

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 FRANCISCO, IND., ON SEPTEMBER
3, 1927.

October 27, 1927.

To the Commission:

On September 3, 1927, there was a head-end collision between a Southern Railway passenger train and an Evansville, Indianapolis & Terre Haute Railway freight train on the line of the first-mentioned railway near Francisco, Ind., resulting in the death of 3 employees and the injury of 12 passengers, 2 postal clerks and 3 employees.

Location and method of operation

This accident occurred on that part of the St. Louis Division extending between Louisville, Ky., and Princeton, Ind., a distance of 112.1 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 a manual block-signal system. The accident occurred about 1 mile west of Francisco, on the mine track at Mine Junction, at a point about one car-length west of the clearance point of the mine track with the main track. Approaching the mine-track switch from the east the main track is tangent for a considerable distance, with a grade which is 1.275 per cent ascending for westbound trains.

The mine track leads off the main track to the south through a No. 10 turnout, the switch being a facing-point switch for westbound trains. The Weir intermediate high switch stand is located on the north side of the main track, with the ground-throw switch lever on the south side of the track. There is a telephone booth on the north side of the track about 20 feet west of the switch points.

The weather was clear at the time of the accident, which occurred at about 1.15 a.m.

Description

Evansville, Indianapolis & Terre Haute engine 6709, in charge of Conductor Hughes and Engineman Fluhrer, was engaged in hauling loaded coal cars from Mine Junction to Oakland City, 5.6 miles east of Francisco, returning with empty cars. It made one such round trip, then coupled to a second train of loaded cars, 16 in number, and stopped on the mine track, clear of the main track, at 12.20 a.m., waiting for an opportunity to proceed to Oakland City. While standing at this point, with the switch open, it was struck by train No. 2.

Westbound Southern Railway train No. 2 consisted of one mail car, one express car, one combination car, one coach and two Pullman sleeping cars, in the order named, hauled by engine 1322, and was in charge of Conductor Baerd and Engineman Nelson. The cars were of all-steel construction with the exception of the second car, which was of wooden construction. This train left Oakland City, the last open office, at 1.04 a. m., one minute late, passed Francisco, entered Mine Junction switch, which was open, although a clear indication apparently was displayed by the switch lamp, and collided with extra 6709 while traveling at a speed estimated to have been between 45 and 50 miles per hour.

Engine 1322 came to rest on its left side diagonally across the mine track, turned nearly end for end, and was in a very badly damaged condition, while the tender was demolished. The first car came to rest on its right side on the north side of the mine track, west of the engine; the second car was demolished while the third car stopped in an upright position with its forward end resting on the engine. The three rear cars were not derailed. Engine 6709 came to rest on its left side on the north side of the mine track, opposite engine 1322, while its tender was demolished and two of the cars in the train were badly damaged. The employees killed were the engineman and fireman of train No. 2 and the fireman of extra 6709.

Summary of evidence

When extra 6709 was ready to leave Mine Junction, eastbound, on the trip involved, Conductor Hughes went to the telephone booth and called the dispatcher to get running orders to Oakland City. The dispatcher told him to wait on the mine track until a westbound extra passed and then to call again. Accordingly, after the westbound extra passed Mine Junction, at about 12.35 a.m., Conductor Hughes again called the dispatcher, who issued running

orders to Oakland City and asked Conductor Hughes if he thought that their train could properly clear train No. 2 at Oakland City and the conductor said that he thought it could be done and shouted "all right" to the brakemen and, as he intended, the switch was opened, on this occasion by Flagman Carson. Apparently the switch was in a defective condition at this time and the switch target did not turn, with the result that the switch lamp displayed a green or proceed indication although the switch was open. This condition was not noticed by the flagman at the time, he having looked at the switch points but not at the switch lamp. In the meantime the conductor looked at his watch and thinking that there was not time enough within which to proceed to Oakland City for train No. 2 he sent the flagman to the engine to ask the engineman whether the trip could be made and the engineman replied in the negative. On his return from the engine Flagman Carson noticed the switch lamp displaying a green indication and thought that some one ^{also} had closed the switch while he had been going to the engine and returning to the telephone booth. Conductor Hughes, who had remained at the booth, on being informed by Flagman Carson that Engineman Fluhrer said there was not time enough to make Oakland City for train No. 2, called the dispatcher and told him that extra 6709 would remain at Mine Junction for that train. The conductor then came out of the telephone booth, noted that the switch lamp was displaying a green indication, and sat down on a tie spanning a ditch on the north side of the main track at a point about 20 feet west of the switch point, after which Flagman Carson and Head Brakeman Stanley came over and sat down beside him. They conversed on various subjects awaiting the arrival of train No. 2, remaining in the vicinity of the telephone booth, sitting down part of the time and walking around the rest, and were unaware of anything wrong until the accident occurred. The idea of examining the switch points did not occur to any of these employees.

Conductor Hughes said that immediately after the accident he examined the switch; the switch points were lined for the mine track and the switch lamp was displaying a green indication, with the lock lying on a tie, unlocked. He also found that the crank which connects the bottom of the shaft with the throw rod had dropped off the bottom of the shaft, permitting the switch points to be operated without moving the shaft, on the top of which were mounted the targets and lamp. There was another man at the switch when Conductor Hughes got there, an employee of the Southern Railway, and shortly afterwards the conductor of train No. 2 came up; no one

could have thrown the switch after the accident, however, as the rear truck of the rear car stood on the switch points. Conductor Hughes said that on the night of the accident his train had used the switch three times and that it had worked properly on each of those occasions.

The statements of Flagman Carson and Head Brake-men Stanley substantially corroborated those of Conductor Hughes as to what took place prior to the occurrence of the accident. Engineman Flicker, also of extra 6709, stated that while awaiting the arrival of train No. 2 he was sitting on his seat box in plain view of the switch, that the indication of the switch lamp was green and that he did not see it change at any time.

Conductor Baerd, of train No. 2, stated that the first he knew of anything wrong was when the accident occurred, there being no application of the air brakes. Shortly afterwards he examined the switch and found the points open, with the rear truck of the rear car standing on the points. The throw rod was disconnected from the bottom of the shaft, the switch lock was lying on the west headblock tie, unlocked, and the switch lamp displayed green, not a full green but practically so. He put his finger in the square hole of the crank and felt the point of the set screw, which was intended to clamp the crank to the bottom of the shaft, protruding through to the extent of about one-sixteenth inch; he tried to turn the set screw with his fingers but it was rusted and he could not turn it.

Trainmaster Rush, of the Southern Railway, stated that he arrived at the scene of the accident about an hour after its occurrence, and on examining the switch and its appurtenances he found them to be in the condition described by Conductor Baerd. He also stated that the set screw apparently did not protrude far enough through the crank to hold the crank on the shaft.

Supervisor of Bridges and Buildings Veith, of the Southern Railway, was riding in the third car of the train and was the first person to reach the switch after the occurrence of the accident. His statements as to the condition of the switch and its appurtenances were similar to those of Conductor Baerd, except that he said he did not recall the position of the switch lamp. Mr. Veith also said that as soon as daylight came he again examined the switch and found that there was a fresh crack in the crank and bright marks on the corners of the square head of the set screw, apparently made by a wrench or some other tool. On the other hand, however, Train-

master Carter, of the E. I. & T. H. Railway, stated that during the afternoon of the day of the accident it was decided to put the crank on the bottom of the shaft and it was forced on with a crow bar. Later on the crank was hit with a crow bar and forced off for further examination and at this time he noticed a slight crack across the top of the crank, a hair-line crack, and he said that this crack had not been there prior to the time of forcing the crank on the shaft. Road Foreman of Engines Calbreth, of the E. I. & T. H. Ry., corroborated the statements of Trainmaster Carter.

Division Engineer Dickerson, of the E. I. & T. H. Ry., stated that the lower end of the shaft was square, as was the hole in the crank, so that the shaft would turn without the set screw; the only function of the set screw was to keep the crank from dropping off the bottom of the shaft. He also said the indications were that on this particular switch the set screw had not securely fastened the crank to the bottom of the shaft and that the road had been held on only by friction.

Section Foreman Larson stated that he is in charge of the section on which the accident occurred. He last inspected the switch involved on September 1; at that time it was found that the bridle rod had been damaged, apparently by a dragging brake beam, and the south end of the throw rod was disconnected in order to remove and repair the bridle rod; after this had been done the parts were replaced. The crank at the bottom of the shaft was in place and secure at that time and the switch and all of its appurtenances apparently were in good condition. He said he had not disconnected the crank from the bottom of the shaft since the switch was installed about four years previously and never before to his knowledge had a crank become disconnected from the bottom of the shaft of a switch of this type.

Conclusions

This accident was caused by an open switch, which was in defective condition.

Immediately after the accident the switch points were found to be open but the switch lamp was displaying a clear signal, indicating that the switch was closed. This situation resulted from the fact that the crank was disconnected from the bottom of the shaft, the set screw not having engaged the counter bore of the shaft properly and thus allowing the crank either to drop off or to work its way off the shaft. In this condition the shaft of the switch, with the signals mounted on it, would remain stationary when the switch points were

opened by operation of the lever on the opposite side of the track. Had a bolt-hole been drilled through the bottom of the shaft according to the design, with the crank properly secured to the shaft by means of a bolt, or had the counter bore in the shaft been properly centered so as to receive the set screw, it is probable that no defective condition would have arisen such as led up to the occurrence of this accident.

Had an adequate automatic block-signal system been in use on this line, this accident probably would not have occurred; an adequate automatic train stop or train control device would have prevented it.

Flagman Carson had had less than one year's experience with the E. I. & T. H. Ry.; the other 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