

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
SOUTHERN RAILWAY NEAR FLIPPEN, GA., ON FEBRUARY 15,
1928.

March 29, 1928.

To the Commission:

On February 15, 1928, a freight train on the Southern Railway broke in two near Flippen, Ga., and its caboose was crushed by the engine of a passenger train, which was assisting the freight train, resulting in the death of one employee and the injury of two employees.

Location and method of operation

This accident occurred on that part of the Atlanta Division extending between South Inman and Macon Terminal, Ga., a distance of 94.3 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, supplemented by an automatic train-control system. The accident occurred at a point approximately 4,000 feet north of the station at Flippen; approaching this point from the north the track is tangent for a distance 2,554.5 feet, followed by a 2° 04' curve to the left 737.5 feet in length and then 1,205.3 feet of tangent, the accident occurring on this latter tangent at a point 344 feet from its northern end. The grade for southbound trains is generally ascending, being 1.24 per cent at the point of accident.

It was raining at the time of the accident, which occurred at about 11.30 p. m.

Description

Southbound freight train No. 55 consisted of 69 cars and a caboose, hauled by engine 5211, and was in charge of Conductor Burks and Engineman Jones. This train passed Stockbridge, the last open office, 5.5 miles from Flippen, at 10.34 p. m., two hours and two minutes late, and upon reaching a point approximately 2 miles north of Flippen the coupling parted between the fifth and sixth cars. After temporary repairs had been made the train was re-coupled and an attempt made to proceed but this could not be accomplished on account of the grade on which the train was standing. In the meantime southbound passenger train

No. 7 had arrived and it then closed up against the caboose of train No. 55, for the purpose of assisting that train; the engine of the passenger train, however, was not coupled to the caboose of the freight train. After both trains had proceeded in this manner for a distance of about $1\frac{1}{4}$ miles, and while traveling at a speed variously estimated to have been between 4 and 12 miles per hour, train No. 55 again parted between the same cars, resulting in an emergency application of the air brakes on the freight train.

Southbound passenger train No. 7 consisted of two mail cars, one express car, one baggage car, two coaches and five Pullman sleeping cars, all of steel construction, hauled by engine 1219, and was in charge of Conductor Randall and Engineman Adamson. This train left Atlanta, 24.3 miles south of Flippen, at 10.30 p.m., 40 minutes late, and was brought to a stop in the rear of train No. 55, after which it assisted that train to the point of accident.

As a result of the sudden stopping of the freight train the engine of the passenger train practically demolished the caboose and also derailed the rear truck of the car immediately ahead of the caboose. One other car in the freight train was demolished and two additional cars were considerably damaged. The engine truck of the passenger engine was derailed and the front end was slightly damaged, none of the other equipment in train No. 7 was derailed or damaged. The employee killed was the conductor of train No. 55.

Summary of evidence

Engineman Jones, of train No. 55, stated that nothing unusual occurred after departing from Inman until the train first broke in two. When informed by the head brakeman that it was apparently due to a defective coupler, as the train had parted with both knuckles closed, he instructed the brakeman to make temporary repairs. Shortly afterwards the conductor reached the head end of the train and then joined the head brakeman, who later told Engineman Jones they had secured the couplers with a release rod. The train was then coupled together and an attempt was made to start it, but on account of the heavy grade and the curve on which the train was standing the engine began to slip and he then shut off steam in order to avoid possible damage to the train. Train No. 7 arrived shortly afterwards and on receiving a proceed signal he was successful in starting the train, and was told by the fireman and head brakeman that train No. 7 was pushing them. After

proceeding a distance of about $1\frac{1}{4}$ miles he felt the engine lunge ahead and then the train came to a stop. Realizing that the train had again parted he went back and found both knuckles closed, there was considerable play in the coupler at the rear end of the fifth car, due to the lock block and the knuckle being in a worn condition, while the knuckle pin was too small, and he said that in his opinion the knuckles had slipped by, rather than over, and he remedied this condition by inserting a larger knuckle pin, and by placing four track spikes between the lock block and the knuckle. The train was then recoupled and at about this time he was notified of what had occurred at the rear end. Engineman Jones further stated that between the point where his train first broke in two and the point of accident his train had attained a maximum speed of 14 or 15 miles per hour, but that at the time of the accident it was traveling not more than 12 miles per hour.

The statements of Fireman Clark, of train No. 55, brought out no additional facts of importance, except that he estimated the speed of his train at 4 or 5 miles per hour at the time of the accident.

Head Brakeman Ivie, of train No. 55, who was riding on the engine at the time the first stop was made, stated that he found the train had parted between the fifth and sixth cars, although the knuckles remained closed. He said one coupler appeared to be a little low but that in his opinion the knuckles slipped by and not over each other in parting. He secured an air-brake release rod from another car and the conductor used it in order to tie the couplers together. After the accident he discovered that the train had again parted in the same place while the wire which had been applied was broken in two. He estimated the speed of the train at the time of the accident at from 7 to 10 miles per hour.

Flagman Johnson of train No. 55, stated that he flagged train No. 7 and informed the engineman of that train as to the location of his train. The engineman told him that if he would close the knuckles between the two trains the engineman would assist in trying to get train No. 55 started by pushing that train up the grade. Flagman Johnson said that after train No. 55 had been started train No. 7 dropped back a few feet on two or three occasions and then came up against his train, but with no perceptible snock; this occurred only as the trains were getting under way and at the time of the accident the passenger engine was pushing steadily against the caboose. He estimated the speed at the time of the accident at 6 or 8 miles per hour.

The statements of Special Agent Gossett, who was riding in the caboose of train No. 55, corroborated those of Flagman Johnson as to train No. 7 dropping back several times while it was assisting train No. 55, he estimated the speed at 10 or 12 miles per hour at the time of the accident.

Engineman Adamson, of train No. 7, stated that after picking up the flagman of train No. 55 his train proceeded to the point where the latter train was standing, and received a signal from the conductor to help start the freight train. He instructed Flagman Johnson to close the knuckles, and shortly afterwards he received a signal to proceed, his train pushing train No. 55 to the point of accident. He estimated the maximum speed attained while this movement was in progress to have been 12 miles per hour and said that at the time of the accident it was 7 miles per hour. His reason for continuing to push train No. 55 after it had started was the fact that that train did not pull away from his own train at any time, and on account of the heavy ascending grade on which they were moving he did not want to drop back until he could feel that the slack was being pulled away from him. Engineman Adamson thought it perfectly safe to push the freight train without coupling to it and said his reason for having the knuckles closed was the fact that it would enable him to drop back without difficulty after train No. 55 had gotten properly started. He also said that he did not know why train No. 55 had stopped at the point at which he overtook it, and had he known there was a defective coupler in that train he would not have assisted it in any manner. It further appeared from Engineman Adamson's statements that he did not know of any instructions relating to the pushing of trains under circumstances similar to those existing in this case.

The statements of Fireman Wilson, of train No. 7, were of no importance, while Conductor Randall, of the same train, did not think it would make any difference whether or not the trains were coupled, although he had never experienced an accident of this nature before, he estimated the speed at the time of the accident at about 6 miles per hour.

Foreman of Car Inspectors Tidwell stated that he made a casual inspection of one side of train No. 55 before it departed from Inman on the day of the accident and found no defects, while Car Inspectors Deal and Robinson both stated that they made a thorough inspection of this train, a record being kept of all defects observed.

The train had arrived with 37 cars and a complete inspection of the cars was made by these two inspectors, including the taking of the car initials and numbers and also going over the roofs of the cars, all of this work being completed within 15 minutes, when questioned in connection with doing all of this work in such a short period of time, Car Inspector Deal said "I work mighty fast." Afterwards an inspection was made of the additional cars as they were added to the train, followed by the testing of the air brakes immediately before its departure southward. The record kept by Inspector Deal covering the inspection made by him and by Inspector Robinson of the cars composing train No. 55 did not reveal that any defects existed on either the fifth or sixth cars in the train, in fact nothing was noted on any of the cars comprising train No. 55 at the time it departed from Inman, although four cars were "bad ordered" prior to that time. When it was brought to the attention of Inspector Deal that old defects were discovered on four of the cars in the train, after the occurrence of the accident, some of which had been marked for repairs, he said that he did not place these marks on the cars and that he did not have any notation in his record pertaining to these defects. These four cars were in addition to the two cars which parted and caused the accident.

With the exception of the cars that were destroyed and damaged as a result of the accident, the equipment of train No. 55 was then moved to Macon, the fifth and sixth cars, Southern 255509 and Western Maryland 50194, respectively, having been switched to different locations in the train. One of the Commission's inspectors was at Macon when this equipment arrived and made an inspection of it, this inspection developed that both the couplers which parted had 9-inch pulling-surfaces, but the coupler on the north end of Southern 255509 was 33 inches high when stretched and 33½ inches high when the slack was pushed in while the corresponding heights of Western Maryland 50194 were 30½ and 31 inches. The knuckle-pin hole of the coupler at the north end of Southern 255509 showed considerable wear, while the lock block was slightly worn and the gauge of the coupler was 5 3/8 inches, no wear appeared on the various parts of the other coupler involved. There were also distinct abrasions on the top of the first-mentioned coupler, and on the bottom of the other coupler, indicating that one had slipped over the other coupler. The coupler on the other end of the Western Maryland car was 31½ inches in height, the car was loaded only to about one-half its capacity, and the low couplers seemed to have been due to the general sagged condition of the truck arch bars and frames. Various other defects, such as broken retaining pipes, carrier iron 2 inches low on one side, a broken uncoupling chain and a broken clevis, were

found to exist on four other cars in the train. These defects appeared to be old in view of the rusted and corroded condition of the broken parts. The majority of them were also marked with chalk, indicating they had been observed by some one prior to their inspection by Inspectors Deal and Robinson.

The caboose of train No. 55 was a modern steel underframe car. The center sills and transom were of heavy channel iron and were reinforced with 8-inch "I" beams. The caboose was built in 1922 and had last undergone repairs in October, 1927.

Conclusions

This accident was caused by train No. 55 breaking in two between the fifth and sixth cars, due to a low coupler.

Engineman Jones, of train No. 55, said he thought his train broke in two because of the fact that the couplers between the fifth and sixth cars slipped by each other, and he made temporary repairs by using a larger knuckle pin and also by placing some track spikes between the lock block and the knuckle. An examination made by one of the Commission's inspectors on the arrival of the train at Macon, however, showed that the coupler on the head end of what had been the sixth car in the train, WM 50194, was too low, measuring only $30\frac{1}{2}$ inches in height when stretched and 31 inches when the slack was pushed in. There were also marks on the top of this coupler, and on the bottom of the coupler of the preceding car, Southern 255509, which indicated that the coupler on the last-mentioned car had slipped over the low coupler, thus breaking the train in two and resulting in the emergency application of the air brakes which brought the train to a sudden stop and caused the engine of train No. 7 to crush the caboose. Car WM50194 had been received in interchange from the Louisville & Nashville Railroad, and the interchange inspector of the Southern Railway who examined this car early in the morning of February 15 failed to take any exceptions to its condition, although the sagged condition of the arch bars and truck frames which resulted in the low coupler undoubtedly had existed for some time. The car was then transferred to Inman Yard and departed from that point in train No. 55. The foreman of car inspectors made what appears to have been a more or less casual inspection of the train but did not discover anything

wrong either with this car or with the other four cars on which old defects were found by the Commission's inspector. The cars in the train also were examined by two car inspectors at Inman Yard and they too failed to discover these defective cars, although there were others which were discovered and removed from the train for repairs. These facts indicate that the inspection service was none too efficient in the performance of its duties, and that steps should be taken immediately to correct the situation. Had this car been properly inspected, the low coupler would have been detected and the occurrence of this accident avoided. Had the engine of No. 7's train coupled into the rear of train No. 55 and cut the air through both trains, as safe operating practice should have dictated, the serious damage and loss of life caused by the break-in-two of train No. 55 would have been prevented.

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. P. Borland,

Director.