad: Pennsylvania
Date: June 26, 1946
Location: Frazeytsburg, Ohio
Kind of accident: Collision
Equipment involved: Front and rear portions of
freight train
Train number: Extra 6728 East
Engine number: 6728
Consist: Front portion- : Rear portion-
engine and 30 cars 26 cars,
caboose
Estimated speed: Standing : 5 m. p. h.
Operation: Signal indications
Track: Double; tangent; 0.02 percent
descending grade eastward
Weather: Clear
Time: 4:58 p. m.
Casualties: 1 killed
Cause: Defective draft gear attachments

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2999

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 8, 1910.

THE PENNSYLVANIA RAILROAD COMPANY

August 19, 1946.

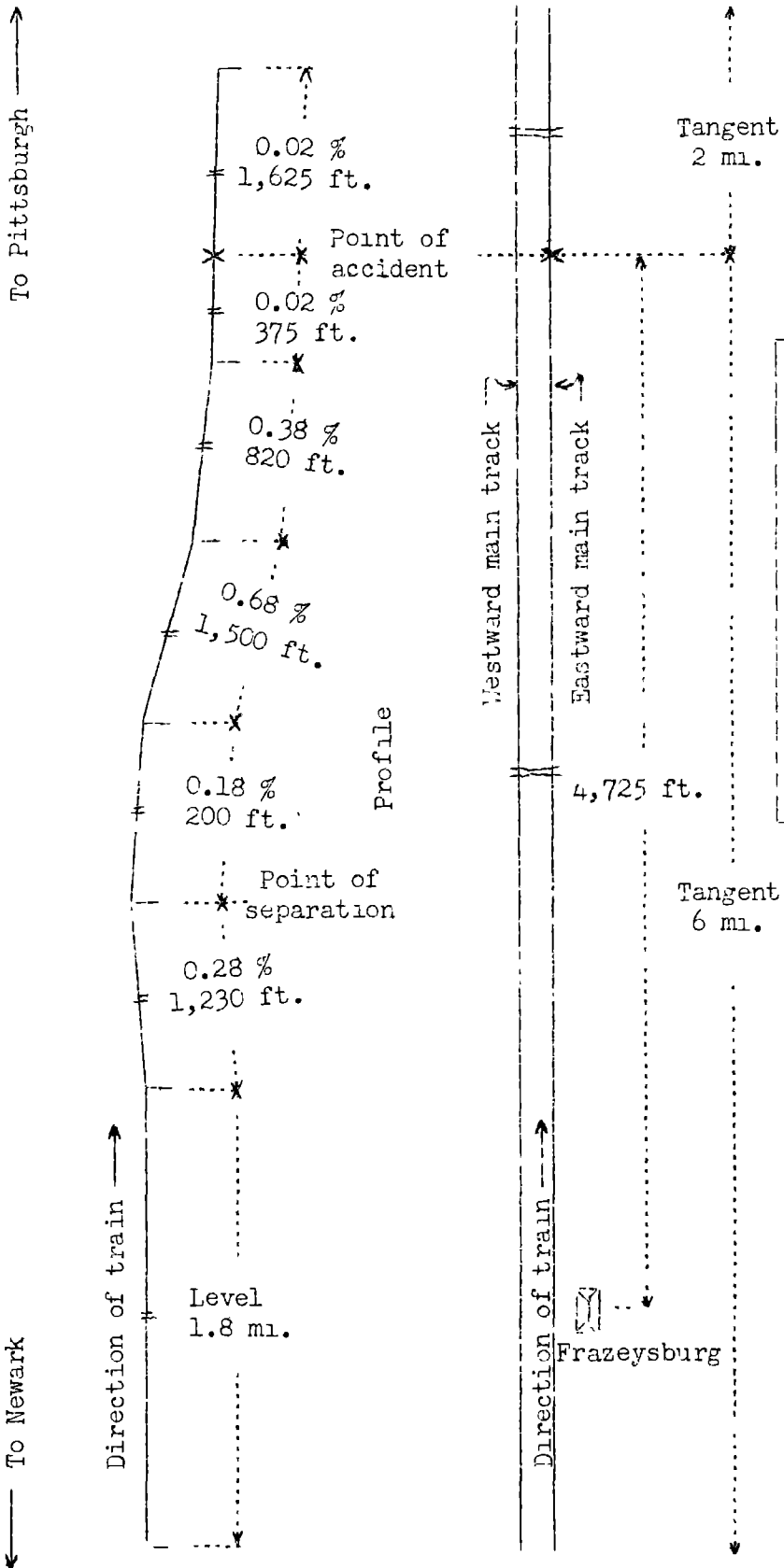
Accident near Frazeytsburg, Ohio, on June 26, 1946, caused
by defective draft gear attachments.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On June 26, 1946, there was a collision between the front and rear portions of a freight train on the Pennsylvania Railroad near Frazeytsburg, Ohio, which resulted in the death of one employee.

¹Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



○	Pittsburgh, Pa.	0.20 mi.
○	Division Post	140.80 mi.
X	Point of accident	0.90 mi.
○	Frazeysburg, Ohio	0.90 mi.
○	Bricker	14.80 mi.
○	Division Post	0.20 mi.
○	Newark	33.10 mi.
○	Columbus, Ohio	

Inv. No. 2999
 Pennsylvania Railroad
 Frazeysburg, Ohio
 June 26, 1946

Location of Accident and Method of Operation

This accident occurred on that part of the Panhandle Division extending between Division Post, near Newark, Ohio, and Division Post, near Pittsburgh, Pa., 157.4 miles, a double-track line in the vicinity of the point of accident, over which trains moving with the current of traffic are operated by signal indications. The accident occurred on the eastward main track, 16.61 miles east of Division Post, near Newark, at a point 4,725 feet east of the station at Frazeyburg. The main tracks are tangent throughout a distance of 6 miles immediately west of the point of accident and 2 miles eastward. The grade for east-bound trains is level throughout a distance of 1.8 miles, then it is, successively, 0.28 percent ascending 1,230 feet, 0.18 percent descending 200 feet, 0.68 percent descending 1,500 feet, 0.38 percent descending 620 feet and 0.02 percent descending 375 feet to the point of accident and 1,625 feet eastward.

Brake and Train Air Signal Instructions read in part as follows:

26. Emergency Application, Accidental or from Train--Should the brake apply suddenly, the steam throttle or controller must be immediately closed, and the brake valve on all locomotives in the train moved to emergency position, and left there until the train has stopped. Locomotive and tender brakes must not be released with the independent brake valve until after the train has stopped.

* * *

The maximum authorized speed for freight trains is 50 miles per hour.

Description of Accident

Extra 6728 East, an east-bound freight train, consisting of engine 6728, 56 cars and a caboose, departed from Columbus, 49 miles west of Frazeyburg, at 3:20 p. m., passed Bricker, the last open office, 0.90 mile west of Frazeyburg, at 4:51 p. m., passed Frazeyburg and while it was moving on the eastward main track at an estimated speed of 50 miles per hour the brakes became applied in emergency as a result of a separation between the thirtieth and thirty-first cars. The separation occurred at the point where the gradient changed from 0.28 percent ascending to 0.18 percent descending. The front portion of the train, which consisted of the engine, 22 loaded and 8 empty cars, 1,894 tons, stopped about 4:58 p. m. approximately

2,900 feet east of the point of separation, with the west end of the rear car standing 0.91 mile east of the station at Frazeyburg. Immediately afterward the rear portion, which consisted of 23 loaded and 3 empty cars and the caboose, 1,587 tons, and moving at an estimated speed of 5 miles per hour, struck the west end of the front portion.

The thirtieth and thirty-first cars were not damaged in the collision. The front end of the twentieth car was knocked off center. The front end of the first car overrode the end-sill of the tender of engine 6728. The front end of this car and the rear end of the tender were considerably damaged.

The weather was clear at the time of the accident, which occurred about 4:58 p. m.

The front brakeman was killed.

The thirtieth car of Extra 6728, B. & O. 83785, a box car built in 1912, is of steel-underframe construction. Its capacity is 80,000 pounds, and at the time of the accident it contained about 36,000 pounds of tin blocks. This car was provided with top-operated type D couplers, equipped with No. 3 lock lifts and 11-inch type E knuckles. The draft gear at the west, or B, end of the car was of A.A.R. approved friction type, and had 3 horizontal cross keys. The thirty-first car, U.T.L.X. 97546, a tank car built in 1923, is of all-steel construction. Its capacity is 100,000 pounds, and at the time of the accident it contained 60,000 pounds of liquid ether. This car was provided with top-operated type E couplers, equipped with 11-inch type E knuckles. The draft gear at the east end of the car was of A.A.R. approved friction type, having a cast-steel yoke and a horizontal cross key. In the front portion, 20 cars had AB type and 10 had K type brakes. In the rear portion, 14 cars had AB type and 13 had K type brakes.

Discussion

Extra 6728 East was moving on the eastward main track at a speed of about 50 miles per hour, in territory where the maximum authorized speed is 50 miles per hour, when the brakes became applied in emergency as a result of a separation which occurred between the thirtieth and thirty-first cars. When the brakes became applied in emergency the engineer immediately closed the throttle and moved the automatic brake valve to emergency position. When the front portion of the train stopped the engineer moved the independent brake valve to application position. Immediately afterward the west end of the front portion of the train was struck by the rear portion. As a result of the impact, the front end of the first car of the front portion overrode the rear end-sill of the engine tender. The front

brakeman, who had been in the brakeman's booth on the tender, was preparing to step from the rear end-ladder of the tender to the ground when the impact occurred, and he was fatally injured.

The separation occurred at a point where the grade changed from 0.25 percent ascending to 0.18 percent descending. The front portion moved away from the rear portion immediately after the separation occurred, and then the rear portion while moving at a speed of about 5 miles per hour collided with the front portion, which had stopped 3,295 feet beyond the point of separation. Investigation disclosed that the air hose at the rear end of the thirtieth car and the front end of the thirty-first car were separated but were in good condition, and the angle cocks were open. The average weight of the cars of the rear portion was 8.5 tons greater than that of the front portion. Considering all these factors, apparently the front portion moved away from the rear portion during the time all of the front portion was on a descending grade and most of the rear portion was on an ascending grade, then as the front portion entered practically level track the rear portion, with a lower braking ratio, was on the descending grade and continued to move after the front portion had stopped.

Examination after the accident disclosed that the north center-sill and the end-sill at the west end of the thirtieth car were broken near the point of intersection. These were old breaks. The break in the center-sill extended diagonally downward from the top through the front keyway and the cheek plate. The break in the end-sill extended vertically downward from the top to a point about midway of the section. The front draft cross key was worn $3/8$ inch and was bent out of alignment $5/8$ inch. The carrier iron of the coupler at the east end of the thirty-first car was worn about $1/4$ inch on the top surface, and the shim plate was missing. In tests with these cars standing on level track with the horns of the couplers near the carrier irons the height of the couplers above the level of the tops of the rails was within the required limits. However, it was possible to extend the couplers so that there was a vertical contact surface of only 6 inches at the pulling faces of the knuckles. The defective condition of the draft gear attachments of the thirtieth car permitted abnormal extension and upward displacement of the coupler of this car and the missing shim and the worn condition of the carrier iron of the thirty-first car permitted an abnormal downward displacement of the coupler of this car. These conditions, during movement of the train, resulted in the separation of the couplers of the cars at the point where the grade changed from ascending to descending. Although the knuckles were found closed immediately after the accident, there was no mark on either

coupler which indicated the manner in which the slip-over occurred. There had been no excessive slack action in the train, and the brakes had properly functioned en route. The equipment of this train was last inspected by members of the mechanical forces at Columbus, Ohio, 49 miles west of Frazoysburg, several hours prior to the occurrence of the accident, but the defective condition of the cars in question was not observed.

Cause

It is found that this accident was caused by defective draft gear attachments.

Dated at Washington, D. C., this nineteenth day of August, 1946.

By the Commission, Commissioner Patterson.

(SEAL)

J. P. BARTEL,
Secretary.