INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE CHICAGO & ALTON RAILROAD AT COVEL, ILL , ON FEBRUARY 19, 1931.

March 13, 1931.

To the Commission:

On February 19, 1931, there was a head-end collision between a passenger train and a freight train on the Chicago & Alton Railroad at Covel, Ill., resulting in the injury of four passengers, two mail clerks, one express messenger, and three employees.

Location and method of operation

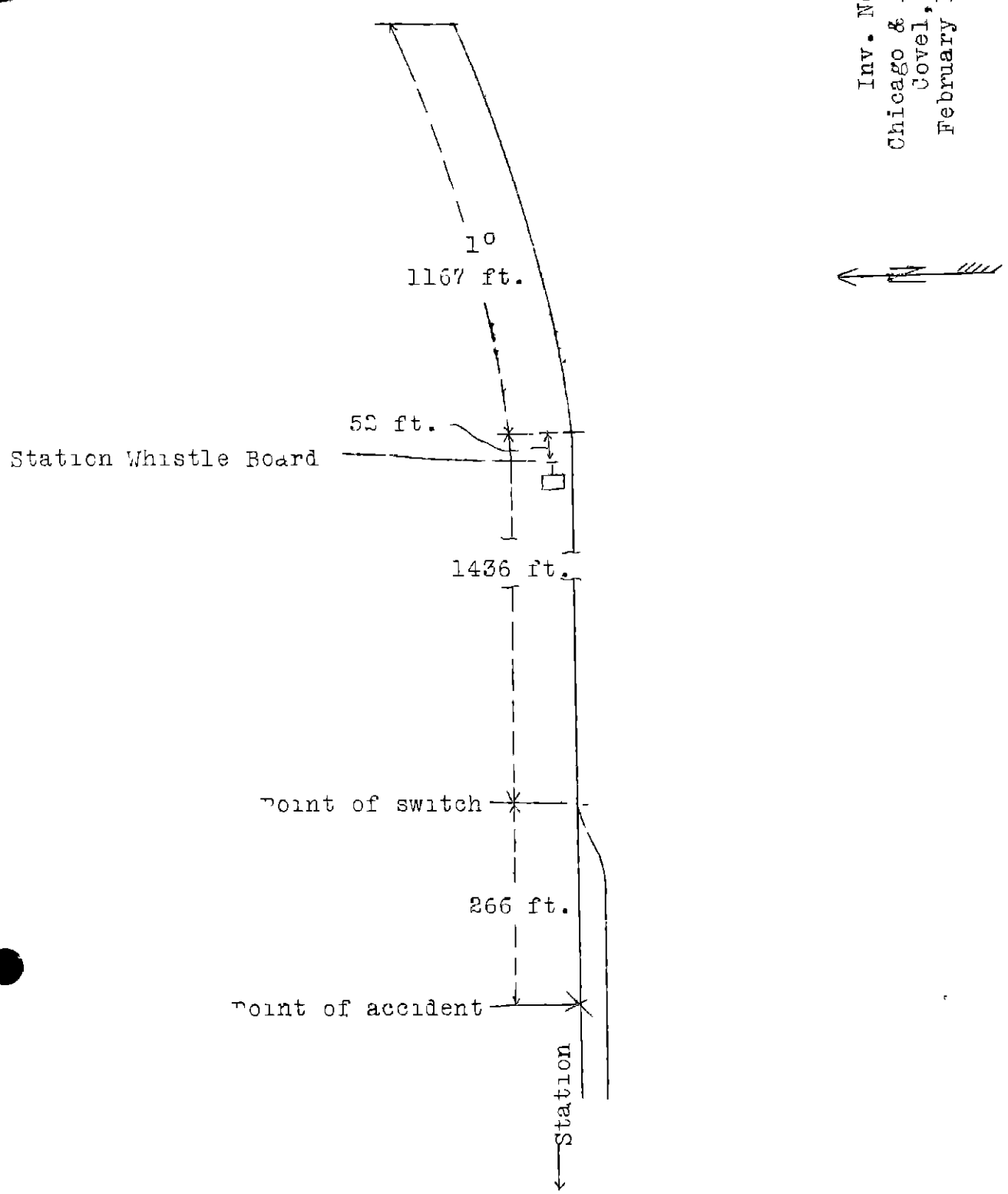
This accident occurred on Subdivision 2 of the Northern Division, extending between Bloomington and Roodhouse, Ill., a distance of 110.6 miles, in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table, train orders, and a manual block-signal system The accident occurred on the main track at a point 266 feet west of the east switch of the passing track at Covel; approaching from the east, there is a 1° curve to the right 1,167 feet in length, followed by 1,439 feet of tangent to the switch, this tangent extending for a considerable distance beyond that point The grade for westbound trains is 0.17 per cent descending The passing track parallels the main track on the south

The weather was foggy at the time of the accident, which occurred about 6 57 a m

Description

Eastbound freight train extra 880 consisted of 37 cars and a caboose, hauled by engine 880, and was in charge of Conductor Keyes and Engineman Strunk. At Mason City, 38.7 miles west of Covel, the crew received copy of train order No. 12, Form 19, reading as follows:

Inv. No. 1692
Chicago & Alton R.R.,
Dovel, Ill.,
February 19, 1931



"No 41 Motor 16 meet Extra 880 east at Covel No 41 take siding at Covel "

Extra 880 departed from Mason City at 5.30 a.m , according to the train sheet, and on arrival at Covel was brought to a stop on the main track clear of the east switch of the passing track at about 6.56 a m., where it was struck shortly afterwards by train No. 41

Westbound passenger train No 41 consisted of gas-electric motor car M-16 and wooden trailer coach 763, and was in charge of Conductor Williams and Engineman Foreman At Bloomington, its initial terminal, 6 2 miles east of Covel, the crew received copy of train order No, 12, Form 31, previously quoted. Train No. 41 departed from Bloomington at 6.49 a.m , according to the train sheet, four minutes late, passed the east switch of the passing track without stopping, at which point it should have taken the siding, and collided with extra 880 while traveling at a speed estimated to have been about 15 miles per hour

The motor car was considerably damaged, none of the equipment in either train was derailed

Summary of evidence

Engineman Strunk, of extra 880, stated that he brought his train to a stop on the main track by means of the straight air, clear of the east switch of the passing track at about 6 56 a m It was very foggy, visibility being restricted to about 8 or 10 car-lengths, and the rails were very slippery A pounding noise had developed on the left side of the engine and just after the train came to a stop the engineman got down on that side and tried to locate the trouble. When he got down he could see the reflection of the headlight of the motor car about 15 or 20 car-lengths distant, it appearing through the fog like the moon does through the clouds, and shortly afterwards the collision occurred, at which time the air brakes were set on his engine, but not on the cars in the train, he estimated the speed of train No 41 to have been from 15 to 17 miles per hour at the time of the accident. Engineman Strunk further stated that the headlight on his own engine was burning at the time of the accident Fireman Taylor thought that vision was restricted to about three or four car-lengths, his other statements were similar to those of Engineman Strunk, except that he thought his train had been standing about two minutes. Head Brakeman Perry stated that visibility was restricted to about 10 or 12 car-lengths through the fog,

when his train stopped he immediately got down on the right side and started for the switch, and then he heard train No. 41 sound the whistle, so he started to run toward the switch, intending to open it and let the opposing train enter the passing track without the necessity of coming to a stop, but when he was still about one car-length from the switch train No. 41 passed him, at a speed of about 15 miles per hour. Conductor Keyes said that it was the practice for a train holding the main track at a meeting point to open the switch for the opposing train to head in, provided the train holding the main track arrived there in time to do so. Statements of Flagman Langley developed nothing additional of importance.

Engineman Foreman, of train No. 41, stated that vision was considerably restricted through the fog and that the rails were wet and in very poor condition for braking purposes. He was fully aware that under the requirements of train order No. 13 his train was to take siding in order to meet extra 880 at Covel, was thoroughly familiar with the physical characteristics, and was not confused as to his location at any time despite the heavy fog. Approaching Covel, he heard the communicating air whistle signal sounded by Conductor Williams calling attention to the meet, he shut off the motor and as soon as he saw the station whistling board, located 1,384 feet east of the east switch of the passing track, he opened the sanders and made about a 15-pound brake-pipe reduction from a pressure of 70-pounds, at which time the speed of the train was about 35 miles per hour. The speed was not retarded properly, and he therefore made a second reduction at which time the speed was about 25 miles per hour, but the brakes again did not respond properly, so he finally went to emergency as a last resort, but feeling that it would do no good; no release had been made from the first reduction, and the brakes did not respond any more at this time than they did from the first reduction When the motor car had almost reached the switch he saw the engine of extra 880 standing on the main track, and realizing that his own train was not going to get stopped in time, he opened the door and jumped just before the collision occurred, estimating the speed at the time the accident occurred to have been about 15 miles per hour. He could not say positively whether the wheels on the motor car became locked,and the only reason he could attribute for the failure of his train to get stopped in time was that the air brakes did not hold or that the wheels skidded Engineman Foreman stated that he did not try the sanders before

starting on this trip to see whether they worked properly, and while he used them approaching the meeting point, he did not see any sand on the rails when he walked back after the accident A count of the rails made immediately after the accident, from the point where he made the first brake-pipe reduction to the east switch of the passing track, showed this distance to be 59 rail-lengths, or 1,770 feet, while the accident occurred 266 feet beyond the switch, or a total distance of 2,036 feet. In connection with the air-brake test made at Bloomington, prior to starting the trip, Engineman Foreman said that he started the motor and cut in the pump, but that the air pressure did not pump up, due to the front angle cock being open, After he closed the front angle cock, the air pressure did not then pump up like it should, and he found the blower valve partly open. The car inspector had already signalled him to try the brakes, but there was not enough air pressure to try them, and the car inspector walked to the head end of the train to see why the engineman did not try them. It is required that the air pressure be pumped up to within 5 pounds of the maximum before being tested, and the maximum brake pipe pressure on motor car M-16 is 70 pounds On this occasion, however, after the air pressure had been pumped up to about 60 pounds, the engineman tried the brakes, making a 20-pound brake-pipe reduction, and the car inspector walked back, gave the signal to release and nodded his head, from which the engineman assumed that the brakes were all right. On leaving Bloomington he made a running test of the air brakes while the train was traveling at a speed of about 10 miles per hour, he felt the brakes take hold and then released them immediately, having departed from that point a little late, and did not again use them until he made the first reduction approaching Covel. Engineman Foreman stated that while he did not have standard brake-pipe pressure when he tried the air brakes at Bloomington, after getting started the governor allowed the main-reservoir pressure to pump up to between 110 and 120 pounds before it opened When he arrived at the motor car that morning he personally closed the cut-out cocks of the brake valves, he was familiar with the operation of the M-24-C brake valve with which motor car M-16 was equipped, and ascertained before starting on the trip that the cocks were in position for proper operation of the air brakes on both cars of his two-car train. The brake valve exhaust to atmosphere is made through a pipe below the floor of the cab, but the exhaust can be heard by the engineman while the motor is running, provided the window is open, Engineman Foreman said that he heard the exhaust from the first brake-pipe reduction, but that he did not

remember hearing any exhaust when the following two reductions were made. He was satisfied that the air brakes on the trailer worked properly, but he was not positive about those on the motor car, due to the fact that when the cars were moved after the accident the brakes were sticking on the trailer but not on the motor car. Engineman Foreman felt that he started braking in time to have gotten his train stopped for the east passing-track switch provided the air brakes had responded as he expected.

Conductor Williams, of train No. 41 stated that a terminal test of the air brakes was made at Bloomington and that when the running test was made on leaving that point the brakes seemed to apply. Conductor Williams sounded the communicating air whistle signal calling attention to the meet at Govel when about 1 or 1½ miles east of the switch. On reaching a point about 40 or 50 rail-lengths from the east switch, the conductor felt the air brakes apply, at which time he estimated the speed to have been between 35 and 40 miles per hour, although it might have been more than 40 miles per hour. When he felt the air brakes apply he immediately started walking toward the front end of the car, in order to be in position to open the switch for his train to take siding, he did not feel any other air-brake application made and said the momentum of the train was not properly retarded. Conductor Williams said that he could always feel when more than one application was made, however, on this occasion he felt only one air-brake application and presumed that it was a service application. It was his opinion that when the brakes were applied, the wheels locked and then slid on the slippery rails.

Car Inspector Bradley, at Bloomington, stated that he inspected the air brakes on train No. 41 when the terminal test was made prior to its departure on the trip in question. After the brakes were applied he saw that they were set and also examined the piston travel, then walked to the rear of the train, sounded the whistle four times, and saw that the brakes released. The air brakes applied and released properly. He did not measure the piston travel on this occasion, but stated that it generally measured about 5 inches, that they never allowed it to reach 6 inches, and that he had never seen more than 6 inches of piston travel on a trailer. Air Brake Instructor McGlone, however, stated that standard piston travel measured between 7 and 9 inches.

Machinist Szadabos, at the Bloomington roundhouse, stated that after motor car M-16 arrived in the roundhouse the night before the accident occurred, the air equipment was tested, the piston travel measured 6½ inches, according to his recollection, no written record having been made, and he said that the sand ran on both rails, forward and backward, but that he did not notice how much sand was in the boxes.

Subsequent to the accident, tests were made of the air equipment on motor car M-16 and trailer 763. As the pipe leading to the brake valve from the main reservoir on motor car M-16 was broken off, the brake valve could not be tested in position The valve was taken from the bracket, however, and all ports through the valve and through the various gaskets were seen to register and were not obstructed in any way The cut-out cocks beneath the brake valve were in their proper position for the handling of the brakes of this car with the trailer, and the cut-out cock in the crossover pipe to the triple valve was open

In order to make a test of the triple valve and brake cylinder of this equipment, it was necessary to put a cap on the brake pipe leading to the brake valve on the engineman's end of the car. The triple valve was found to be functioning properly The piston travel existing at the time of the accident could not be determined, as the top rod and equalizing lever to the forward truck were broken off All parts that it was possible to test, however, including the slack adjuster, functioned properly

Test was then made of the air brakes of trailer car 763, the piston travel measured 6¾ inches, and the equipment was found to be in proper operating condition

Inspection of the sanders on motor car M-16 disclosed that the sand pipes were broken off as a result of the accident, but the sand valve was in the running position, indicating that the sanders had not been opened. Wet sand was found in the sand boxes, apparently caused by the water from the broken radiator.

In a report submitted by Master Mechanic Branch, Air Brake & Mechanical Instructor McGlone, and Road Foreman of Engines Meetyard, they stated that they were positive there

were no mechanical defects existing on motor car M-16 that could in any way have contributed to this accident

Conclusions

This accident was caused by the failure of Engineman Foreman, of train No 41, properly to control the speed of his train approaching a meeting point

Engineman Foreman was fully aware that under the requirements of train order No. 12, his train was to take siding to meet extra 880 at Covel, and he stated he was not confused as to his location at any time, despite the heavy fog. The point where he said he first began braking was located by him as being 1,770 feet from the east switch and 2,036 feet from the point of accident This should have been sufficient distance in which to stop, unless he greatly underestimated his speed Engineman Foreman further stated that he obtained no effect from the second and third brake-pipe reductions According to tests made after the accident, however, the brakes on the trailer were in good condition, the only thing noted being that occasionally the triple valve would not assume the release position after an emergency application, no definite information concerning the brakes on the motor car could be obtained, due to damage resulting from the accident, except that the appliances for operating the brake system were in good condition Under these circumstances, no positive statement can be made as to the efficiency of the brakes as a whole, but if there was anything wrong, it should have been discovered before reaching the meeting point As it was, Engineman Foreman hurried through the terminal test at Bloomington, finally making it from a brake-pipe pressure less than that required, and it is evident from his statements that he made only a very perfunctory running test after leaving that point. It was his duty to know whether he had efficient brakes, and he should have made certain that his tests were adequate to determine this fact.

All the employees comprising the crews of the two trains were experienced men, at the time of the accident the crew of train No. 41 had been on duty less than 1 hour, and the crew of extra 880 less than 5 hours, prior to which they had been off duty for 17¼ hours or more.

Respectfully submitted,

W. P BORLAND,

Director.