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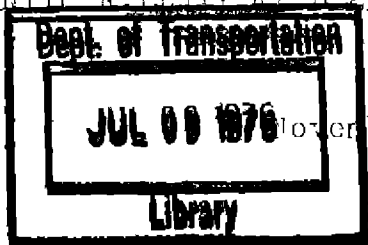
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INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN PE  
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE  
ATLANTA, BIRMINGHAM & ATLANTIC RAILWAY AT DEERNURST,  
ALA., ON OCTOBER 27, 1926



October 26, 1926.

To the Commission

On October 27, 1926, there was a derailment of a freight train on the Atlanta, Birmingham & Atlantic Railway at Deernurst, Ala., resulting in the death of one employec and the injury of three employees.

Location and method of operation

This accident occurred on that part of the Birmingham Division extending between Birmingham and Lineville, Ala., a distance of 104.2 miles, in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table and train orders, no block-signal system being in use. The point of derailment was 669 feet south of the south switch of the passing track at Deernurst, approaching this point from either direction the track is tangent for more than 1 mile, while the grade for northbound trains is 1° descending to within 812 feet of the point of derailment, from which point it begins to taper off to level track, the level track starting at a point 137.5 feet north of the point of derailment. The track is laid with 80-pound rails, 33 feet in length, with from 18 to 20 ties to the rail-length, and is ballasted with slag, no tie-plates are in use. The track is in bad condition and poorly maintained.

The weather was clear at the time of the accident, which occurred at about 7.30 a.m.

Description

Northbound freight train No. 84 consisted of 27 cars and a caboose, hauled by engine 215, and was in charge of Conductor Walthall and Engineman Jackson. This train left Talladega, the last open office, 45.7 miles south of Deernurst, at 5.45 a.m., three hours and five minutes late, and was derailed at Deernurst while traveling at a speed estimated to have been between 20 and 25 miles an hour.

Engine 215, its tender, and the first 12 cars in the train were derailed and considerably damaged, the engine and tender turned over to the left, with head end of the engine 446.5 feet north of the point of derailment. The employee killed was the fireman.

#### Summary of evidence

Engineman Jackson stated that he reduced the speed of the train twice while descending the grade approaching Deernurst, the last time about 1 mile south of the point of accident, the first he knew of anything wrong was when the engine dropped between the rails, while drifting at a speed of about 25 miles an hour, and he immediately applied the air brakes in emergency. He thought only one wheel of the engine truck dropped off the rail when the engine first derailed, as the engine did not ride hard, but after traveling about two or three car lengths it became entirely derailed. The engine and practically stopped before it turned over. On going back and examining the track he saw marks on the gauge side of the east rail, under the rear truck of the second car that remained on the rails, while the heads of the spikes were broken off at the tops of the ties. There were also marks on the gauge side of the web of the east rail extending two or three rail-lengths northward to where a rail joint was broken on the west rail, permitting the engine wheels to cross over to the left, outside the west rail. He had inspected the engine before departing on this trip but found no defects, and the engine rode all right en route; after the accident he again examined the engine but found nothing that would have caused or contributed to the accident.

Conductor Walthall stated that he was riding in the caboose at the time of the accident, he felt the air brakes apply and estimated the speed at that time to have been about 25 miles an hour. He also said that the air brakes had been applied prior to the accident while descending the grade. Examination of the track at the point where the cars were left standing on the track, immediately behind the derailed cars, disclosed that the bottom corner of the gauge side of the head of the east rail was sheared off, small slivers of steel from 2 to 5 feet in length being found down near the rail, apparently sheared by a wheel. The wheels on the left or west side of the lead track of the thirteenth car were derailed on the inside of the left rail. He found nothing to indicate a failure of equipment, and was of the opinion that the derailment was caused by spread rails. The statements of Fireman Bonner added nothing additional of importance to that which was brought out by the testimony of other members of the crew.

Roadmaster Lowery stated that he arrived at the scene of the accident about nine hours after its occurrence. His examination of the track indicated that something had been dragged, resulting in cutting the east rail forcing that rail to spread, and permitting the wheels to drop inside the rails. He said that he was last over this section of track on a motor car about 10 days previously and that the general condition of the track at that time was about the average, he considered the track safe for a speed of 20 to 25 miles an hour. He admitted, however, that he had seen a few spikes that could be pulled by hand in the vicinity of the point of accident, and that the gauge of the track at the initial point of derailment was one-half inch open. Roadmaster Lowery was of the opinion that the derailment was a result of something lying on the rail, causing the track to spread under the engine.

Maintenance of Way Engineer Spoll stated that he did not know what caused the marks on the rail, but that there was no question about the pressure exerted against the head of the east rail having forced the track open, progressively, until it released the joint that broke, tearing out the west side of the track beyond the joint. Section Foreman Linsley stated that in his opinion the speed of the train contributed to the accident, and that the track was only in fair condition.

Superintendent Middleton stated that he found no defect about the engine or tender that would have caused or contributed to the derailment. The marks on the east rail at the initial point of derailment showed where a wheel, or some other object, had dropped down and marked the inside of the head of the rail, leaving trace of old grease, apparently scraped from the outside of a wheel. The indentations on the web of the rail indicated that they had been made by weight pressure and not by something being dragged, and the bottom corner of the gauge side of the head of the rail was apparently cut by a wheel while the rail was turned outward.

Road Foreman of Engines Woodward stated that he arrived at the scene of the accident about four hours after its occurrence. Careful examination of the engine and tender failed to disclose any loose wheels, broken flanges, loose tires or any defect whatsoever that would have caused or contributed to the accident. He also went back about 1,000 feet looking for indications of dragging equipment but found nothing in this connection. Mechanical Inspector Kimber arrived at the scene of the accident the morning after its occurrence and examined the engine very carefully, but found nothing that would have caused the accident.

Examination disclosed that on a rail 669 feet south of the south switch of the passing track there was a mark on the east side of the track, 28 inches from the receiving end of a rail, located on the gauge side of the ball of the rail. This mark, which was 2 feet in length, started at the running surface of the rail and extended downward to where a triangular piece of the bottom corner of the gauge side of the head of the rail was sheared off, from which point the web of the rail was marked up to the joint. Starting at a point 21 inches north of that joint marks appeared on the inside base of the rail, and light indentations showed on the ties, made by flanges, immediately following which the ties were badly wheel-marked. The rail that showed the first mark, and also the following rail, had been turned outward, the outside bases of the rails cutting deep indentations into the ties, while some of the spike heads had been broken off on the inside of the rails. From the center of the rail on the west side of the track, opposite the initial mark of derailment on the east side, up to the second rail joint, there were no marks on the rails or ties, but at that joint the angle bars were broken and the rail torn out. From the joint that broke on the west side back to a point back more than the length of the rail, the rail had been pushed outward to the extent of  $1\frac{1}{8}$  inches, while as many as four spikes had been used in some of the ties to hold the gauge. Only a few sound ties were in the track at this point, they were in all stages of decay and some had reached the point where the spikes could be lifted by hand, while many of the ties were rail-cut to the depth of from 1 to 3 inches and some were broken under the rail. At many of the joints the spike heads had been pushed out more than one-half inch from the rail, permitting the gauge to open when a train passes over it. At other locations there were as many as five ties at one place that were swinging from the spike heads or loose from the rail, permitting the track to drop much lower when weight was placed upon it.

#### Conclusions

This accident was caused by bad track conditions.

Apparently the lack of firmly-spiked sound ties permitted the rails to spread, allowing the engine wheels to drop between them. The first mark on the gauge side of the ball of the east rail indicated that one of the wheels of the engine dropped inside and turned the rail outward, causing the rim of the wheel to shear the bottom corner of the gauge side of the ball while the flange marked the base of the rail, the angle bar was then broken at the rail joint on the opposite rail, precipitating the derailment.

Roadmaster Lavery said the track was safe for a speed of 20 or 25 miles an hour, and yet passenger trains are permitted to attain a speed of 40 miles an hour. The speed of trains should be restricted to a safe rate until the track is placed in condition for the operation of trains at higher rates of speed. When attention has once been called to such a matter by the occurrence of a serious accident, it would seem that this ought to be sufficient to cause the situation to be remedied, but such is not the case, however, as evidenced by the fact that this is the third fatal derailment in this particular territory within a period of 13 months, the others having been at Parkwood and Westover. In the report covering the Parkwood accident, which was due to a combination of defective equipment and track, the following statement was made:

"The evidence indicated that there were not enough section men to maintain the track properly, and that about all that could be done with the force available was to make repairs to the worst places and then do the best they could with the rest of the track. Such a situation is not conducive to the safe movement of trains, and measures toward eliminating this condition should be taken as quickly as possible.

This statement was referred to again in the report covering the Westover accident, which was due entirely to bad track conditions.

Three fatal derailments on the same division within a distance of 28 miles and within a period of 13 months, resulting in the death of five employees and the injury of others, all of the accidents being due more or less directly to track conditions so bad as to be obvious to the most casual observer, constitutes a record which is not to be envied. A management responsible for such conditions, placing the lives of its employees and the traveling public in continual jeopardy, can not be too strongly condemned, and it is to be hoped that the conditions disclosed in these three investigations will be remedied in time to prevent the occurrence of other accidents of a similar nature.

The employees involved were experienced men, and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. F. BORLAND,

Director.