

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3467
THE NEW YORK CENTRAL RAILROAD COMPANY
IN RE ACCIDENT
AT ELKHART, IND., ON
JUNE 3, 1952

SUMMARY

Date: June 3, 1952
Railroad: New York Central
Location: Elkhart, Ind.
Kind of accident: Derailment
Equipment involved: Track motor-car W-1662
Estimated speed: 20 m. p. h.
Operation: Signal indications
Track: Double; 1° curve; 0.095 percent ascending grade westward
Weather: Clear
Time: 2:15 p. m.
Casualties: 2 killed; 7 injured
Cause: Broken wheel

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3467

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE NEW YORK CENTRAL RAILROAD COMPANY

July 14, 1952

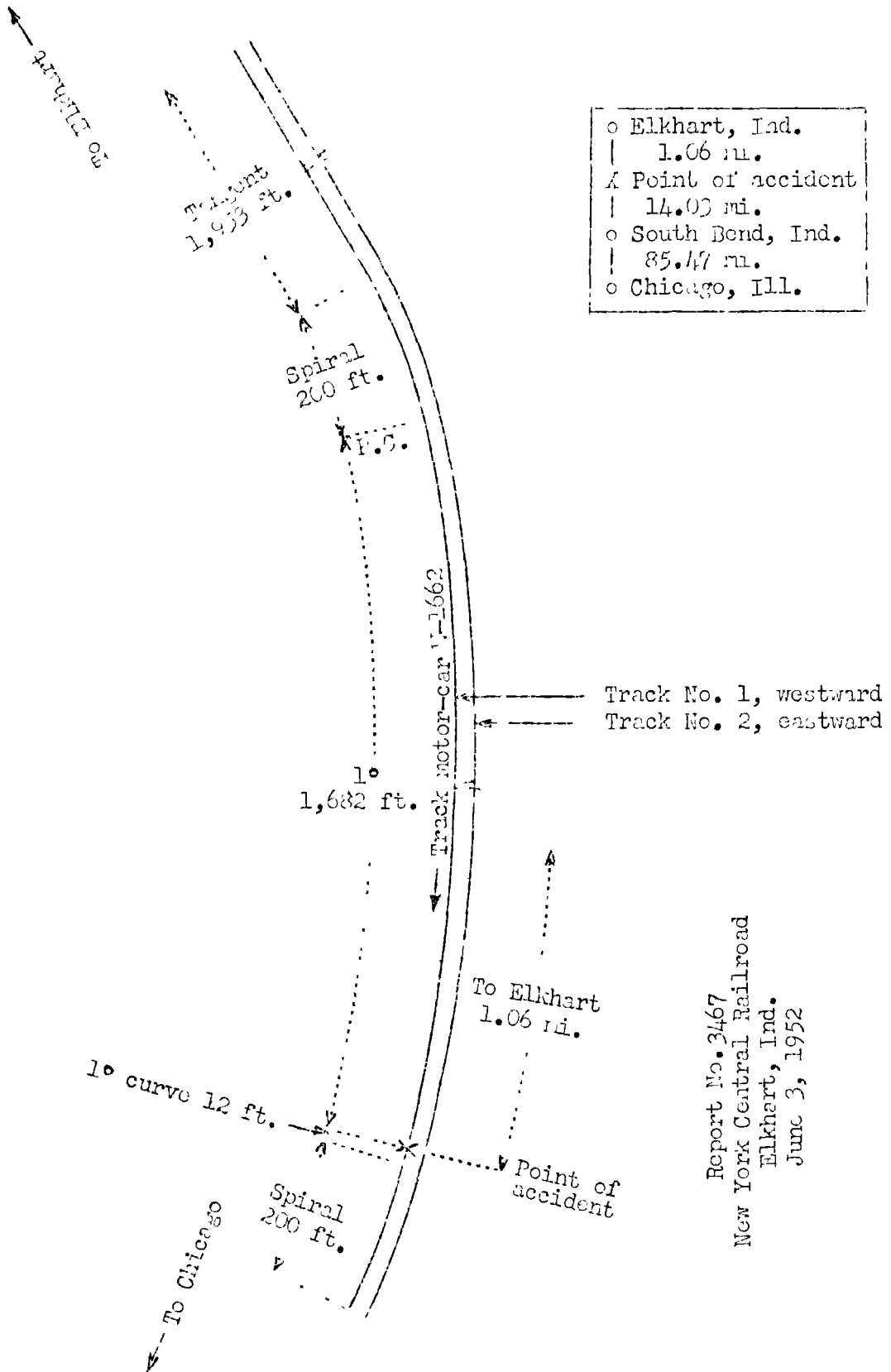
Accident at Elkhart, Ind., on June 3, 1952, caused by
a broken wheel.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On June 3, 1952, there was a derailment of a track motor-car on the New York Central Railroad at Elkhart, Ind., which resulted in the death of two maintenance-of-way employees, and the injury of seven maintenance-of-way employees.

¹ Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



- o Elkhart, Ind. | 1.06 mi.
- X Point of accident | 14.03 mi.
- o South Bend, Ind. | 85.47 mi.
- o Chicago, Ill.

Track No. 1, westward
 Track No. 2, eastward

Report No. 3467
 New York Central Railroad
 Elkhart, Ind.
 June 3, 1952

Location of Accident and Method of Operation

This accident occurred on that part of the Western Division extending between Elkhart, Ind., and Chicago, Ill., 100.56 miles. In the vicinity of the point of accident this is a double-track line, over which trains moving with the current of traffic are operated by signal indications supplemented by an intermittent inductive automatic train-stop system. The main tracks from north to south are designated as No. 1, westward, and No. 2, eastward. The accident occurred on track No. 1 at a point 1.06 miles west of the station at Elkhart. From the east there are, in succession, a tangent 1,953 feet in length, a spiral 200 feet, a 1° curve to the right 1,682 feet to the point of accident and 12 feet westward, and a spiral 200 feet. The grade at the point of accident is 0.095 percent ascending westward.

The track structure consists of 127-pound rail, 39 feet in length, laid on an average of 24 treated ties to the rail length. It is fully tieplated. The track is ballasted with crushed stone to a depth of 12 inches below the bottoms of the ties.

This carrier's rules for the operation of track motor, velocipede, hand and push cars, read in part as follows:

1910. Track motor cars must be inspected daily by the employe in charge. Defective cars must not be operated.

1922. Track cars must not exceed 10 miles per hour when passing stations, through yards, over switches, frogs, railroad and highway crossings.

At other points hand cars must not exceed 15 miles per hour and track motor cars 25 miles per hour.

* * *

Description of Accident

Track motor-car W-1662, occupied by an assistant supervisor of track, a maintenance-of-way foreman, an assistant maintenance-of-way foreman and 20 track employes, was placed on track No. 1 at a point about 1,760 feet east of the station at Elkhart a few minutes prior to the time the accident occurred. It then proceeded westward and stopped at the station. After the assistant supervisor of track alighted the track motor-car

proceeded westward on track No. 1, and while moving at an estimated speed of 20 miles per hour it was derailed at a point 1.06 miles west of the station.

The track motor-car was derailed to the north and stopped about 83 feet west of the point of derailment. The left wheels were in line with and against the gage side of the north rail. The track motor-car leaned to the north at an angle of about 45 degrees. It was somewhat damaged.

Two track employees were killed. The assistant maintenance-of-way foreman and six track employees were injured.

The weather was clear at the time of the accident, which occurred about 2:15 p. m.

Track motor-car W-1662 was of the 4-wheel type. It was equipped with pressed steel wheels 16 inches in diameter, which were mounted on axles 1-11/16 inches in diameter. It was provided with 4-wheel brakes and was insulated to prevent the shunting of track circuits. It was powered by a 4-cylinder 40-horsepower gasoline motor. The power was transmitted through a selective gear transmission and chain drive to the rear axle. The body of the track motor-car was 10 feet 1-1/8 inches long and 6 feet 10 inches wide. Safety railings were provided at each end of the body unit. This track motor-car had seating capacity for 28 persons and weighed 2,200 pounds.

Discussion

On the day of the accident members of a maintenance-of-way force had operated track motor-car W-1662 from South Bend, 15.09 miles west of Elkhart, to Elkhart. They were returning from Elkhart to South Bend when the accident occurred. As the track motor-car was approaching the point where the accident occurred the speed was about 20 miles per hour. The assistant foreman of the maintenance-of-way force was operating the track motor-car, and the foreman was seated in front of him on the left side of the center seat. The 20 track employees were seated in various locations on the upper and lower seats of each side. The foreman of the maintenance-of-way force said that the track motor-car had been riding smoothly before the derailment occurred. The assistant foreman said that there was no indication of any unusual condition in the operation of the track motor-car and he did not observe any obstruction on the track before the track motor-car was derailed. When the derailment occurred he was thrown from the seat before he could take any action to stop the track motor-car.

Examination of the track after the accident occurred disclosed no condition that would have caused or contributed to the derailment. There was no indication of any obstruction having been on the track. At the point of derailment the gage was 4 feet 8-5/8 inches. Throughout a distance of about 39 feet immediately east of the point of accident scraping marks appeared on the top of the north rail. Flange marks first appeared on the ties on the north side of the south rail at the point of derailment. The ties were flange marked diagonally northward between the rails a distance of about 49 feet 6 inches to the base of the north rail and westward about 33 feet 6 inches along the gage side of that rail to the point where the track motor-car stopped. Flange marks on the field side of the north rail extended from the point of derailment diagonally northward about 17 feet to the ends of the ties.

Inspection of track motor-car W-1662 after the accident occurred disclosed that the flange around the entire circumference of the right front wheel had broken and was separated from the wheel. Examination disclosed an old fracture on the inside of the wheel. This fracture was located at the point where the flange joins the tread of the wheel. There were rust spots at several points on the fractured portions of the wheel and the flange. Apparently the wheel had been fractured for some time prior to the occurrence of the accident, and the fractures had progressed until the flange separated from the wheel immediately before the derailment occurred. The portion of the flange which had been in contact with the rail bore marks of excessive wear on approximately half of its surface. There was no indication of abnormal wear on the other wheels. After the accident occurred the front axle was found to be bent. It was not definitely determined whether the axle was bent prior to the time of the accident or as a result of the accident. However, the irregular wear of the wheel involved indicated that this condition probably existed before the accident occurred. The minimum thickness of the flange of the right front wheel was 1/8 inch. The original thickness of the flange was 5/16 inch. Track motor-cars are inspected semi-annually by a member of the mechanical force, at which time all wheels are gauged. The running gear of track motor-car W-1662 was overhauled, and a new front axle and new front wheels were installed in 1950. The track motor-car last received a semi-annual inspection on January 17, 1952, and no defective condition was found. The minimum flange thickness of the failed wheel at the time of this inspection was 1/4 inch. There is no condemning limit for wheels of this type of equipment, but instructions in effect require that when wheels are found with a flange thickness of 1/8 inch an

inspection for further defects must be made. However, it has been the practice to replace wheels when inspection disclosed a minimum flange thickness of 3/16 inch. Track motor-car W-1662 was inspected by the foreman of the maintenance-of-way force before beginning work on the day of the accident, and no defective condition was found.

Cause

It is found that this accident was caused by a broken wheel.

Dated at Washington, D. C., this fourteenth day of July, 1952.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.