

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN
ACCIDENT ON THE LOUISVILLE & NASHVILLE RAILROAD AT
WADSWORTH, ALA., ON DECEMBER 26, 1933.

February 16, 1934.

To the Commission:

On December 26, 1933, there was a derailment of a freight train on the Louisville & Nashville Railroad at Wadsworth, Ala., which resulted in the death of 1 trespasser, and the injury of 1 employee and 6 trespassers.

Location and method of operation

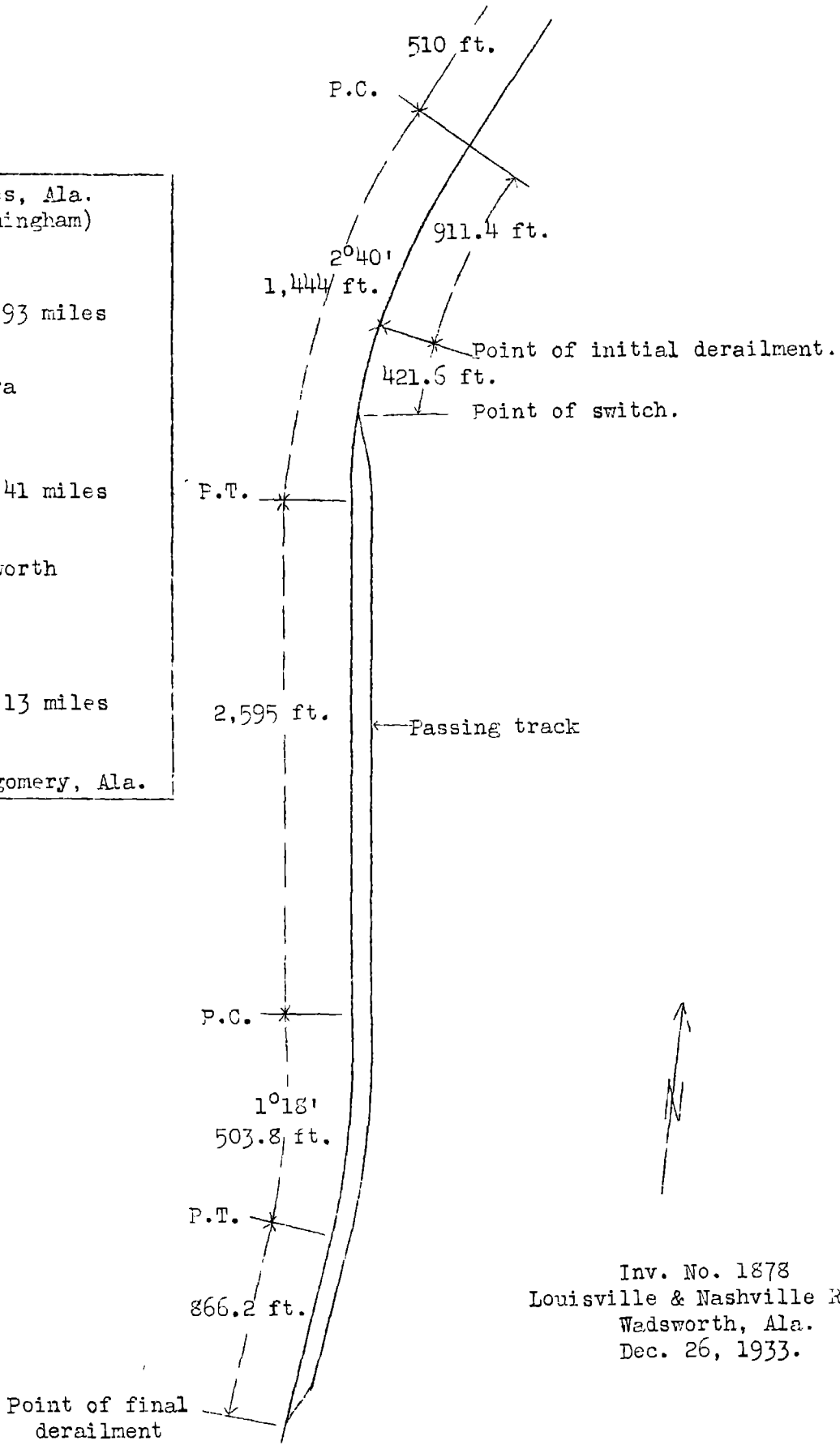
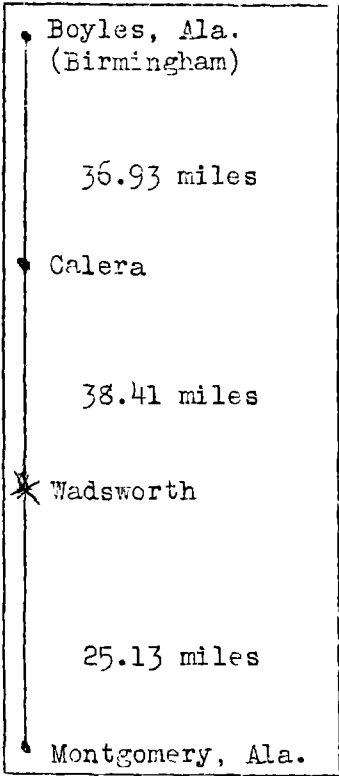
This accident occurred on the Alabama-Montgomery Sub-Division of the Birmingham Division, which extends between Boyles, near Birmingham, and Montgomery, Ala., a distance of 100.47 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time table, train orders, and an automatic block-signal system. The passing track at Wadsworth is 4,076 feet in length and parallels the main track on the east; the initial derailment occurred 421.6 feet north of the north passing-track switch and the final derailment occurred at the frog of the south passing-track switch. Approaching the point of accident from the north, the track is tangent for a distance of 510 feet, followed by a 2°40' curve to the left 1,444 feet in length, the initial derailment occurring on this curve at a point 911.4 feet from its northern end; the track is then tangent for a distance of 2,595 feet, followed by a 1°18' curve to the right 503.8 feet in length, and then tangent track to the final point of derailment, a distance of 866.2 feet, and for some distance beyond that point. The grade for south-bound trains is 0.7 percent ascending at the initial point of derailment and 0.8 percent descending at the final point of derailment.

The track is laid with 100-pound rails, 39 feet in length, with an average of 22 ties to the rail length, single-spiked, fully tieplated, rail anchored, and is ballasted with crushed slag to a depth of about 5 inches; the track is well maintained. The maximum speed permitted for freight trains is 35 miles per hour.

The weather was clear at the time of the accident, which occurred about 11:52 a.m.

Description

South-bound Freight Train No. 73 consisted of 44 cars and a caboose, hauled by engine 1765, and was in charge of Conductor Bryan and Engineman Lovell. This train left Calera, 38.41 miles



Inv. No. 1878
 Louisville & Nashville R.R.,
 Wadsworth, Ala.
 Dec. 26, 1933.

north of Wadsworth, at 10:44 a.m., 4 hours and 36 minutes late, passed Mountain Creek, 3.44 miles north of Wadsworth, at 11:46 a.m., according to the statements of the train crew, 3 hours and 58 minutes late, and was derailed north of the north switch at Wadsworth while traveling at a speed variously estimated to have been between 18 and 35 miles per hour.

The engine and tender were overturned at the final point of derailment and stopped on their right sides with the front end of the engine 429 feet south of the south switch, with the first 22 cars piled back of it within a space of 387 feet. The employee injured was the fireman.

Summary of evidence

Engineman Lovell stated that the train stopped for orders at Calera, this being the last stop which was made prior to the accident. He applied the brakes on the descending grade some distance north of Wadsworth and was in the act of releasing them on the ascending grade on the curve just north of the north switch when he felt the right side of the engine being lifted as though it had run over something; he heard a slight noise and the engine rocked when it passed over the frog of the switch, and was lifted up again when it passed over a highway crossing located approximately 500 feet south of the switch, at which time he made a service application of the brakes; the fireman and head brakeman were calling to him to stop, and upon reaching a point about 30 or 35 car lengths from the south switch he applied the brakes in emergency. He estimated the speed at 18 or 20 miles per hour at the time the engine first began to rock; at 15 or 18 miles per hour when he made the service application of the brakes, at about 10 miles per hour when they were applied in emergency, and at 6 or 8 miles per hour at the time of the accident. On account of the curve to the left north of the north switch he had not been able to see if there was an obstruction on the track, while the reason he did not apply the brakes when he felt the first peculiar motion of the engine was because he was releasing them at that time and was still releasing them when the engine rocked at the north switch, claiming that he applied the brakes as soon as he could, in the vicinity of the road crossing; he also said there was insufficient air pressure to make another application at the time he first noticed there was anything wrong. After the accident he went back and observed wheel marks on the ties between the rails but did not go back to the initial point of derailment to ascertain its cause; he also inspected the engine and found the brake rigging broken and loose, but was of the opinion that this was a result of the accident and did not contribute to its cause.

Fireman Lofton stated that he was riding on his seatbox looking ahead but did not see any obstruction on the track, although there might have been something on the track that he overlooked due to the fact that he was watching for the indication of the block signal located just north of the north switch.

Brakeman Allen was also riding on the left side of the cab, and their first intimation of anything wrong was when they saw ballast and dirt flying from under the front end of the engine about the time it passed over the north switch. They immediately called to the engineman that something was wrong under the engine and the engineman in turn made a 5-pound service application of the brakes, at which time the air gauge showed a full brake-pipe and main-reservoir pressure. They called warnings to the engineman several times after passing the north switch; Fireman Lofton said that the engineman then made a further reduction of 10 pounds but as the speed was not being reduced to any extent he again asked the engineman to stop and the engineman replied that he was trying to do so, although he did not reverse the engine or apply the brakes in emergency. The fireman estimated the speed at the time the train passed over the north switch at 30 miles per hour and thought it was still traveling at about the same rate of speed at the time of the final derailment. He said that the engineman appeared to be normal during the trip but became very excited while trying to stop the train, which may have accounted for his failure to apply the brakes in emergency before the final derailment.

Brakeman Allen did not know whether the engineman applied the brakes as there appeared to be no reduction in speed which he estimated was 35 miles per hour, before the train was finally derailed at the south switch.

Conductor Bryan stated that the brakes were applied several times on the long grade north of Wadsworth, the last application having been made previous to reaching the curve north of the passing track; this was the last application he felt until they were applied in emergency when the engine reached a point about 25 car lengths from the south switch; he estimated the speed at that time to have been at least 30 miles per hour and thought it was reduced to about 20 miles per hour at the time of the final derailment. He checked the time immediately upon seeing the cars piling up and noted that it was 11:52 a.m. Conductor Bryan made no inspection to determine the cause of the accident, but instructed the section foreman to do so and the foreman later told him there had been a piece of wood on the track and that the frog at the north switch was damaged.

Flagman Honeycutt stated that the first application of the brakes he felt was about 1 mile north of Wadsworth, which reduced the speed to about 20 miles per hour, and the next indication of the brakes being applied was an emergency application and upon looking ahead from the cupola of the caboose he saw the cars at the head end of the train being derailed; he estimated the speed at 18 miles per hour when the brakes were applied in emergency and between 15 and 18 miles per hour at the time of the accident. While going back to flag he observed marks on the ties where the engine truck became derailed, about 10 or 12 car lengths north of the north switch, and approximately one rail length north of this point he found a piece of wood which had been run over while

on the west or outside rail, and he described it as being a piece of hardwood about 1 or $1\frac{1}{4}$ inches thick, 5 inches wide, and 6 or 8 inches long.

Fireman Parker, of north-bound Train No. 22, stated that his engine was standing on the passing track clear of the north switch; he was watching Train No. 73 approach and when the engine reached the switch he saw that the engine truck was derailed, but did not have time to signal the crew before the engine passed him. He did not know whether the brakes were applied and was not paying particular attention to the speed of the train, but thought it was traveling about 25 miles per hour.

The statements of Fireman Russell, of north-bound Train No. 2, and Engineman McKenna, of south-bound Train No. 1, were to the effect that their trains passed Wadsworth about 9:24 and 10:02 a.m., respectively, and neither of them noticed an obstruction of any kind on the rails or felt any irregular movement of their engines in the vicinity of the north switch.

Relief Section Foreman Tatum stated that he had been working on the main track between $\frac{1}{4}$ and $\frac{1}{2}$ mile north of the south switch before the arrival of Train No. 73, but when it reached Wadsworth he was standing on the east side of Train No. 22, which was on the passing track and obstructed his view of the passing train. After the accident the conductor informed him that the engine truck had become derailed some distance back and that the frog at the north switch was damaged. He then proceeded to this switch with his gang and replaced a broken guard-rail clamp, but as the initial derailment did not occur there he continued northward and found that the first marks of derailment were on the ties on the west sides of the rails. A short distance north of the first marks he found chips and splinters of wood on the track, as well as a mark on the rail, and about two rail lengths farther north there was some crushed wood on top of the west rail while opposite this point there was some wood on the east rail which resembled a piece of creosoted tie. He could not account for the wood being on the track and said that no member of his crew had been in the vicinity prior to the accident.

Section Foreman Kyzer was not on duty at the time of the accident but arrived at the scene about 12:15 p.m., and after assisting the injured persons he made an inspection of the track and found several pieces of pine wood on both sides of the west rail, one of which was lying on the outside of the rail and was about $\frac{3}{4}$ inch thick, $1\frac{1}{2}$ inches wide and 9 or 10 inches long. Between these fragments there was wood mashed down on top of the rail about 2 feet in length, and from this point southward there were wheel marks on top of the rail for a distance of 92 feet to where the first marks appeared on the ties. Section Foreman Kyzer made a check of the line and surface of the curve on which the initial derailment occurred but was unable to find anything wrong.

Division Engineer Crapster arrived at the scene at 4:30 p.m. and upon examining the track he found where the wheels of the engine truck dropped off the outside of the west rail at a point 421.5 feet north of the north switch. From this point northward there was a flange mark on the ball of the west rail which extended for a distance of 30 feet, where it disappeared in the bright surface of the rail. At a point 93 feet north of the first marks on the ties the top of the rail was stained for a distance of about 3 feet and pulpwood was adhering to the outside of the ball, while some pieces of pine wood from 4 to 6 inches long and about $\frac{1}{2}$ inch thick were lying just outside the rail opposite the stain. He then returned southward and noticed that the east wheel of the engine truck had marked all of the ties very decidedly; some repairs had been made to the guard rail at the north switch, the crossing planks were split at the road crossing, and the track was destroyed from the frog of the south switch southward for a distance of about 400 feet. From the position of the derailed equipment and its condition, he thought the train must have been traveling at least 30 miles per hour at the time of the final derailment.

Claim Agent Skiles noticed the crushed wood on the rail, with several pieces of pine wood scattered about within a circle of 10 feet. A few feet farther south he found a wedge-shaped piece of red oak about 1 foot long, tapering from the point up to about 1 inch in thickness, with evidence of its having been run over; another piece of the same kind of wood was found in the ditch along the west side of the track and examination showed that these two pieces of wood fitted together and originally had been in one piece.

Inspector of Police Goad stated that he made an investigation in an effort to determine who placed the wood on the track, but nothing conclusive was developed. Some boys had been walking on the track after the passage of Train No. 1, and it was his opinion that they had placed the wood on the rails for the purpose of seeing an engine knock it off, and that there was no malicious intent involved.

Master Mechanic Cremer and Machinist Hammett inspected engine 1765 after the accident and did not find anything which it was thought could have contributed to the cause of the accident, which opinion was confirmed by the examination of the engine made by the Commission's inspectors. Their examination of the track showed that the various marks on the track at and immediately south of the initial point of derailment were substantially the same as described by the various witnesses.

Conclusions

This accident was caused by engine wheels striking one or more pieces of wood on the high rail of a curve.

An examination of the track and engine did not disclose any

defects that could have contributed to the cause of the accident; however, at a point 514.6 feet north of the north passing-track switch there was adequate evidence to indicate that wood had been on the west rail, and from this point southward for a distance of 93 feet a mark appeared on the ball of the west rail to where the first marks appeared on the ties. The evidence indicates that the pony truck of the 2-8-2 engine was the first to be derailed, and that the derailed wheels followed the rails closely until they encountered the south switch, where the engine became entirely derailed.

Several pieces of wood, both soft and hard wood, were found in the immediate vicinity of the initial point of derailment. Some small pieces of pine wood resembled that found crushed on the ball of the west rail and in addition one wedge-shaped piece of oak had been split in pieces and these pieces when matched together showed clear evidence of wheel marks. It was not developed positively when or by whom these pieces of wood were placed on the track.

Engineman Lovell had noticed the unusual motion of the engine but did not apply the brakes until he was in the vicinity of the road crossing south of the north switch or nearly 1,100 feet from where the obstruction was encountered. He said the speed was 15 or 18 miles per hour at that time and that it had been reduced to 6 or 8 miles per hour at the time of the accident. Estimates made by other members of the crew, however, indicated that there was little if any reduction in speed prior to the making of the emergency application, and their estimates as to the speed at the time of final derailment ranged from 18 to 35 miles per hour. The distance between the initial point of derailment and the south switch is about 4,500 feet and although much of it is on a descending grade of almost 1 percent it would appear that had Engineman Lovell taken action when it first became apparent that there was something wrong, or had he manipulated the brake valve properly even after passing over the north switch, he should have been able to stop by the time he reached the south switch.

Respectfully submitted,

W. P. BORLAND,

Director.