

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE  
FORT WORTH & RIO GRANDE RAILWAY NEAR WINSCOTT, TEXAS,  
ON DECEMBER 20, 1920.

March 9, 1921.

On December 20, 1920, there was a rear-end collision between a passenger train and a freight train on the FortWorth & Rio Grande Railway near Winscott, Texas, which resulted in the death of 1 passenger and 1 employee, and the injury of 13 passengers, 6 employees, 5 persons in charge of stock, 1 mail clerk, and 1 Pullman porter. After investigation of this accident the Chief of the Bureau of Safety reports as follows.

Location

The Fort Worth subdivision, on which this accident occurred, extends between Menard and Fort Worth, Texas, a distance of 227 miles, and is a single-track line over which trains are operated by time-table and train orders, no block-signal system being in use. The speed of passenger trains is restricted by time-table to 35 miles an hour, that of freight trains to 20 miles an hour. Approaching the point of accident from the south the track is tangent for a distance of about 4,800 feet, the grade throughout this distance is 1.222 per cent descending for northbound trains. The weather at the time of the accident was foggy.

Description.

Northbound passenger train No. 6 consisted of 1 baggage car, 1 combination car, 1 coach, 1 chair car, and 2 Pullman sleeping cars, in the order named, all of wooden

construction, hauled by engine 693, and was in charge of Conductor Carroll and Engineman Clark. At Stephenville, 55 miles south of Winscott, after receiving an order to run 1 hour late from Stephenville to Fort Worth, it passed northbound freight train No. 32 and departed at 5.09 a.m., 1 hour and 4 minutes late, and according to the train sheet arrived at Cresson, 44 miles south of Winscott, at 8.50 a.m., 2 hours and 35 minutes late, having lost time on account of the engine not steaming. Several train orders were received at this point and the train departed at 8.59 a.m., 2 hours and 46 minutes late. On account of being flagged by the flagman of a bridge gang, the train was brought to a stop about 4,573 feet south of Winscott, and while standing at this point its rear end was struck by train No. 32 at about 9.15 a.m.

Northbound freight train No. 32 was in charge of Conductor Ingram and Engineman Walker, and at the time of the accident consisted of 10 freight cars and a caboose, hauled by engine 747. According to the train sheet this train left Stephenville at 5.10 a.m., and arrived at Cresson at 9.02 a.m. The train was held at this point by the operator's train-order signal for the purpose of spacing it 5 minutes behind train No. 6, train No. 32 departed from Cresson at 9.05 a.m. and at about 9.15 a.m. collided with the rear end of train No. 6 while running at a speed variously estimated at from 15 to 25 miles an hour.

Train No. 6 was moved ahead approximately 157 feet and the rear Pullman telescoped a distance of about 32 feet. The front end of engine 7+7, of train No. 32, was considerably damaged. The employee killed was a brakeman of train No. 6.

Summary of evidence.

As his train was coming to a stop Engineman Clark of train No. 6 looked back and saw Flagman Bennett on the ground about opposite the center of the train running back toward the rear end. According to his statement he had run by the bridge flagman a distance of about 2 car-lengths. After the bridge flagman came up to the engine and told him the reason for his being flagged, Engineman Clark looked back and saw Conductor Carroll give what he took to be a signal to call in the flagman, which he did.

When train No. 6 was flagged the conductor, flagman and train porter were riding in the second car from the engine and the statements of all three of these employees indicate that the flagman got off before the train came to a stop. Flagman Bennett said he did not see the bridge flagman and that he started immediately for the rear of his train, at which point he reached up and took two fuses from his flagging equipment, which was hanging on the brake staff. It was at this time that he heard the engineman sound the whistle signal calling him in, but he said he continued to go back and was about 2 car-lengths back from

the rear of his train when he saw train No. 32 approaching, apparently about  $\frac{1}{4}$  mile distant. He gave stop signals with a lighted fusee but did not receive an acknowledgment of these signals, and had reached a point about 2 pole-lengths from his train when train No. 32 passed him and collided with the rear of his train. He said he threw the fusee at the engine as it passed him.

Conductor Carroll has opened a window in the car in which he was riding and asked the bridge flagman the reason for stopping the train. He saw Flagman Bennett going back with a lighted fusee, heard train No. 32 approaching, working steam, and concluded that the flagman would not be able to stop the train in time to avoid an accident, the accident occurred before he could get off. Conductor Carroll thought the flagman went back as far as he could in the time at his disposal while the flagman said that had he been riding on the rear of the train he could not have gotten back far enough to stop train No. 32. The bridge flagman said Flagman Bennett got off about the time the train stopped and that by the time he reached the engine Flagman Bennett was at the rear of the train. He was positive that Flagman Bennett did not have any conversation with him. Mail Clerk Kitchen, however, said the flagman got off at about the time the train stopped, walked forward a few steps to where the bridge flagman was talking with the conductor, and that after listening to this conversation Flagman Bennett turned and ran toward the rear of the train; he thought Flagman Bennett had wasted

about a minute in this manner. Mail Clerk Kitchen said from 3 to 5 minutes elapsed between the time the brakes were applied and the time the train was struck by train No. 32. The estimates of various employees as to the time which elapsed between the stopping of train No. 6 and the time of the collision varied from 1 to 3 minutes.

The statements of the crew of train No. 32 indicated that the rear end of train No. 6 was first seen when it was not more than 2 or 3 pole-lengths distant and that the engineman then made an emergency application of the air brakes. Engineman Walker said he did not see the flagman until after he had seen the rear end of the train and that he did not see the fusee until about the time he got off. Head Brakeman Rennick said he saw the flagman about 25 or 30 feet from the rear of train No. 6. The head brakeman estimated the speed to have been 25 or 30 miles an hour, while the other employees of the crew of No. 32 estimated the average speed from Cresson to the point of accident to have been about 20 miles an hour, Conductor Ingram saying it was about 25 miles an hour descending the grade south of the point of accident. Engineman Walker did not know the reason for the delay to train No. 6, and while Conductor Ingram knew it was not making a good run he thought that inasmuch as his train left Cresson 6 minutes behind it, and did not exceed its <sup>speed</sup> schedule/en route, he considered that his train was being operated safely regardless of the fog.

The investigation disclosed that at Cresson train No. 6 had stood for approximately 9 minutes without any attempt being made by Flagman Bennett to protect his train although he said he threw off a fusee when approaching the station, he admitted that he had violated the flagging rule at that point. Conductor Carroll did not think it necessary to protect at Cresson in view of bulletin instructions requiring all trains to approach under control. The crew of train No. 32 said they did not pass any fusee approaching Cresson and that although running slowly the engineman had had to make a sudden stop in order to avoid striking train No. 6. It was also shown that Flagman Bennett usually rode in the forward part of his train, and he acknowledged that there was no occasion for his riding there and that in doing so he was violating the rules.

#### Conclusions.

This accident was caused by the failure of Flagman Bennett, of train No. 6, properly to protect his train.

Not only was Flagman Bennett negligent in the performance of his duty in not riding in the rear of his train, resulting in losing valuable time in reaching the rear of the train after it stopped, but he did not make full use of the limited amount of time at his disposal. While the amount of time he had could not be definitely determined, if his own statement is accepted as correct he had 2 or 3 minutes in which to protect his train. Knowing that train No. 32 had stopped behind his train at Cresson, and in view of the unfavorable weather conditions existing, it is be-

lieved that had he been riding in his proper position on the rear of the train and had he gone back as far as possible in the 2 or 3 minutes at his disposal it is probable that he would have been able to flag train No. 32 in time to avert the accident.

Conductor Carroll, of train No. 6, is open to censure for his failure to require Flagman Bennett to ride on the rear of his train, as required by the rules, in order that he might be in position properly to attend to his duties.

Rule 91 provides:

"Unless some form of block signal is used trains in the same direction must keep at least five minutes apart except in closing up at stations."

This accident directs attention to an inherent weakness of the train-order system of operation, in which trains running in the same direction are spaced a certain time interval apart at stations. As in this case, trains spaced the specified number of minutes apart, may close up and reduce this time interval between stations on account of the second train being operated at a higher rate of speed than the first train. Accidents of this character are among those which can be prevented by the proper application of block-signal principles, which provide for a definite space interval between trains at all times. Had an adequate block-signal system been in use this accident undoubtedly would not have occurred.

Flagman Bennett was employed as a fireman in 1913 and had left the service on two occasions, one of these

being when he entered the military service, he was reemployed as a brakeman in August, 1920. Conductor Carroll was employed as a brakeman in 1904 and promoted to conductor in 1905. The records of both of these employees were clear.

The crew of train No. 6 had been on duty about 9 hours, after more than 15 hours off duty, the crew of train No. 32 had been on duty  $10\frac{1}{2}$  hours, after about 12 hours off duty.