

222

222

INTERSTATE COMMERCE COMMISSION

REPORT OF THE CHIEF OF THE DIVISION OF SAFETY COVERING THE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE ALABAMA GREAT SOUTH- ERN RAILROAD NEAR LIVINGSTON, ALA., ON SEP- TEMBER 18, 1914

OCTOBER 17, 1914

TO THE COMMISSION

On September 18, 1914, there was a derailment of a passenger train on the Alabama Great Southern Railroad near Livingston, Ala., which resulted in the death of 8 passengers, 1 employee, and 1 mail clerk, and the injury of 28 passengers, 3 employees, 5 mail clerks, and 4 Pullman porters. After investigation as to the nature and cause of this accident I beg to submit the following report.

The train involved in this derailment was northbound passenger train No. 2, en route from New Orleans, La., to Cincinnati, Ohio. It consisted of one steel underframe mail car, one steel underframe express and baggage car, one wooden coach, one steel underframe coach, one all-steel Pullman sleeping car, one wooden Pullman sleeping car, one all-steel Pullman sleeping car, and three wooden Pullman sleeping cars, in the order given, hauled by locomotive No. 250, and was in charge of Conductor Stone and Engineman Jones. Train No. 2 left its last stopping point, York, Ala., 9.3 miles south of Livingston, at 2.54 a. m., 24 minutes late, and at about 3.07 a. m. was derailed at a switch leading to a spur track located about 1½ miles south of Livingston, while running at a speed estimated to have been about 50 miles per hour.

The engine entered the spur track, collided with a car of slag, and came to rest on its right side against a mound of slag and railroad ties at the end of the spur, the car of slag being driven beyond this mound. Illustration No. 1 shows the engine, with the baggage and express car leaning against it. The tender broke away from the engine and came to rest on its right side across the main track opposite the point where the engine stopped. The mail car was thrown across the main track, a part of one side being torn out as it skidded past the tender. The baggage and express car was thrown against the side of the engine, a portion of one side of this car also being torn out.

The wooden coach was telescoped and destroyed, the steel underframe coach immediately following it had one entire side above the window line torn away and was otherwise badly damaged. Illustration No 2 is a general view of the wreckage. The car on the left is the fifth car in the train, an all-steel Pullman sleeping car. The mail car does not appear in the illustration, it being on the left, beyond the wreckage. Illustration No 3 is a closer view of the wreckage of the two coaches and the baggage and express car. In the foreground can be seen a section of the roof of the wooden coach. This section of the roof together with one end and about 15 feet of the floor and underframe, was practically all that was left of this car. On the right of the wreckage can be seen the engine cab. The baggage car is in the center, and the steel underframe coach is on the left of the baggage car. The next three cars in the train, which were Pullman sleeping cars, were derailed, but with the exception of their trucks and running gears they were not damaged. Examination of the timber and other material composing the damaged cars indicated that the cars had been in good condition, and it is believed that the great damage suffered by them was due to the impact and momentum of the six heavy sleeping cars on the rear of the train.

The division on which this accident occurred is a single-track line, equipped with automatic block signals. Approaching the point of accident from the south, the track is straight for several miles. It is laid with 75-pound steel rails, 33 feet in length, single spiked with about 20 oak ties under each rail, and is ballasted with furnace slag from 18 to 24 inches in depth. Tie plates are used on curves and at switches. The track for 2 miles south of the switch at which the accident occurred is on a descending grade for northbound trains, this grade averaging about 0.4 per cent, although for about 350 feet south of the switch it is approximately 1 per cent.

The switch at which the derailment occurred is a facing point switch for northbound trains, a No 10 frog being in service at that point. At the end of the spur track there is a mound about 6 feet high, composed of ties and slag. The switch is operated by a Wier, ground-throw, high switch stand, the distance from the ground to the banners being about 17 feet, and to the signal light about 19 feet 8 inches. The lamp on the switch stand is an eight-day lamp and is filled and cleaned each Saturday. This switch and the electric track circuits are so connected that when the switch point is open from one-quarter to three-eighths of an inch or more, or when a car standing on the spur does not clear the main line, the northbound automatic block signal, No 2622, located 7,143 feet south of the switch, will display the danger indication. About 280 feet south of the switch is an overhead bridge, the bottom of which is about 20 feet

above the rails. This bridge, however, does not materially interfere with the view of the switch lamp, it being ascertained by test after the accident that the switch lamp could be seen a distance of about 1,800 feet by the engineman of an approaching northbound train when seated in the engine cab in the normal position.

The car of slag which was on the spur at the time of the collision had been placed there about one-half hour previously by the crew of southbound extra 202 on account of its having a hot box. This extra then proceeded south to Hixon and entered a sidetrack at that point in order to clear the main line for train No 2. Extra 202 was closely followed by southbound extra 203, both trains occupying the siding at Hixon at the time train No 2 passed that point. At the time extra 202 used the switch at the spur it was in good condition and the lamp was burning. After these two extras were into clear at Hixon, several members of their crews saw the northbound block signal, No 2622, which is about 300 feet north of the north passing track switch at Hixon, go from clear to danger and back to clear then to danger again and then return to clear. When train No 2 passed, however, the signal was clear and was seen to turn to danger as soon as that train had entered the block.

Conductor Stone, of train No 2, stated that the accident occurred at 3 07 a m. It was in the neighborhood of 5 a m before he finished caring for the dead and injured and had an opportunity to look at the track to ascertain the cause of the accident. He found that the switch was set for the spur track and latched in that position. The switch lock was open and had been placed in the main-line latch. From the marks upon it the lock appeared to have been forced open. At the time Conductor Stone made this examination the switch lamp was missing, but he was told by the agent at Livingston that he had removed it to examine it and had found no oil in it. Later in the day this agent advised him that he had found the oil had been poured out on the ground.

Fireman Stewart, of train No 2, stated that he was standing on the deck of the engine at the time of the derailment, having just finished putting in a fire. He did not know whether or not Engineman Jones applied the brakes. He did not see the switch himself and did not see the signal at the entrance of the block, but the engineman called it clear.

Section Foreman Gibson stated that upon his arrival at the scene of the accident, about 5 30 a m, he found the switch set for the spur track, the rear trucks of the third sleeping car were standing at the switch just clear of the switch points, while the three rear sleeping cars were on the main line. He examined the switch points carefully and found them lined up for the spur track. The connecting

rods were intact and bore no indications of having been struck by any derailed wheels Early that evening the switch lamp had been burning and apparently was in good order It was an eight-day lamp and always had had oil left in it when it was filled each Saturday

The doctor who attended Engineman Jones at the scene of the accident stated that the engineman told him he had a clear block, and that when he neared the switch he saw it was open and at once applied the brakes, reversed the engine, and opened the sanders The doctor also stated that Engineman Jones said he had seen some one running away from the switch, and that the person who opened the switch must have known his business and waited until the train had entered the block The doctor further stated that at the time he was talking with Engineman Jones the latter was perfectly rational and knew what he was saying

A fireman named Sims, employed by the railroad, was at York when Engineman Jones reached that point while being taken to a hospital at Meridian He asked him what caused the accident and was informed that when he first noticed the switch it was all right, but when close to it he saw a man throw it for the spur track He then made every effort to stop, but was too close to the switch to do so Another witness testified to finding sand on the track practically the entire distance between the switch and the overhead bridge At the time this sand was found no other train had used the track since the accident and the engine crews of the two extras stated that they did not use sand at that point

This accident was caused by an open switch The facts that the switch lock was forced open and that the switch lamp had been extinguished and the oil poured out upon the ground, indicate conclusively that the switch was opened deliberately, apparently with malicious intent, this conclusion is also supported by the statement of Engineman Jones before his death that he saw some one open the switch and then run away from it That the accident was caused by an open switch is further evident from the statements of employees who examined the switch and found it set for the spur track, with the points lined up against the main track rails, also from the fact that all of the cars which passed the switch entered the spur track Had the switch been only partly open, it is probable that the locomotive would have split the switch and that none of the cars would have entered the spur track

That the switch lamp was lighted and that the switch itself was properly set for the main line within about half an hour prior to the accident is clearly established by the statements of the crews of the two southbound extras, one of which had used the switch in plac-

ing the car of slag on the spur. It is believed that the person or persons who finally opened the switch were tampering with the same when the northbound automatic block signal changed back and forth from clear to danger while the two southbound extras were at Hixon, and that they were familiar with the fact that the automatic block system would indicate danger to an approaching train, in case the switch was open, seems apparent from the fact that they did not open the switch and leave it open until after train No 2 had entered the block.

As previously noted, the greatest damage was sustained by the first four cars in the train. The third car, a wooden coach, was practically destroyed, while the second and fourth cars, constructed with steel underframes, were very badly damaged. The first car also had a steel underframe, but was not damaged as much as the other cars, probably on account of having been thrown to one side. In the wooden coach, according to Conductor Stone, there were either 6 or 7 passengers, 3 of whom were killed and the others injured. In the steel underframe coach there were about 15 passengers, 5 of whom were killed, while all but one of the others were injured. While none of the steel underframe cars was entirely destroyed, as was the wooden coach, nevertheless it appears questionable, when comparing the damage sustained by the different types of cars in this train, whether the steel underframe type of car afforded a materially greater degree of safety to passengers than the wooden coach. Steel underframes will probably prevent the buckling or breaking in two of a car, and in that respect cars so constructed are undoubtedly an improvement as compared with cars built entirely of wood, if practically everything above the steel underframe is to be destroyed in an accident, however, it is apparent that but little increased protection to passengers is afforded. The fifth car in the train, an all-steel Pullman sleeping car, was practically uninjured, all the damage sustained by it being confined to the trucks and running gear. In this accident the performance of cars of different types very strongly supports the view that the greatest degree of protection to passengers can be afforded only by all-steel cars.

Respectfully submitted

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Chief Division of Safety