

## INTERSTATE COMMERCE COMMISSION

REPORT OF THE CHIEF OF THE BUREAU OF SAFETY IN RE INVEST-  
MENT OF AN ACCIDENT WHICH OCCURRED ON THE CHICAGO & NORTH  
WESTERN RAILWAY NEAR WEST BEND, WIS., ON DECEMBER 14, 1922.

December 27, 1922.

To the Commission:

On December 14, 1922, there was a derailment of an  
express train on the Chicago & North Western Railway near  
West Bend, Wis., which resulted in the death of one employee  
and the injury of one employee.

Location and method of operation.

This accident occurred on the Third Subdivision of  
the Wisconsin Division, extending between Milwaukee and Fond  
du Lac, Wis., a distance of 62.4 miles. It is a single-  
track line over which trains are operated by time-table,  
train orders, and an automatic block-signal system. The  
point of accident was about 1 mile west of the station at  
West Bend, approaching this point from the east there are  
2,129 feet of tangent, followed by a curve of 5° to the left  
which is 1,616 feet in length, the derailment occurring on  
this curve about 700 feet from its western end. The grade  
is descending for about half a mile, varying from 0.157 to  
0.56 per cent. The track is laid with 100-pound rails, 33  
feet in length, with an average of 20 hard wood ties to the  
rail length, ballasted with about 12 inches of gravel. Tie  
plates are used on curves, double spiked. The super-eleva-  
tion on the curve is 6 inches. The general maintenance of  
the track was good. The point of accident was at the frog  
of a facing-point switch for westbound trains, this switch  
leading to the right; this is a No. 10 turnout, equipped with  
a spring frog. The guard rail on the south or left side of  
the track was of 100-pound section, 15 feet in length, laid  
in 1913.

It was snowing at the time of the accident, which  
occurred at about 5.27 a.m.

Description.

Westbound express train No. 125 consisted of nine  
baggage, express and milk cars, hauled by engine 1640, and  
was in charge of Conductor Hall and Engineman Green. It  
passed West Bend, according to the train sheet, at 5.25 a.m.,

one hour and five minutes late, and after traveling a distance of about a mile was derailed while moving at a speed estimated to have been from 30 to 35 miles an hour.

The engine came to rest upright about 40 feet from the track, and about 215 feet beyond the frog of the switch, with the wreckage of the first three cars upon it. All the other cars were derailed, the first two of them being overturned. The employee killed was the fireman.

#### Summary of evidence.

Engineman Green said he had released the air brakes in the vicinity of the water tank at West Bend, and again applied them slightly before starting around the curve on which the accident occurred. His first knowledge of anything wrong was when he felt the engine wobble; he then realized it was derailed, but was thrown around in the cab so that he was unable to reach the brake valve until about the time the engine came to a stop. Engineman Green said the engine and also the air brake were in good condition, also that he had noticed nothing wrong when passing this switch on the preceding day. The statements of the members of the train crew brought out no additional facts except that they found the engine had climbed the point of the frog.

Examination of the track showed that the guard rail was missing, while there were marks on the frog which indicated that the engine truck wheels had climbed the point of the frog and dropped off the rail on the outside, while there were also marks indicating that the driving wheels had derailed about two car lengths beyond the frog, beyond which point the rails on the right side of the track were torn out for some distance. None of the rails on the inside of the curve sustained damage, nor was the frog damaged or displaced.

Further investigation disclosed that the guard rail had been broken into at least 14 pieces, 10 of which were found. The piece from the west end of this guard rail was found about 140 feet east of the frog, and the remaining fragments were found between that point and a point 125 feet west of the frog. On assembling the 10 fragments, it was found that some of them had marks indicating they had been struck on the end by a train moving eastward, while others had been struck by a westbound train. Each of the first two fragments from the west end of the guard rail showed that they had been struck by an eastbound train. The length of the fragments which were found varied from a few inches to about 2 feet.

This switch had been inspected on the preceding day, at which time it was in good condition. The last eastbound train to pass was passenger train No. 102, at about 4.41 a.m., the engine crew of that train said it rounded the curve at a speed of about 25 miles an hour, and that they noticed nothing wrong.

#### Conclusions.

This accident was caused by a broken guard rail.

From the finding of portions of the west end of the guard rail east of the point of accident, it is apparent that they had been broken off by some eastbound train, and that as a result of the defective condition thus created the engine truck wheels of engine 1640 climbed the point of the frog and dropped off on the outside. It was not determined when or by what train the guard rail was first broken, or the cause thereof.

At the time of the accident the engine crew had been on duty 3 1/2 hours and the train crew 5 1/2 hours, previous to which they had been off duty 23 and 18 hours, respectively.

Respectfully submitted,

W. P. Borland,  
Chief, Bureau of Safety.