INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE ERIE RAILROAD AT GREAT BEND, PA., ON APRIL 6, 1925.

August 12, 1925.

To the Commission.

On April 6, 1925, there was a derailment of a freight train on the Erie Railroad at Great Bend, Pa., the wreckage being struck by a passenger train on an adjoining track, resulting in the death of one employee and the injury of seven passengers and four employees.

Location and method of operation

This accident occurred on the Susquehanna Division, which extends between Hornell and Susquehanna, Pa., a distance of 139.7 miles. This is a double-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The initial point of derailment of the freight train was approximately 930 feet west of K tower, located near the station at Great Bend. Approaching this point from the west the track is tangent for a considerable distance, followed by a long compound curve to the left, the accident occurring in about the center of this curve where the curavture is 2°.

The track is laid with 100-pound rails, 33 feet in length, with 18 or 19 ties to the rail-length, single-spiked, tie-plated, ballasted with rock, and maintained in good condition. Freight trains are restricted by time-table rule to a speed of 40 miles an hour.

The weather was clear at the time of the accident, which occurred at about 8.40 a. m.

Description

Eastbound freight train No. 188 consisted of 16 cars and a caboose, hauled by engine 2743, and was in charge of Conductor Mitchell and Engineman King. It left Binghamton, N. Y., 14.3 miles from Great Bend, at 8.20 a. m. and was derailed on the curve at Great Bend while traveling at a speed estimated to have been between 40 and 45 miles an hour.

Westbound passenger train No. 453 consisted of one baggage car and two coaches, all of wooden construction, hauled by engine 512, and was in charge of Conductor Green and Engineman McGill. It left Susquehanna, 8.20 miles from Great Bend, at 8.25 a. m., on time, and was approaching Great Bend at a speed of about 30 miles an hour when it collided with some of the derailed cars of train No. 188.

The first car in train No. 188 to be derailed probably was the ninth car in the train and after the first pair of derailed wheels had run parallel with the track a distance of approximately 900 feet they swerved to the left far enough for the car to corner the engine of train No. 453. The four cars immediately behind this car were also derailed and more or less badly damaged. The wreckage of these cars damaged the interlocking plant to such an extent as to cause the opening of a facing-point switch located on the eastbound track at a point approximately 800 feet east of K tower, and the engine and first eight cars of train No. 188 were derailed at this switch, the engine running along on the ties for a distance of about 350 feet before turning over on its right side; the eight cars it was hauling were also derailed and more or less badly damaged. The engine of the passenger train was entirely derailed and came to rest leaning with its right side against the embankment on the inside of the curve. With the exception of the forward truck of the baggage car none of the other equipment in this train was derailed and it sustained no serious damage. The employee killed was the fireman of the passenger train.

Summary of evidence

Engineman King, of train No. 188, said that while en route from Binghamton to Great Bend he had looked back along the side of his train at several different points but had not noticed anything wrong. When in the vicinity of K tower the brakes were applied in emergency from some point behind the engine and he said the head brakeman and fireman called to him that the train had broken in two and that he shut off steam; he thought that at first he might have lapped the brake valve but said that as soon as he was told the train had broken in two he placed the brake valve in running position and began to use steam in order to keep away from the rear of the train, and it was very shortly afterwards that the engine encountered the open switch 800 feet east of the tower and became derailed. He estimated the speed of his train to have been about 40 miles an hour

At the time of the derailment of train No 188 the head brakeman was firing the engine. Fireman Miller was looking back on the inside of the curve and saw one of the cars in the train leave the rails and swerve toward the

westbound track and at once called a warning to the engineman. Train No. 453 then came in sight around the curve and he said he called to the engine crew of that train and at the same time gave them stop signals. He thought his signals were observed but said that the fireman of that train only waved his hand in reply as if saluting him. Head Brakeman Begnon said that he notified the engineman the train had broken in two; his other statements brought out no additional facts of importance. The estimates as to speed of the train made by these two employees agreed with that of the engineman.

Conductor Mitchell was riding in the lower part of the caboose in readiness to throw off a message at K tower when he heard one of the brakemen in the cupola call out and at the same time the air brakes applied in emergency. He afterwards examined the track but did not ascertain the cause of the accident. Middle Brakeman Jackson and Flagman Angell both stated that they were riding on the left side of the caboose cupola and that they saw a car near the center of the train leave the track, followed immediately by an emergency application of the air brakes. Previous to this time they had not noticed anything unusual.

Engineman McGill, of train No. 453, said his train was approaching the station at Great Bend at a rather rapid rate of speed and that two men on the engine of train No. 188 gave him what he thought was the usual salute. He then saw a car in the freight train derailed and swerving toward the westbound track. The speed of his own train at the time was 30 or 35 miles an hour and he said the collision occurred about three seconds after he first saw the derailed car.

Operator Creagh, on duty in K tower, thought train No. 188 was approaching that point at a speed of about 50 miles an hour, a more rapid rate of speed than usual, and said he saw dust and dirt flying shortly before the train reached the highway crossing immediately west of the tower. About the time the derailed car reached the crossing it swerved to the left and then shortly afterwards was struck by the engine of train No. 453. He had had no opportunity of giving the engineman of train No. 453 a stop signal indication as that train had already passed the signal location.

Signal Maintainer Solar, who was within a few feet of the point of accident at the time of its occurrence, and Signal Supervisor Chumplin, who arrived about two hours afterwards, described how the derailed cars in train No. 188 had damaged the interlocking plant sufficiently to unlock the switch in the eastbound track and cause the derailment of the head end of the train.

Car Foreman Perry said he did not find any marks on the track such as might have been made by dragging equipment in train No. 188, and he reached the conclusion that the speed of the train, coupled with the weight of the lading of B.& S. car 9301, which was the ninth car in the train, caused the car to lean toward the outside of the curve to such an extent as to allow the wheels on the inside to mount the rail, running along on the top of the same a distance of about 25 feet before dropping off on the outside. He did not find any missing brake rigging on the forward truck of car 9301, while he did not examine the rear truck on account of the fact that it was buried in the wreckage.

Wrecking Foreman Williams said there were slight marks on a trailing-point switch near the crossing 930 feet west of K tower and that he thought a bottom rod on car 9301 had been hanging too low, resulting in striking the rail at the switch and that this fact, coupled with the high speed of the train, resulted in the wheels mounting the rail on the inside of the curve.

Trainmaster Dunnellan said he found slight marks and chafed spots for a distance of 1,300 feet west of the switch and he thought the bottom or connecting rod had been dragging and that when it came in contact with the switch it had resulted in raising the wheels on the left side of car 9301, the wheels then running along on the rail a distance of 23 feet 10 inches before dropping off on the outside; he did not think excessive speed was a factor. Mechanical Trainmaster Stearns also thought the accident was due to some of the brake rigging hanging too low and that excessive speed was not a factor, Division Engineer Dyke also stated that he agreed with the conclusions of Trainmaster Dunnellan.

Master Mechanic Thibaut found light marks on every eighth or tenth tie for a considerable distance west of the switch and finally determined as a result of his investigation that the forward truck of car 9301 was the one which was the first to be derailed. This truck was afterwards found partly underneath the head end of the passenger engine. He expressed the opinion that some peculiar movement of the car had caused the wheel on the inside of the curve to mount the rail, stating that the fastenings of the brake rigging on the forward truck of this car were intact.

Examination of the track showed that the first flange marks appeared on the ties at a point about 930 feet west of K tower, these marks being to the left of the rails and continuing parallel with the rails until they had nearly reached the crossing immediately west of the tower, where the derailed wheels swerved to the left and fouled the westbound track. Measurements of the gauge and elevation of the track

on the curve showed it to be maintained in excellent condition. Careful examination of the trucks under car 9301 showed no parts missing, except one truck lever which was thought to have been broken in the accident. The bottom rod was also broken in the jaw and one lip of the jaw was missing; these breaks also appeared to be a result of the accident.

Conclusions

The cause of this accident was not definitely ascertained.

Careful examination of the track showed it to be maintained in good condition, with nothing about it which could have contributed to the occurrence of the accident. Examination of the equipment, together with the statements of the various witnesses, indicated that the first car to be derailed probably was the ninth car in train No. 188, but nothing sufficiently definite was discovered to show positively what caused the car to become derailed, nor is it believed that excessive speed was a material factor since freight trains are allowed to operate at a speed of 40 miles an hour, which speed was the approximate average maintained by train No. 188 after leaving Binghamton and which is believed to have been the approximate speed of the train at the time of the accident.

The employees involved were experienced men. At the time of the accident the crew of train No. 188 had been on duty about 15½ hours after about 36 hours off duty; the crew of train No. 453 had been on duty about 1 hour after from 8 to 8½ hours off duty.

Respectfully submitted,

W. P. BORLAND,

Director, Bureau of
Safety.