

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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REPORT NO. 3423  
ILLINOIS CENTRAL RAILROAD COMPANY  
IN RE ACCIDENT  
AT BLOOMFIELD, IND., ON  
AUGUST 25, 1951

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SUMMARY

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Date: August 25, 1951  
Railroad: Illinois Central  
Location: Bloomfield, Ind.  
Kind of accident: Derailment  
Train involved: Freight  
Train number: 370  
Engine number: 1362  
Consist: 48 cars, caboose  
Estimated speed: 35 m. p. h.  
Operation: Timetable and train orders  
Track: Single; 4° curve; 0.11 percent ascending grade northward  
Weather: Clear  
Time: 2:52 p. m.  
Casualties: 3 killed; 2 injured  
Cause: Obstruction on track

INTERSTATE COMMERCE COMMISSION

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REPORT NO. 3423

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

ILLINOIS CENTRAL RAILROAD COMPANY

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October 25, 1951

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Accident at Bloomfield, Ind., on August 25, 1951, caused  
by an obstruction on the track.

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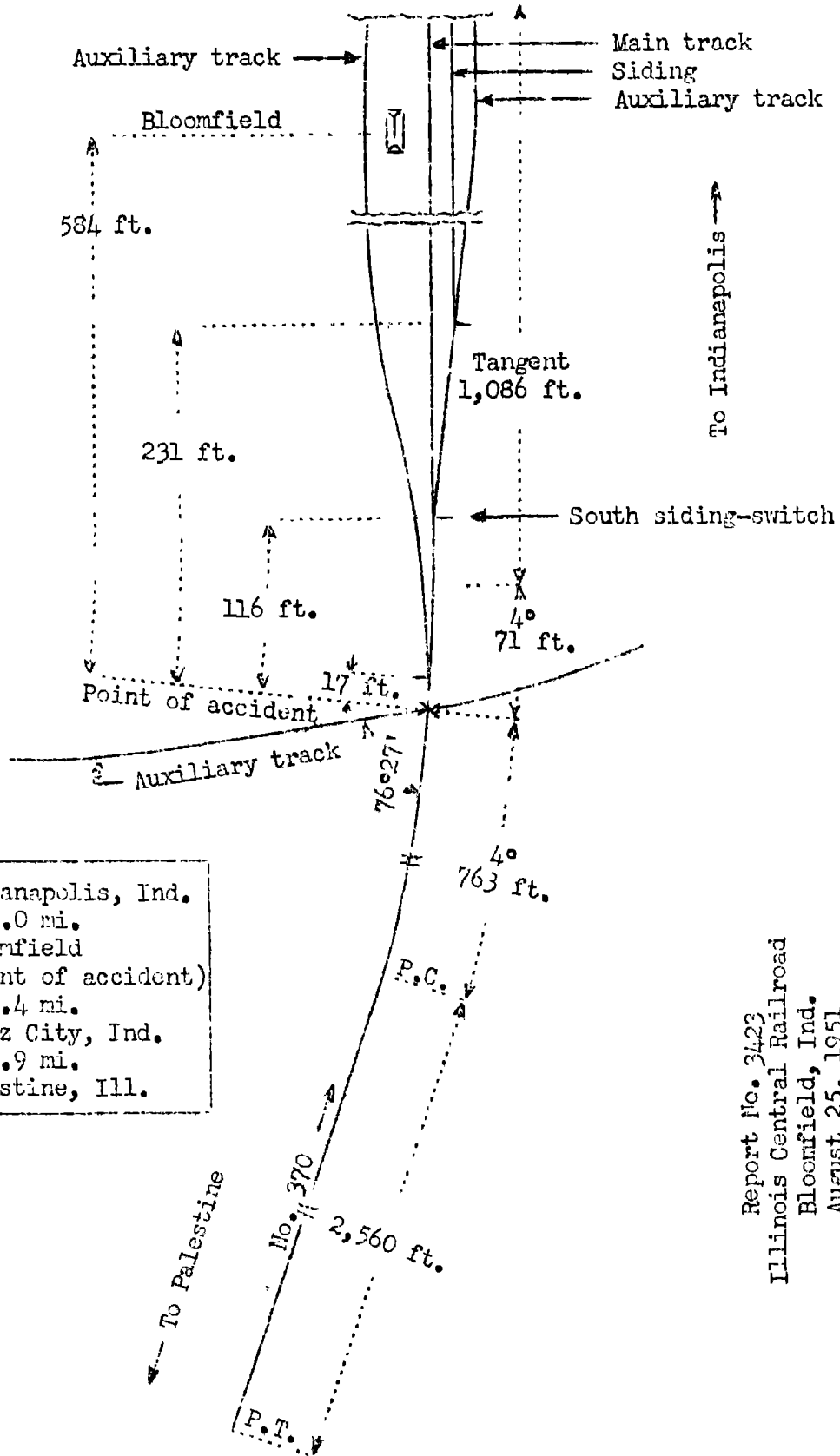
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REPORT OF THE COMMISSION

PATTERSON, Commissioner:

On August 25, 1951, there was a derailment of a freight train on the Illinois Central Railroad at Bloomfield, Ind., which resulted in the death of three employees, and the injury of two other persons.

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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.



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|---|--------------------|---------------------|
| o | Indianapolis, Ind. | 83.0 mi.            |
| X | Bloomfield         | (Point of accident) |
|   |                    | 6.4 mi.             |
| o | Switz City, Ind.   | 33.9 mi.            |
| o | Palestine, Ill.    |                     |

Report No. 3423  
 Illinois Central Railroad  
 Bloomfield, Ind.  
 August 25, 1951

Location of Accident and Method of Operation

This accident occurred on that part of the Illinois Division extending between Palestine, Ill., and Indianapolis, Ind., 123.3 miles, a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. At Bloomfield, 40.3 miles north of Palestine, an auxiliary track crosses the main track at a point 584 feet south of the station. The tracks intersect at an angle of  $76^{\circ}27'$ . The accident occurred at the crossing of the main track and the auxiliary track. Another auxiliary track is located west of the main track and connects with the main track at a switch located 17 feet north of the crossing. The switch is facing-point for north-bound movements. A siding parallels the main track on the east, and an auxiliary track parallels the siding on the east. These tracks are spaced 14 feet between track centers. The south siding-switch is located 116 feet north of the crossing, and the auxiliary track connects with the siding at a switch located 231 feet north of the crossing. From the south there are, in succession, a tangent 2,560 feet in length, a  $4^{\circ}$  curve to the left 763 feet to the point of accident and 71 feet northward, and a tangent 1,086 feet in length. From the south the grade is, successively, between 0.27 percent and 1.00 percent ascending a distance of 3,880 feet, level 440 feet, and 0.11 percent ascending 363 feet to the point of accident and 337 feet northward.

The track structure consists of 90-pound rail, 39 feet in length, laid on an average of 23 treated ties to the rail length. It is fully tieplated with single-shoulder tieplates, and is spiked with three rail-holding spikes per tieplate. It is provided with 4-hole 24-inch joint bars and an average of 12 rail anchors per rail. It is ballasted with crushed limestone to a depth of 12 inches below the bottoms of the ties. The crossing is of the bolted 3-rail type. The flangeways are approximately  $1-7/8$  inches in width and  $1-7/8$  inches in depth. Each frog of the crossing is secured by four forged steel angle bars bolted with twelve  $1-1/8$ -inch bolts 10 inches in length. The bolts are provided with lock washers. At the crossing the gage of the main track is 4 feet  $8-1/2$  inches and the east rail is  $2-3/4$  inches higher than the west rail.

The maximum authorized speed for freight trains is 40 miles per hour, but it is restricted to 35 miles per hour on the curve on which the accident occurred.

### Description of Accident

No. 370, a north-bound second-class freight train, consisted of engine 1362, 48 cars and a caboose. This train passed Switz City, the last open office, 6.4 miles south of Bloomfield, at 2:40 p. m., 1 hour 30 minutes late, and while moving at an estimated speed of 35 miles per hour it struck an obstruction which had been placed in the flangeways of the crossing at Bloomfield, and was derailed.

The engine-truck wheels were derailed at a point 17 feet north of the center-line of the crossing, and the engine and tender, the first 20 cars, and the front truck of the twenty-first car were derailed at the frog of the turnout at the south end of the siding, 194 feet north of the crossing. The engine stopped on the auxiliary track east of the siding, in line with the track, with its front end 442 feet north of the crossing. It leaned to the right at an angle of 45 degrees. The engine was considerably damaged by the derailment. A section of the east rail of the auxiliary track penetrated the ash pan and the right back corner of the firebox and punctured the firebox door sheet and the back boiler head about 6 inches from the right side-sheet joint and 4 inches above the mud ring. The tender remained coupled to the engine and stepped upright and diagonally across the siding and the main track. The trucks and the brake rigging were badly damaged. The derailed cars stopped in various positions on or near the track. The first 19 cars were destroyed, and the twentieth car was somewhat damaged. A car which was standing on the auxiliary track was struck by the engine and was badly damaged.

The engineer, the fireman, and the front brakeman were killed.

The weather was clear at the time of the accident, which occurred at 2:52 p. m.

Engine 1362 is of the 2-8-2 type. The weight on the driving wheels is 235,400 pounds, and the total weight of the engine in working order is 308,500 pounds. The specified diameters of the engine-truck wheels, the driving wheels, and the trailing-truck wheels are, respectively, 30 inches, 63-1/2 inches, and 46 inches. The driving wheelbase is 16 feet 6 inches, the total wheelbase is 35 feet 2 inches, and the total length of the engine and tender, coupled, is 86 feet 11-7/16 inches.

### Discussion

As No. 370 was approaching the point where the accident occurred the speed was about 35 miles per hour. The enginemen and the front brakeman were on the engine, and the conductor, the swing brakeman, and the flagman were in the caboose. The brakes of this train had been tested and had functioned properly when used en route. The surviving members of the crew said that there was an emergency application of the brakes when the engine was in the vicinity of the crossing and there was a severe impact several seconds after the brakes were applied. After the accident occurred the throttle of the engine was found to be slightly open, the reverse lever was in position for forward motion, the automatic brake valve was in emergency position, the independent brake valve was in running position, and the sander valve was closed.

Examination of the track structure after the accident occurred disclosed that one bolt was missing from the frog at the intersection of the east rail of the main track and the north rail of the auxiliary track. A nut, bolt, and lock washer of the size used in the frog were found between the rails of the main track a short distance north of the crossing. The bolt bore marks on the threaded end and on the head which indicated that it had been struck by the flange of a wheel. The nut bore a flange mark across one side, and it was crushed into an irregular shape. Imprints in the flangeways of the crossing indicated that the nut had been placed in the intersection of the flangeways of the east rail of the main track and the north rail of the auxiliary track and the bolt had been placed in the intersection of the flangeways of the west rail of the main track and the north rail of the auxiliary track, and that the nut and the bolt each had been struck a heavy blow while in these positions. Apparently the engine-truck wheels of the engine of No. 370 struck these obstructions, and the flanges of the wheels were raised above the level of the tops of the rails. Then, because of track curvature to the left, the right wheel crossed over the east rail and dropped outside that rail. The first mark of derailment was a flange mark inside the west rail on a switch rod of the auxiliary-track switch, 17 feet north of the center-line of the crossing. North of this mark, the ties bore marks indicating that one pair of wheels had become derailed to the east. The marks were not heavy, and evidently were made by engine-truck wheels rather than by driving wheels. Marks at the frog of the turnout of the auxiliary track west of the main track indicated that the left wheel had crossed over the wing rail of the frog and then again dropped to the ties. The wheels continued in line with the track to the frog of the turnout at the south end of the siding. At this point the general derailment occurred, and the main track, the siding, and the auxiliary track east of the siding were destroyed throughout a distance of 275 feet north of the frog.

Inspection of the engine after the accident occurred disclosed no defective condition which could have caused or contributed to the cause of the derailment. The flange of the left engine-truck wheel bore two marks which apparently were made when the flange struck the bolt at the crossing. These marks were about 10 inches apart, and each was about 1/4 inch in depth and 3/8 inch in length. No other marks were found on the wheels of the engine.

A track inspector passed over the crossing on a track motor-car about 2 hours before the accident occurred and returned in the opposite direction a short time later. He said he noticed no unusual condition of the crossing at that time. A south-bound freight train passed over the crossing 1 hour 45 minutes before the accident occurred. It is customary for persons residing in the vicinity to cross the main track at the crossing, and a person on the track in the vicinity of the crossing would not attract undue attention. The next day after the accident occurred, a 10-year-old boy, in the presence of several persons, indicated the locations where he had placed the bolt and nut a short time before the accident occurred. These locations conformed with the places where the imprints were found in the flangeways.

Cause

It is found that this accident was caused by an obstruction on the track.

Dated at Washington, D. C., this twenty-fifth day of October, 1951.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.