IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE CHICAGO, ROCK ISLAND & PACIFIC RAILWAY NEAR FORREST CITY, ARK., ON MAY 12, 1921.

June 6, 1921.

On May 12, 1921, there was a derailment of a St. Louis Southwestern passenger train on the tracks of the Chicago, Rock Island & Pacific Railway near Forrest City, Ark., which resulted in the death of 1 employee, and the injury of 4 passengers and 2 employees. After investigation of this accident the Chief of the Bureau of Safety reports as follows:

Location and method of operation.

This accident occurred on subdivision No. 52 of the Arkansas division, 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 accident occurred at a switch leading to a spur, known as the compress track, located about 0.8 mile west of Forrest City. The investigation disclosed that this switch had been left set for the compress track and had also been run through by a westbound train before this accident occurred. Approaching the point of accident from the west the track is tangent for several miles, while the grade is 0.8 per cent ascending for a distance of about 2,100 feet. The track is laid with 90-pound rails, with 20 treated pine ties to the rail-length, single-spiked, and ballasted with about 12 inches of gravel. In the vicinity of the switch the track is on an embankment about 17 or 18 feet in height. The compress track leads from the main track toward the south, the switch being

a facing-point switch for eastbound trains. The switch stand is a High Star stand, located on the engineman's side of an eastbound train. The weather was clear at the time of the accident, which occurred at about 9.25 a.m.

Description.

Eastbound passenger train No. 626 consisted of 1 baggage car, 1 mail and express car, 1 coach, 1 chair car and 2 Pullman sleeping cars, hauled by engine 657, and was in charge of Conductor Tudor and Engineman Boone. The first 3 cars were of steel underframe construction while the last 3 cars were of wooden construction. Train No. 626 entered upon the track of the Chicago, Rock Island and Pacific Railway at Brinkley, Ark., 24.4 miles from Forrest City, and departed from that point at 8.45 a.m., 3 hours and 37 minutes late, passed Palestine, 7 miles from Forrest City and the last open office, at 9.11 a.m., 3 hours and 36 minutes late, and was derailed at the compress switch west of Forrest City while travelling at a speed variously estimated at from 35 to 50 miles an hour.

The engine came to rest on its right side down the embankment on the south side of the track about 300 feet beyond the switch. The first two cars were entirely derailed and partially overturned to the right, while the third car was practically upright, with only its forward truck derailed. The last three cars remained on the rails and were not damaged. The employee killed was the engineman.

Summary of evidence.

Fireman Hugon said that after passing Red Fern, about 2 miles west of the point of accident, he put in a fire and on getting back on his box and looking ahead saw the front end of the engine drop down as it was derailed, he had not noticed any application of the air brakes. Fireman Hugon estimated the speed at the time of the accident to have been from 30 to 35 miles an hour. The last time he had talked with Engineman Boone was just after leaving Palestine, and he said that so far as he knew the engineman was in normal physical and mental condition. Conductor Tudor thought the speed was about 30 miles an hour when he felt the brakes applied in emergency followed almost immediately by the derailment, his statements were corroborated by Flagman Massey. Baggagemaster Baker said the spped was about 35 miles an hour and thought about 8 seconds elapsed between the time he felt the emergency application of the air brakes and the time the train stopped. Mail Clerk Passell did not notice any application of the air brakes, while the statements of Train Porter Bracken indicated that the application of the brakes and the shock of derailment came very close together.

William Thompson, a salesman, said he was racing in an automobile on the highway which runs parallel with the railroad and is located on the north side of the track. He did not have a speedometer but thought the passenger train passed him at a speed of about 50 miles an hour at a point about $\frac{1}{4}$ mile west of the compress switch. He said that the fireman at this time was on the left side of the cab and motioned to him to come along, he did not see the fireman look at the engineman or make

any sign indicating that he was calling the engineman's attention to the fact that the automobile was racing with the train. The conductor and baggagemaster said they had not observed any automobile racing with the train.

After the accident to train No. 626, the switch was found to be lined and locked for a movement to the compress track, with the target displaying the proper red indication. The connecting rod was bent, the lag screws holding the stand to the head block were loose at the outside end of the stand, and the north switch point was from $\frac{1}{2}$ to $\frac{3}{4}$ inch from the north rail. The first mark on the north side of the track of the derailment of train No. 626 was on the head of a spike 19 feet 3 inches east of the switch point, while the first mark on the opposite side of the track was 20 feet 5 inches from the switch point, these marks were followed closely by other marks on the ties which indicated that some of the derailed equipment had split the switch.

When engine 657 was picked up after the accident the reverse lever was found to be in the back motion, latched three notches from the back end of the quadrant. The throttle was slightly open, and the brake valve in service position, but it could not be determined whether this was their position at the time of the derailment. Examination of the engine did not disclose anything which could have caused the accident.

The investigation developed that earlier in the day Section Foreman Emmons had given his switch key to Sectionman Myhan with instructions to obtain the necessary tools for relaying some rails on a track which leads off from the compress

track, and to take section motor car and push car to that point. Sectionman Myhan was positive that after these two cars had entered the compress track he had closed the switch. It is believed, however, that he failed to do this, leaving it lined and locked for movement to the compress track. Examination of the switch showed that it had afterwards been run through, apparently by Chicago, Rock Island & Pacific passenger train No. 601, which left Forrest City at about 9 a.m., although the engine crew of that train, both of whom said they were on their seat boxes when passing the switch, did not know that they had run through it, saying that they felt no jar nor did they hear any unusual noise, they did not think it could have been open without their noticing the indication of the switch target.

Conclusion.

This accident was caused by the failure of Engineman Boone, of train No. 626, properly to observe and obey the stop indication of the switch target of the compress track switch.

The evidence indicates that the switch was left open by the section crew and that it was afterwards run through by a westbound Chicago, Rock Island & Pacific passenger train. The switch was found locked in the open position and the target displaying the proper indication immediately after the accident, and in view of the fact that the weather was clear with the sun shining brightly, that the switch target was on the engineman's side of the track, and that he could have seen it a distance of from 1,600 to 1,800 feet, as was determined by tests made a few days afterwards, it is impossible to assign any definite reason

for Engineman Boone's failure to observe its indication and bring his train to a stop in time to avert the accident. It is possible his attention as well as the fireman's may have been diverted from the track ahead by the automobile which was racing with his train, but this was not definitely established.

The investigation disclosed that the indication of the switch target at this point was entirely overlooked and disregarded by two engine crews, in one case the switch was run through and damaged, and in the other case the switch was split and the train derailed. Not only do the rules require enginemen to keep a constant lookout for signals and obstructions, and firemen to assist enginemen in keeping a lookout, but this is one of their primary duties which is essential to the safety of themselves, their fellow employees, and the traveling public. Had Engineman Boone or Fireman Hugon been maintaining a proper lookout of the track ahead, this accident could have been averted.

The investigation indicated that the switch where this accident occurred was left open through carelessness and inattention to duty on the part of Sectionman Myhan and Section Foreman Emmons, for which there was no possible excuse. The rules require that the section foreman must not permit his switch key to be out of his possession and must personally open and close all main track switches operated by him Section Foreman Emmons did not comply with this rule.

All of the employees involved were experienced men. At the time of the accident the crew of train No. 626 had been on duty about 7½ hours, after nearly 24 hours off duty.