INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2835

THE LOUISVILLE & NASHVILLE RAILROAD COMPANY

REPORT IN RE ACCIDENT

AT LADEN, KY., ON

OCTOBER 9, 1944

SUMMARY

Railroad:	Louisville & Nashville
Date:	October 9, 1944
Location:	Laden, Ky.
Kind of accident:	Derailment
Train involved:	Freight
Train number:	44
Engine number:	1493
Consist:	82 cars, caboose
Estimated speed:	25 m. p. h.
Operation:	Timetable and train orders
Track:	Single; 4° curve; 0.30 percent descending grade northward
Weather:	Clear
Time:	4:20 p. m.
Casualties:	2 killed; 1 injured
Cause:	Defective switch

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2835

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

THE LOUISVILLE & NASHVILLE RAILROAD COMPANY

November 24, 1944.

Accident at Laden, Ky., on October 9, 1944, caused by a defective switch.

REPORT OF THE COMMISSION[1]

PATTERSON, Chairman:

On October 9, 1944, there was a derailment of a freight train on the Louisville & Nashville Railroad at Laden, Ky., which resulted in the death of two employees, and the injury of one employee.

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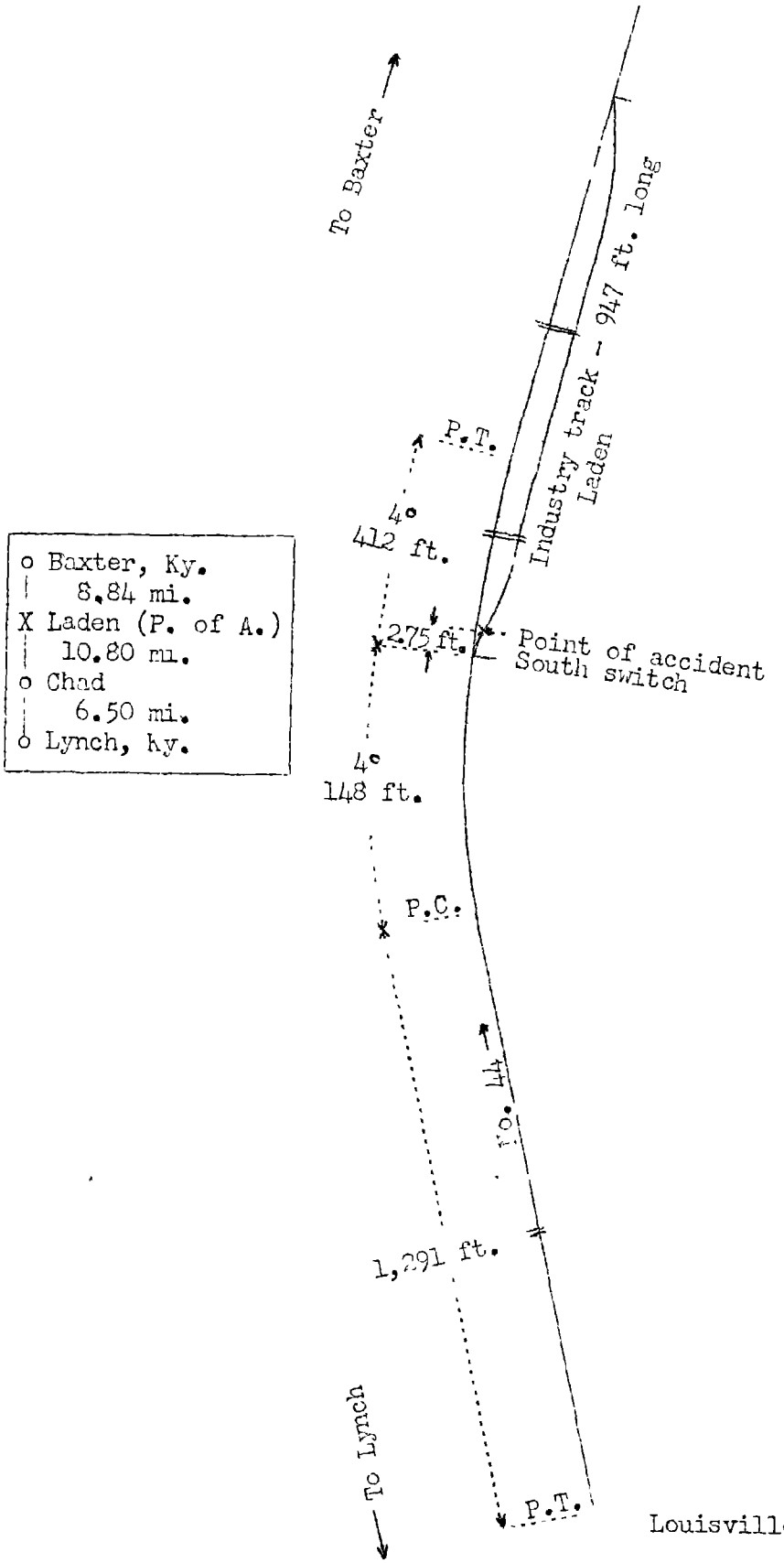
[1]Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Chairman Patterson for consideration and disposition.



Inv-2835
Louisville & Nashville Railroad
Laden, Ky.
October 9, 1944

Location of Accident and Method of Operation

This accident occurred on that part of the Cumberland Valley Division extending northward from Lynch to Baxter, Ky., 26.14 miles. This was a single-track line over which trains were operated by timetable and train orders. There was no block system in use. At Laden, 17.3 miles north of Lynch, an industry track 947 feet long paralleled the main track on the east. Entry to the industry track at the south switch was made through a No. 10 turnout. The accident occurred on this turnout 2.75 feet north of the south switch. From the south the main track was tangent 1,291 feet, then there was a 4° curve to the right 148 feet to the south switch of the industry track and 412 feet northward. The grade for north-bound trains was 0.30 percent descending.

The main-track structure consisted of 100-pound rail, 39 feet in length, laid on an average of 23 treated ties to the rail length. It was fully tieplated, single-spiked, provided with 4 rail anchors per rail length, and was ballasted with crushed limestone to a depth of 14 inches. The switch structure of the south switch of the industry track consisted of two 16.5-foot switch points and a No. 10 spring frog. The switch points were connected by two switch rods. The head rod was connected to the switch-stand by a connecting rod 6 feet long. The connecting rod was attached to a threaded eye-bolt by a turnbuckle, and the forks of the turnbuckle fitted above and below the eye-bolt. This connection was made by a 1-inch bolt, a nut and a cotter key. The eye-bolt was 1-3/8 inches in diameter and 7 inches long. It engaged an aperture in a spindle attached to the bottom of the switch-stand. A nut on the opposite end of the eye-bolt was provided to prevent the bolt from becoming loose. The switch-stand was on the east side of the main track, and was of the hand-throw, intermediate-stand type. It was provided with two targets and a switch lamp, and equipped with reflex lenses. The centers of the targets were 6 feet 11 inches above the ties, and the centers of the reflex lenses were 20 inches above the targets. When the switch was lined normally a green target and a green reflex lens were displayed at right angles to the track. When the switch was lined for entry to the industry track a red target and a red reflex lens were displayed at right angles to the track.

The maximum authorized speed for freight trains was 25 miles per hour.

Description of Accident

No. 44, a north-bound second-class freight train, consisting of engine 1493, a 2-8-2 type, 82 cars and a caboose, departed from Chad, 10.8 miles south of Laden and the last open office, about 3:50 p. m., and while moving at an estimated speed

of 25 miles per hour it entered the south switch of the industry track at Laden, and the engine and the first 18 cars were derailed.

The engine struck the south car of a cut of 4 cars standing on the industry track, and these cars were moved northward about 150 feet. The engine and tender stopped on their right sides, east of the main track and practically parallel to it, with the front end of the engine 272 feet north of the point of derailment. The engine and the first 18 cars were considerably damaged.

During the 30-day period preceding the day of the accident, the average daily movement over this line was 5.19 trains.

It was clear at the time of the accident, which occurred about 4:20 p. m.

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

Discussion

No. 44 was moving on a 4° curve to the right at an estimated speed of 25 miles per hour, in territory where the maximum authorized speed was 25 miles per hour, when the engine and the first 18 cars entered the turnout of the south industry-track switch at Laden and were derailed. As the train was approaching Laden the enginemen and the front brakeman were maintaining a lookout ahead. The first the fireman knew of anything being wrong was when the engine reached a point a short distance south of the south industry-track switch where the engineer moved the brake valve to emergency position. Then the engine entered the industry track and overturned to the right as it struck the cars that were standing on the industry track. The accident occurred before the brakes became effective. The engineer and the front brakeman were killed.

Examination of the switch-stand of the south industry-track switch disclosed that the left switch-point was against the stock rail and the right switch-point was open, but the operating lever was latched and locked in position for movement on the main track. The green target was displayed at right angles to the track. The threaded end of the eye-bolt, which connected the connecting rod and the spindle, was broken. A considerable portion of the fracture had existed for some time prior to the accident. The fracture occurred within the portion of the eye-bolt that extended into the spindle. It could not have been detected by visual inspection unless the eye-bolt had first been disconnected. Marks on the track structure and on the

engine-truck wheels indicated that the switch-points were midway between opened and closed positions as the engine approached the switch, and that the engine-truck wheels moved outside their respective switch-points a short distance, then the right switch-point was forced against the stock rail and the driving wheels entered the turnout.

The switch involved was last inspected by the section foreman about 48 hours prior to the accident, but no defective condition was observed. The switch was last operated by members of the crew of a south-bound train about 6 hours prior to the accident, and the switch-points fitted properly. The last train prior to No. 44 to pass the switch was a north-bound train, which passed over the switch about 3 hours 30 minutes before the accident occurred. The crew of this train observed no defective condition of the switch. If this switch had been equipped with a mechanical locking device so designed that it would hold the points in the intended position independently of the connecting rod, the switch-points would have been locked for through movement on the main track after the connection was broken, and this accident would have been prevented.

Cause

It is found that this accident was caused by a defective switch.

Dated at Washington, D. C., this twenty-fourth day of November, 1944.

By the Commission, Chairman Patterson.

(SEAL)

W. P. BARTEL,
Secretary.