INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE DENVER & RIO GRANDE WESTERN RAILROAD AT CONCRETE, COLO., ON APRIL 4, 1925.

August 25, 1925.

To the Commission:

On April 4, 1925, there was a derailment of a passenger train on the Denver and Rio Grande Western Railroad at Concrete, Colo., which resulted in the death of one employee and the injury of one employee. This accident was investigated in conjunction with a representative of the Public Utilities Commission of Colorado.

Location and method of operation.

This accident occurred on the Second subdivision of the Pueblo Division extending between Pueblo and Salida, Colo., a distance of 95.76 miles; in the immediate vicinity of the point of accident 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 derailment occurred at the west switch of the passing track at Concrete; approaching this point from the west there is a 4° 50' curve to the right 973 feet in length, then 1,049 feet of tangent, followed by a 3° 30' curve to the left 100 feet in length, the west passing track switch being located approximately 30 feet from the western end of this last-mentioned curve. From a point about 3,000 feet west of the point of accident the grade for eastbound trains is slightly descending, varying from 0.51 to 0.30 per cent being at the minimum at the point of accident.

The west passing-track switch is a facing-point switch for eastbound trains and leads off to the north from the main track. It is equipped with a high switch stand, displaying at night a green light when the switch is lined for the main track and a red light when the switch is lined for the passing track. The switch stand is located on the engineman's side of an eastbound train.

The track is laid with 90-pound rails, 33 feet in length with an average of 30 red spruce ties to the rail length, double-spiked, tie-plated, ballasted with about 10 inches of slag ballast, and maintained in good condition.

It was dark and the weather was cloudy at the time of the accident, which occurred at about 2.20 a.m.

Description.

Eastbound passenger train No. 16, consisted of one combination baggage and express car, one combination mail and baggage car, two baggage cars, one combination coach and baggage car, one coach and two Pullman sleeping cars, in the order named hauled by engine 757, and was in charge of Conductor Lyman and Engineman Reilly. This train departed from Salida, its initial terminal on this division, at 11.25 p.m., on time, left Portland, 1.37 miles from Concrete and the last open office at 8.[illegible] a.m., 4 minutes late, and was derailed at the west passing track switch at Concrete at 8.19 or 8.20 a.m., while traveling at a speed thought to have been about 35 miles an hour.

Engine 757 was derailed to the left and came to rest on its left side between the main and passing tracks, at a point 263 feet east of the first mark of derailment, and was considerably damaged; the cistern of the tender was torn from its frame, and came to rest bottom-side up near the engine. The first three cars and the forward truck of the fourth car entered the passing track at the switch points and were derailed but remained upright. The first car in the train sustained no considerable damage while the other derailed cars were practically undamaged. The employee killed was the engineman.

Summary of evidence.

Fireman Smith of train No. 16, said that as his train approached the point of derailment, he stood up on his side of the engine with one hand on the injector and one hand on the window sill and looked ahead; this was near a small bridge in the track about 1,100 feet from the west passing track switch. The switch light from his view gave a clear green indication. He said his first intimation of the derailment was when the front end of the engine lurched to the left, causing the headlight to illuminate the right-of-way to the left of the track. He called a warning to the engineman, but the engine overturned almost immediately without the brakes having been applied. Fireman Smith estimated the speed of the train at the time of the derailment to have been about 30 miles an hour.

Conductor Lyman said he was riding in the fifth car from the engine and shortly after hearing the station whistle-signal sounded approaching Concrete the train suddenly slowed up, lunged several times and then came to a stop. As he alighted from the right side of the car in which he was riding his attention was at once attracted to a red light ahead which he at first thought to be the rear marker lights of a train with which his train had collided,

but upon going forward he found that the red light was the light of the west passing track switch. He made a hasty examination of the switch, noted that the throw lever handle was out of the socket and resting on the table of the switch stand and that the switch lock was unlocked and hanging on the chain; the lock was in good condition and did not appear to have been pounded or forced in any way. He then went to the engine, assisted in moving the engineman from the wreckage, secured medical aid, and then went to the station and notified the dispatcher at Pueblo of the accident. Later Conductor Lyman made a more thorough examination of the switch; the fourth car from the engine, a baggage car, stopped midway over the switch points which permitted the operation of the switch. He said he threw the switch several times and found that the points fitted against the stock rails perfectly when set for the main track.

Road Foreman of Equipment McGinnis stated that shortly after his arrival at the scene of the accident he met Special Agent Summers of the St. Louis-San Francisco Railroad and Operator Schamp of the Baltimore & Ohio Railroad who were passengers on train No. 16; he said that these men both noticed the red light ahead as they alighted from the car in which they were riding. They showed Mr. McGinnis the position in which the throw-lever of the switch was found upon their arrival at the switch, the handle being out of the socket and the switch points lined for the passing track. Mr. McGinnis said that from his examination of the west switch and the marks on the switch points and ties he believed that the derailment was caused by what is commonly known as a cocked switch. This opinion was concurred in by Trainmaster Brown who also arrived at the scene of the accident shortly after the occurrence of the accident and whose findings and statements agreed with those of Road Foreman of Equipment McGinnis.

Special Officer Lynch of this railroad said he conducted a careful investigation in the vicinity of Concrete in an effort to secure evidence as to the reason for the switch being unlocked and partly open at the time train No. 16 arrived, but nothing was developed in this connection.

Section Foreman Moreland, in charge of the section on which the accident occurred, stated that one of the men in his gang cleaned the switch light at the west passing track switch just before the section gang left for their homes in Portland, at about 4.55 p.m., on the evening of April 3. Section Foreman Moreland said this light was of the type which requires attention only about every third day

This switch was last used by eastbound freight train extra 1177 at about 5.30 p.m., on the preceding day, and was closed by Brakeman Mayo, who stated that he locked the switch and then pulled on the lock chain to make certain that the switch was properly secured, and then noted that the switch points fitted against the stock rails properly. Conductor Davis said he was standing on the rear platform of the caboose and saw Brakeman Mayo lock the switch, but said he did not remember seeing the brakeman pull on the lock chain after locking the switch, although he did recall seeing him look at the switch points after closing the switch.

Westbound freight trains extra 1538-1539, and second class freight train No. 61, passed over this switch at about 7.40 and 9.30 p.m., respectively, and nothing unusual was noted by either crew. Engineman Kelker, of westbound passenger train No. 15, which passed through Concrete about 2 hours previous to the occurrence of the accident, said he observed both passing track switches, and remembered that the east switch gave a green indication and that the light on the west switch was very dim or else not burning at all; he noted however that the switch target on this latter switch indicated that the switch was lined properly for the main track.

Conclusions

This accident was caused by a cocked or partly opened switch.

The switch was last used at about 5.30 p.m. on the day prior to the accident and the evidence indicates that it was closed and locked at that time. The records show that four westbound trains passed over this switch between the time it was last used and the time of the accident; according to the time table no eastward movements passed this point during this time interval.

The reason for this switch not being properly closed and locked at the time of the accident was not ascertained.

All of the employees involved were experienced men; at the time of the accident none had been on duty in violation of any of the provisions of the hours of service law. Engineman Reilly entered the service of this railroad as a fireman in 1881; he was promoted to switch engineman in 1883, promoted to freight engineman in 1887, and promoted to passenger engineman in 1891; his service record was good.

Respectfully submitted,

W. P. BORLAND.

Director.