INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE LEHIGH & HUDSON RIVER RAILWAY NEAR GREYCOURT, N.Y. ON JULY 17, 1925.

December 24, 1925.

To the Commission:

On July 17, 1925, there was a derailment of a mixed train on the Lehigh & Hudson River Railway near Greycourt, N. Y., resulting in the death of two employees and the injury of two employees.

Location and method of operation

The Lehigh & Hudson River Railway extends between Easton, Pa., and Maybrook, N. Y., a distance of 85.8 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 an automatic block-signal system. The accident occurred about 1¾ miles east of Greycourt; approaching this point from the west there are several short curves and tangents, followed by a 6° curve to the left 1,180.6 feet in length, the accident occurring on this curve at a point about 525 feet from its western end. The grade in this vicinity is 0.80 per cent descending for eastbound trains.

The track is laid with 100 pound rails, 33 feet in length, tie-plated and is double-spiked on curves. There are about 18 yellow pine, chestnut and oak ties to the rail-length, about 85 per cent of which are treated. The track is ballasted with gravel and cinders and is well maintained. The speed of passenger trains is limited to 30 miles an hour on curves of 4° and over; speed restriction boards are located 500 feet from the beginning of such curves.

The weather was clear at the time of the accident, which occurred at about 11.40 a.m.

Description

Eastbound mixed train No. 6 consisted of one milk car, one box car, one gondola car, and a combination baggage and passenger car, of wooden construction, hauled by engine 25, and was in charge of Conductor Arnold and Engineman Decker. This train departed from Warwick, 4½ in-

itial terminal, 19.5 miles west of Maybrook, as an extra train, doing local freight and drop work as far as Greycourt, 9.3 miles west of Maybrook, at which point it assumed the schedule of train No. 6, a first-class train. Train No. 6 left Greycourt, according to the train sheet, at 11.30 a.m., 43 minutes late, departed from Hudson Junction at 11.36 a.m. 44 minutes late, and on reaching a point 2.54 miles distant, was derailed while traveling at a speed estimated to have been between 45 and 60 miles an hour.

The entire train was derailed on the outside of the curve, engine 25 coming to rest on its right side 528 feet east of the initial point of derailment; the milk car was diagonally across the track, practically upright, its head end being just west of the tender, while the remaining three cars were south of and parallel to the track, the box car being practically upright, while the gondola car and combination car came to rest with their right sides leaning against an embankment. The employees killed were the engineman and head brakeman.

Summary of evidence

Fireman Swinson stated that the engineman opened the throttle on leaving Hudson Junction and that the engine was still working steam at the time of the derailment. Shortly before the accident occurred the fireman was very much concerned about the high rate of speed at which the train was traveling and he spoke of it to Head Brakeman Dolson, who was sitting on the tank box at this time, and he said the head brakeman replied "It is too fast for me. I'm going up in the cab". The head brakeman had barely reached the cab before the engine truck left the rails, at which time the fireman jumped from the engine. He estimated the speed to have been between 50 and 60 miles an hour at the time of the accident.

Conductor Arnold was riding in the rear car going down the grade approaching the point of derailment and while rounding the curve on which the accident occurred he felt the brakes apply and a sudden jar, followed by the derailment at which time he estimated the speed to have been between 45 and 50 miles an hour. He noticed no air-brake application prior to the occurrence of the accident and in his opinion steam was worked from Hudson Junction until the derailment occurred. The only other person riding on the train besides the crew was Car Inspector Zimmer, who was riding in the combination car across the aisle from the conductor; he did not recall having any conversation with this car inspector relative to the speed of the train. Conductor Arnold further stated that occasionally he had noticed that Engineman Decker did not observe the speed restrictions on curves and at different times he had called the engineman's attention to this, also, within a month or so prior to the

accident he had reported the matter to Road Foreman of Engines Myers. Conductor Arnold admitted that he had an opportunity at all times to apply the air brakes by using the conductor's emergency valve in the coach, as well as by the tail hose at the rear of the train, if in his judgment the speed was excessive.

Baggagemaster McGovern stated that just prior to the accident the engine whistle was sounded for a road crossing, located 891 feet east of the initial point of derailment. Baggagemaster McGovern thought the speed was higher than usual but did not make an estimate as to the rate of speed. He noticed no application of the air brakes prior to the accident, and thought they were applied as a result of the breaking of the train line.

Car Inspector Zimmer stated that he was riding in the combination car, sitting just across the aisle from Conductor Arnold and Baggagemaster McGovern, at the time of the accident, and that he had remarked to Conductor Arnold about the high rate of speed but the conductor made no reply. He heard the engine whistle sounded for the road crossing, but did not feel the speed reduced preparatory to rounding the curve. In his opinion the speed was much higher than usual, and he attributed the accident to excessive speed.

Road Foreman of Engines Myers stated that within the six weeks prior to the derailment Engineman Decker had been reported to him for running at excessive speed and that he had cautioned the engineman in this connection; this was the only complaint he had received. The assistant road foreman of engines said that after the accident he found the throttle closed and the reverse lever in the third notch from the center, in forward motion.

Section Foreman Frustraci and Assistant Section Foreman Marsh stated that on the day of the accident their work consisted of cutting weeds, having started from a point about 100 feet east of the point of derailment and then working westward, passing the point where the accident occurred at about 11 [illegible].m. They had stopped for lunch when they heard train No. 6 approaching, working steam, and they remarked to each other about the high rate of speed at which the train was traveling; Section Foreman Frustraci estimated the speed to have been about 50 miles an hour when the train was about 1,400 feet west of the point of derailment, while Assistant Section Foreman Marsh estimated it to have been at least 40 miles an hour, and said that in his opinion the accident was caused by excessive speed.

Track, Bridge and Building Superintendent Barrett stated that on the day prior to the accident he rode over the track on a motor car and at that time noticed nothing unusual, and that no track repairs had been made in the im-

mediate vicinity of the point of derailment since May or June. He arrived at the scene of the accident shortly after its occurrence and his examination disclosed the first mark of derailment to be on the end of a track bolt; then a flange mark appeared just outside the tie plate on the third tie beyond this bolt. There was no wheel-flange mark on the head of the rail, such as would have been the case had a wheel mounted the rail. Mr. Barrett was of the opinion that the accident was caused by excessive speed on the curve, basing his opinion on the absence of marks on the head of the rail and the distance the train traveled after being derailed, he thought that the speed was so high while rounding the curve that the flanges of the engine-truck wheels jumped over the rail, and judging from the condition of the track, the forward pair of driving wheels, which were blind, followed the engine truck, while the main and rear driving wheels, which were flanged, remained on the track until after the forward end of the engine had been derailed.

General Superintendent Merrill stated that he arrived at the scene of the accident about 1½ hours after its occurrence and that Mr. Barrett showed him the initial point of derailment, a mark on a splice-bar bolt. They took levels and gauged the track as far east of this point as the track remained materially undisturbed by the derailment and found the gauge to be practically standard and the superelevation of the outside rail uniform, being 5 inches, without any variation of consequence. There were no flange marks on the rail either east or west of the mark on the splice bolt. He then looked for indications of failure of the mechanical parts of the engine, but found nothing of this character. The condition of the engine was such that he could not examine it closely at this time, but he looked it over to see if anything had dropped down but found nothing to indicate that this had been the case. General Superintendent Merrill thought the accident was caused by excessive speed while rounding the curve, basing his opinion on the absence of marks on the rails, saying that had the speed been around 30 miles an hour there would have been a flange mark on the rail for at least a short distance. His statements of the manner in which the engine was derailed agreed with those of Mr. Barrett.

Roundhouse Foreman Shirey stated that engine 25 was inspected on the day prior to the accident, also after the accident occurred, but no defect was found that would have any bearing on the occurrence of the accident. Engine 25 was also inspected at Phillipsburg, N. J., on July 15, and again at Warwick, N. Y., on the morning of the day of the accident, by an inspector of the Public Service Commission of New York.

Inspection of the track disclosed the first mark of derailment to be on a rail joint bolt on the outside of

the high rail of the curve, following which there was a flange mark on the third tie to the eastward, and a corresponding mark on this tie on the gauge side of the low rail, the marks continuing for a distance of 528 feet to where the engine came to rest. The rails for a distance of two rail-lengths east of the first marks of derailment were not materially disturbed, the ties being marked but not destroyed and the track being thrown slightly out of alinement, east of this point, to where the engine came to rest, the rails were badly bent and the track torn up by the derailment.

Measurements of the superelevation were taken at each half rail-length, starting at a point about 575 feet west of the point of derailment; the elevation varied from 4 7/8 to 5 3/8 inches, being 5 1/8 inches at the initial point of derailment, and at its minimum 4 7/8 inches, at a point about 225 feet west thereof; measurements of the gauge over this same distance showed that it did not vary over 1/8 inch from standard.

Conclusions

This accident was caused by excessive speed, for which Engineman Decker is primarily responsible.

The examination of the track and equipment involved failed to disclose anything which could have contributed to the occurrence of this accident. Under the rules, however, this train should not have been operated at a speed in excess of 30 miles an hour while rounding the curve on which the accident occurred; the conductor estimated the speed to have been 45 or 50 miles an hour while the fireman said it was between 50 and 60 miles an hour. The statements of these employees also indicated that the engine had been working steam the entire distance between Hudson Junction and the point of accident 2.54 miles, all of this distance being on track which is either level or on a descending grade. These facts, in conjunction with the condition of the wreckage and the unusual distance traveled by the engine after derailment, indicate that the speed was so high as to cause the engine to jump the track, followed by the subsequent derailment of the entire train. All of the employees said that Engineman Decker apparently was in good physical condition, and that he was fully conscious of his surroundings a few seconds prior to the occurrence of the accident is evidenced by the fact that he sounded a road-crossing whistle signal for a crossing located 891 feet from where the first marks of derailment appeared.

Conductor Arnold was fully acquainted with the locality, knew of the speed restrictions, and also knew that his train was being operated at an excessive rate of speed; he had ample means at hand of applying the air brakes and reducing the speed of the train to a point consistent with safety. Had he taken such action this accident probably

would not have occurred.

The 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.