1938

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN ACCIDENT ON THE PENNSYLVANIA RAILROAD NEAR LAUREL HILL, PA., ON OCTOBER 21, 1934.

November 30, 1934.

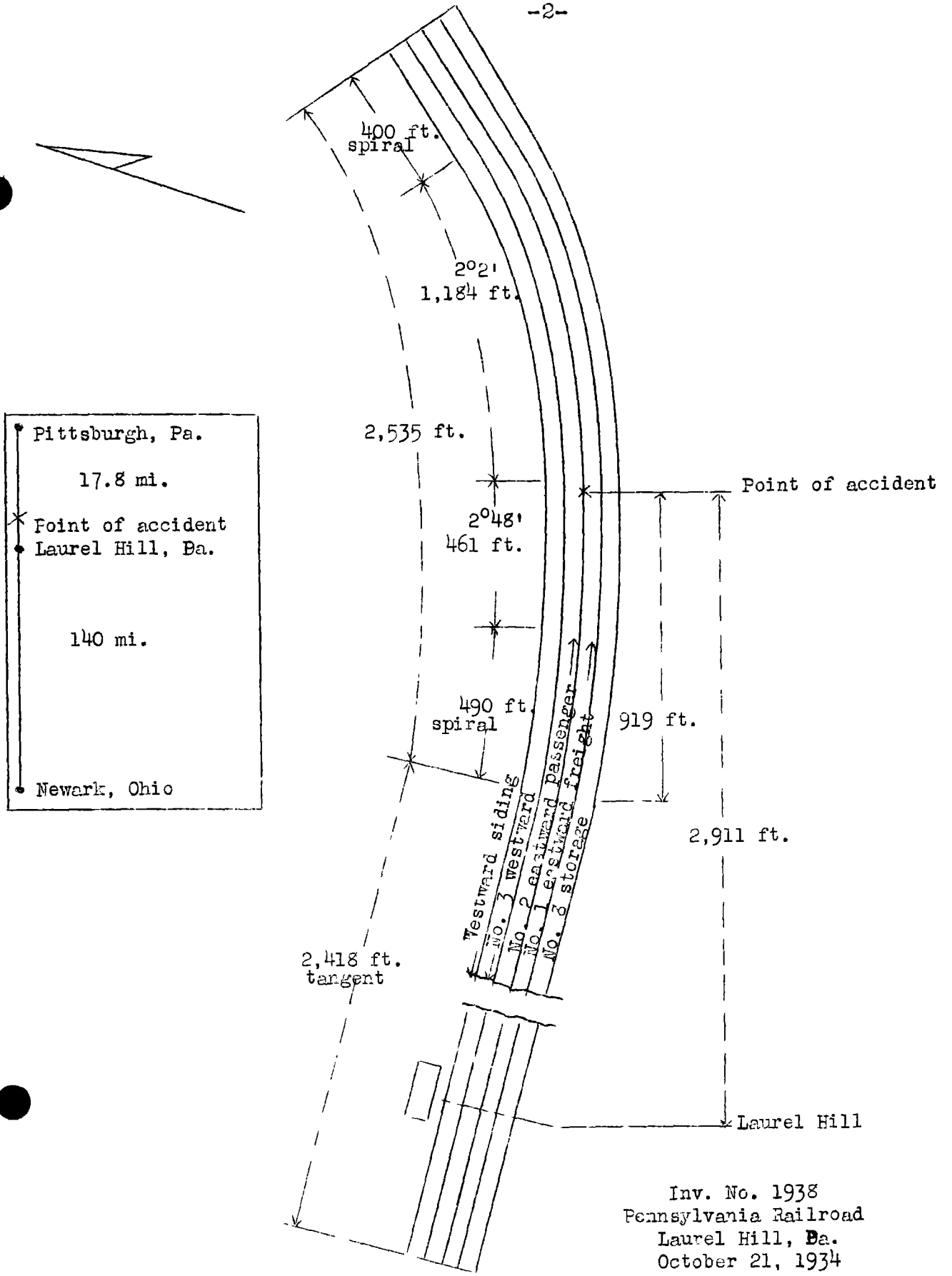
To the Commission:

On October 21, 1934, there was a derailment of a passenger train on the Pennsylvania Railroad near Laurel Hill, Pa., which resulted in the death of 1 employee and the injury of 4 passengers and 1 employee.

Location and method of operation

This accident occurred on that part of the Panhandle Division which extends between Newark, Ohio, and Pittsburgh, Pa., a distance of 157.8 miles. In the vicinity of the point of accident this is a 3-track line over which trains are operated by time table, train orders, and an automatic block-signal system, supplemented by an automatic cab-signal system. The tracks are designated from south to north as track 1, eastward freight; track 2 eastward passenger, and track 3, for westward movements; these tracks are paralleled on the north by a westward siding and on the south by storage track 8. The accident occurred on track 3 at a point 3,911 feet east of Laurel Hill Block Station. Approaching this point from the west, the track is tangent for a distance of 3,418 feet, followed by a compound curve to the left 2,535 feet in length, this curve consisting of a spiral 490 feet in length, a 3°48' curve for 461 feet, and a 2°2' curve for a distance of 1,184 feet, followed by 400 feet of spiral, the accident occurring at the eastern end of the 3°48' portion of the curve. The grade for east-bound trains is level for a distance of 2,800 feet, followed by 0.11 percent descending grade for a distance of 800 feet to and beyond the point of accident.

The track is laid with 130-pound rails, 39 feet in length, with from 22 to 24 treated ties to the rail length, and is ballasted with limestone to a depth of from 18 to 24 inches below the ties. On the curve on which the accident occurred heavy duty tieplates are used with one rail-holding spike and



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one plate-holding spike on each side of each rail; four anti-creepers to each rail are used. The track is well maintained. The maximum speed limit for passenger trains on track 2 is 60 miles per hour.

At the time of the accident 10 gondola cars were standing on the storage track about 360 feet east of the point of derailment.

The weather was clear at the time of the accident, which occurred about 10.13 p.m.

Description

East-bound passenger Extra 8373 consisted of 1 combination baggage and passenger car, 1 coach, 2 Pullman sleeping cars, 1 dining car, 1 Pullman sleeping car and 1 Pullman observation car, all of steel construction, hauled by engine 8373, and was in charge of Conductor Graham and Engineman Black. This train passed Weirton Junction, 23.4 miles west of Laurel Hill, at 9:42 p.m., according to the train sheet, passed Laurel Hill at 10:12 p.m., and was derailed at a point approximately ½ mile beyond while traveling at a speed estimated to have been between 55 and 60 miles per hour.

The entire train was derailed with the exception of the rear truck of the last car. The engine stopped on its right side on track 1 about 643 feet beyond the point of derailment, having sideswiped and torn the side planks from four of the gondola cars which were standing on the storage track. The tender remained coupled to the engine and was leaning to the right on track 1 at an angle of about 45°. The cars remained upright in general line with the track and coupled together except between the second and third cars. The engine was somewhat damaged but none of the cars was damaged to any great extent. The engineman was killed, while the employee injured was the fireman.

Summary of evidence.

Fireman Slack stated that on passing Laurel Hill the wayside signal and also the cab signal displayed clear indications; it was a moonlight night, the headlight was burning, and he had a clear view of the track ahead at all times, but he did not notice anything on the track or any one in the vicinity of the point of accident. The engine was in good condition and running smoothly, and the air brakes had been tested and worked properly en route. Approaching the point of accident the speed of the train was between 55 and 60 miles per hour and he was looking ahead around the curve when suddenly the engine dropped between the rails and the engineman immediately applied the air brakes

in emergency. The engine first lurched to the left, then straightened up for a short distance and finally turned over on its right side.

Conductor Graham, Head Brakeman Dickerson and Flagman McCord stated that there was no unusual handling of the train at any time. As soon as the train stopped, Head Brakeman Dickerson proceeded eastward to protect the west-bound tracks while Flagman McCord went back to the rear of the train to flag, and neither of these men saw any one on the right of way.

Block Operator Oates, on duty at Laurel Hill Tower at the time of the accident, stated that when Extra 8373 passed his tower he looked it over and saw no sticking brakes nor anything that might be wrong with the train, and signaled to the train crew accordingly.

The statements of Superintendent Adams, Division Engineer Code, Assistant Division Engineer Boyer, Trainmaster Wisegarver, Supervisor of Track Geiser and Assistant Supervisor of Track McGhee, who examined the track soon after the occurrence of the accident, brought out the following conditions: The point of derailment was found under the rear car, where the left or low rail on the curve had been forced outward, permitting the equipment to drop between the rails. The rail-holding spikes had been removed on the outside of the low rail for its entire length and were lying in the adjacent cribs. There were marks under the heads of the spikes indicating they had been removed with a claw bar very recently, and the tie-plates and ties also bore heel marks of a claw bar. There was evidence on two ties of ballast stone having been used as a fulcrum for the heel of the bar. The spikes on the gauge side of this rail had been raised from 1 to 1½ inches and the rail was raised slightly and forced northward 3 or 4 inches while the tieplates remained held firmly in place by the plate-holding spikes. Immediately west of this rail the outside rail-holding spikes had been raised on four ties. Examination of the right rail, which extended approximately 19 feet west of the low rail, showed that for its entire length the spikes on the gauge side had been raised the same height as on the low rail. The first mark of derailment was on the gauge side of the low rail at a point approximately 12 feet from its western end; on the third tie beyond this point there was a mark on the head of the rail-holding spike and the shoulder of the tieplate, and opposite this point there was a tread mark on the gauge side of the angle bar of the right rail. In the immediate vicinity of the point of derailment portions of crushed brick were lying in the crib and there was brick dust on an adjacent tieplate, indicating that a brick had been used as a wedge to widen the gauge. A line stake also was found at

this point, crushed in such manner at its sharpened end as to indicate that it had been used beneath the rail on a tieplate to hold the rail above the outer shoulders of the plates. Two rail anchors also were found lying between the rails. Further search in the vicinity revealed a jack and claw bar concealed in the weeds, and examination of the claw bar disclosed marks of recent usage on its jaws; the marks on the rack and pawls of the jack indicated that it had not been in continuous use, but that it had been used recently in at least one operation, as indicated by bright marks on the superficial rust on the rack, and subsequent examination of the low rail showed jack marks underneath the base of the rail. The claw bar bore a PRR stamp, while the jack was a Duff-Barrett, 15-ton track jack of the type in use on this railroad, but it bore no PRR mark of identification. The track to the west was found to be in good condition and there was no evidence of dragging equipment or anything which might have contributed to the cause of the accident.

On the day following the accident, in the presence of witnesses, a trackman equipped with a claw bar and jack, proceeded to a point a few rail lengths west of the scene of the derailment and removed all of the rail-holding spikes for the entire length of a rail on the low side and raised all the spikes on the gauge side, as well as the outside spikes on four ties in advance of this rail and all of the rail-holding spikes on the gauge side of the right rail, duplicating the condition found at the point of accident. He then raised the low rail above the shoulder of the tieplates with the bar and jack, moving it more than 2 inches from its gauged position, and in this position the stake previously referred to fitted perfectly between the base of the rail and the tieplate, the line of rust on its top surface corresponding with the location of the inside of the base of the low rail, and its crushed point showing certain outside fibres torn away by the outer shoulder of the tieplate. This entire operation by one man consumed 13 minutes. A check was made to determine whether any tools had been missing on the adjacent sections during the several weeks preceding the derailment, but none were missing with the exception of a small jack, not of the type involved in the accident.

Track Foreman Wacker, in charge of the section on which this accident occurred, stated that he last inspected this track on the day prior to the accident, walking westward on track 2 in the morning and returning on track 3 in the evening, while three of his men walked on the outside of the tracks; he did not see anything wrong with track 2 on either of these inspections. Several days previously he had worked on the track

west of the point of accident but did not perform any work in the immediate vicinity of the point of accident and considered the track to be in good condition. He had recently checked the tools on his section, and none was missing when his men were called for emergency duty at the scene of the accident.

Track Patrolman Sarracino, whose duty it is to patrol the track on Sundays and holidays, stated that on the day of the accident he left Burgettstown, 9.7 miles west of Laurel Hill, about 7:35 a.m., on his motor car, proceeding on track 1 to Laurel Hill, where he crossed over to track 2 and proceeded to Corliss, 13.3 miles beyond. On his return trip it was about 10:50 a.m. when he passed through the territory in which the accident occurred on track 3; throughout this inspection trip he found nothing wrong with the track and at no time did he see any one loafing along the right of way. In making his patrol he stated that he usually operates the car at a speed of between 15 and 20 miles per hour.

Master Mechanic Huston made a thorough inspection of the engine as it lay on its side at the scene of the accident and again after it was taken to the enginehouse, and no defective condition was found that might have contributed to the cause of the derailment.

Captain of Railroad Police Shumaker stated that in addition to the other articles previously mentioned as having been found on the track, additional articles were found which probably had been used in tampering with the track, these consisting of an 85-pound angle bar which was found in the ditch directly south of the point of derailment, and a piece of oak timber 3 by 5 inches and approximately 56 inches in length, of a type similar to a wood mine rail, also was found in that vicinity, while on the north side of the tracks a fence post approximately 8 inches in circumference and about 60 inches in length was found, this post having been removed from a fence line directly south of the point of derailment and a piece approximately 1 foot in length chopped off; a square fence post also was found lying in the ditch between the storage track and the line fence. The post holes from which these two posts had been removed had been filled with grass.

An inspection of the track was made for some distance west of the point of derailment by the Commission's inspectors; the ties were found to be in good condition and the tie plates and spikes firmly set, with no indications of moving out of normal position. At the immediate point of derailment the two rails where spikes had been partly lifted and withdrawn were not removed as a result of the accident; the ties under these rails

were in good condition and the tieplates under the low rail which had been shifted to widen the gauge, showed no evidence of having been shifted from normal position; the rail-holding spikes on the gauge side which had been partly pulled were reset, but new spikes were placed on the outside of the rail.

Conclusions

This accident was caused by malicious tampering with the track.

The investigation disclosed that the outside rail-holding spikes on the left or low rail on the curve had been removed for its entire length, while the spikes on the gauge side, as well as those on the gauge side of the opposite rail, had been raised from 1 to 1½ inches; the low rail then was forced outward, permitting the wheels to drop between the rails. The tools with which this tampering was done were found in the immediate vicinity of the point of accident, together with various other articles which appeared to have been utilized, and while the claw bar which was found bore a PRR stamp and the jack was of the type used by this railroad, a check made by the railroad company indicated that there had not been any tools missing in that vicinity. At the time of this investigation it had not been determined by whom this malicious tampering was done.

Respectfully submitted,

W. J. PATTERSON,

Director