

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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INVESTIGATION NO. 2599  
THE DETROIT, TOLEDO AND IRONTON RAILROAD COMPANY  
REPORT IN RE ACCIDENT  
NEAR DENVER, OHIO, ON  
JULY 9, 1942

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- 2 -

## SUMMARY

Railroad: Detroit, Toledo and Ironton

Date: July 9, 1942

Location: Denver, Ohio

Kind of accident: Rear-end collision

Trains involved: Freight : Freight

Train numbers: Extra 200 South : Front portion of  
Extra 803 North

Engine numbers: 200-807 : 803-700

Consist: 44 cars, 2 cabooses : Two engines,  
caboose

Speed: Standing : 10-25 m. p. n.

Operation: Timetable and train orders

Track: Single; 2° right curve; 0.84  
percent descending grade southward

Weather: Slight fog

Time: About 8:15 a. m.

Casualties: 1 killed; 2 injured

Cause: Accident caused by failure to  
provide adequate flag protection  
for preceding train

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 2599

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

THE DETROIT, TOLEDO AND IRONTON RAILROAD COMPANY

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August 22, 1942.

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Accident near Denver, Ohio, on July 9, 1942, caused by  
failure to provide adequate flag protection for  
preceding train.

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REPORT OF THE COMMISSION

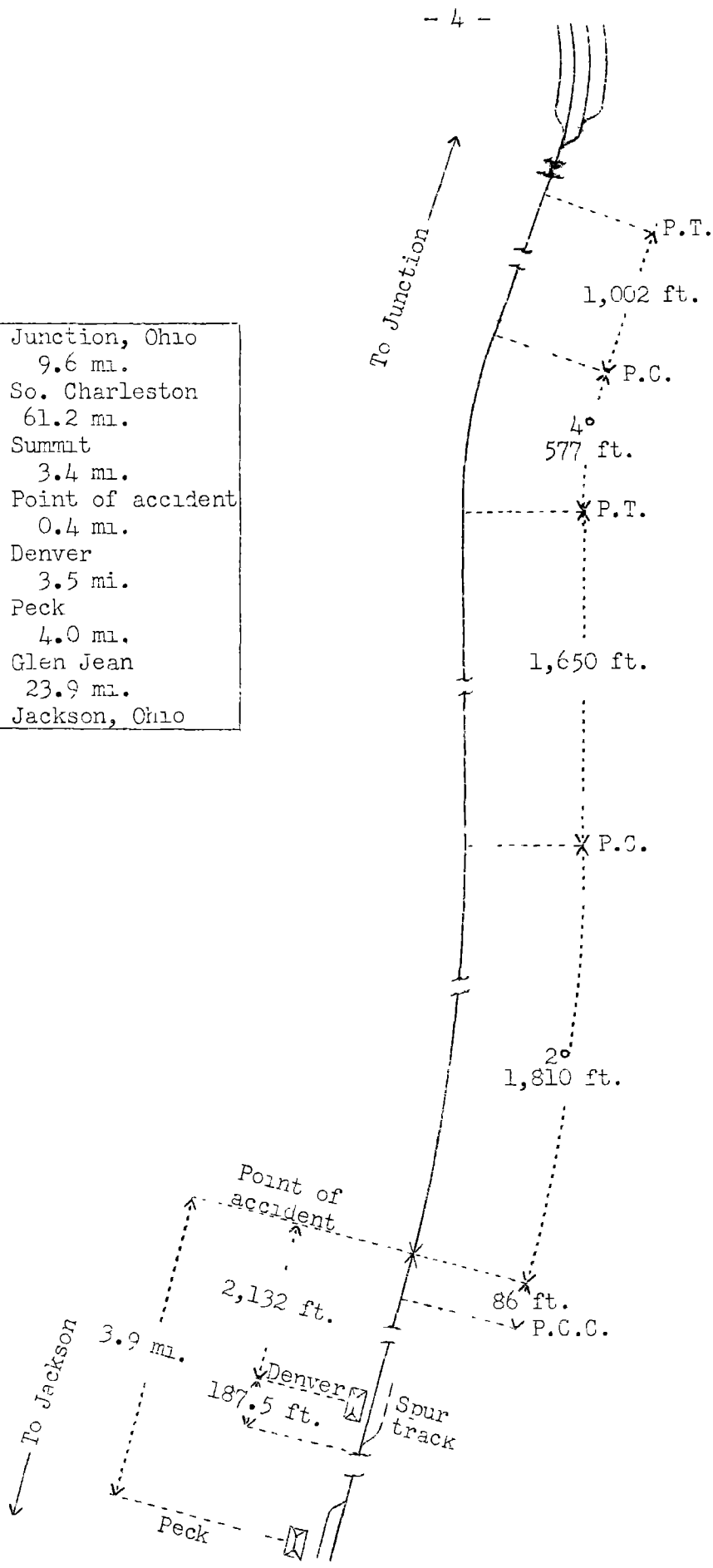
PATTERSON, Commissioner:

On July 9, 1942, there was a rear-end collision between a freight train and the front portion of another freight train consisting of two engines and a caboose, coupled, on the Detroit, Toledo and Ironton Railroad near Denver, Ohio, which resulted in the death of one employee and the injury of two employees. This accident was investigated in conjunction with a representative of the Public Utilities Commission of Ohio.

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<sup>1</sup>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.

○	Junction, Ohio	
		9.6 mi.
○	So. Charleston	
		61.2 mi.
○	Summit	
		3.4 mi.
X	Point of accident	
		0.4 mi.
○	Denver	
		3.5 mi.
○	Peck	
		4.0 mi.
○	Glen Jean	
		23.9 mi.
○	Jackson, Ohio	



Inv. No. 2599  
 Detroit, Toledo and Ironton Railroad  
 Denver, Ohio  
 July 9, 1942

Location of Accident and Method of Operation

This accident occurred on that part of the Southern District which extends between Junction and Jackson, Ohio, a distance of 106 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders. There is no block system in use. At Pock, located 3.5 miles south of Denver, a siding having a capacity of 57 cars parallels the main track on the west. At Summit, 3.8 miles north of Denver, a siding 3,055 feet in length parallels the main track on the east, and a storage track 1,767 feet in length parallels the siding on the east. At Denver a spur track 357 feet in length parallels the main track on the east, and the switch, which is trailing-point for south-bound movements, is 187.5 feet south of the station. The accident occurred at a point 2,132 feet north of the station at Denver. As the point of accident is approached from the north there are numerous short curves and tangents, which are followed, in succession, by a 4° curve to the left 577 feet in length, a tangent 1,650 feet and a 2° curve to the right 1,810 feet to the point of accident and 86 feet beyond. Throughout a distance of 3.37 miles immediately north of the point of accident the grade for south-bound trains varies between 0.84 and 1.83 percent descending, and is 0.84 percent at the point of accident.

Operating rules read in part as follows:

35. The following signals will be used by flagmen:

Day Signals - A red flag, \* \* \*  
Torpedoes and Fusees.

91. Unless some form of block signals is used, trains in the same direction must keep not less than five minutes apart, \* \* \*.

99. When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary, in addition, displaying lighted fusees. \* \* \*

\* \* \*

When a train is moving under circumstances in which it may be overtaken by another train, the flagman must take such action as may be necessary to insure full protection. By night, or by day when the view is obscured, lighted fusees must be thrown off at proper intervals.

\* \* \*

220. Train orders once in effect continue so until fulfilled, superseded or annulled.  
\* \* \*

In the vicinity of the point of accident the maximum authorized speed for engines moving in backward motion is 30 miles per hour on tangents and 15 miles per hour on sharp curves.

#### Description of Accident

Extra 803 North, a north-bound freight train, departed from Jackson, 31.4 miles south of Denver, at 2:07 a. m., according to the dispatcher's record of movement of trains. At Jackson the crew received copies of train order No. 2, Form 19, which read as follows:

Eng 803 run extra Jackson to Junction  
meet Exa 200 South at Summit. Exa 700  
South has right over Exa 803 North  
Junction to Glen Jean. Exa 803 North  
will not protect against following trains.

After cars were added at Glen Jean, 7.5 miles south of Denver, this train consisted of engines 803 and 700, 30 loaded and 6 empty cars, a caboose, 26 loaded cars and a caboose, in the order named. This train departed from Glen Jean at 7:10 a. m., and stopped on the main track at Peck. The rear portion was left standing on the main track and the front portion, consisting of 36 cars and a caboose, was taken up the ascending grade to Summit, where it met Extra 200 South. After Extra 200 South departed from Summit, that portion of Extra 803 North consisting of the caboose, engine 700 and engine 803, in the order named and in backward motion, departed southward about 8:05 a. m., and while moving at an estimated speed of 10 to 25 miles per hour it collided with the rear end of Extra 200 South.

Extra 200 South, a south-bound freight train, departed from Junction, 74.6 miles north of Denver, at 12:15 a. m., according to the dispatcher's record of movement of trains. At So. Charleston, 65 miles north of Denver, the crew received copies of train order No. 2, Form 19, previously quoted. This train departed from So. Charleston at 2:29 a. m., and stopped at Summit at 7:38 a. m. After the front portion of Extra 803 North arrived at Summit, Extra 200 South, consisting of engine 200, 2 loaded cars, engine 807, a caboose, 8 loaded and 36 empty cars and a caboose, in the order named, departed about 7:55 a. m., and stopped about 8:05 a. m. on the main track, with the rear end standing at a point 2,132 feet north of the station at Denver, to set out two cars on the spur track. About 10 minutes later the rear end of this train was struck by the front portion of Extra 803 North.

Because of bushes adjacent to the track and the curvature of the track, from the left side of an engine in backward motion the view of the point where the accident occurred was considerably restricted.

The caboose of Extra 200 South was derailed and badly damaged, and it telescoped the rear car, which was destroyed. The caboose of Extra 803 North was demolished. Both trucks of the tender of engine 700 were derailed, the rear truck was shoved to the center of the tender, and the rear end of the cistern was punctured.

It was slightly foggy at the time of the accident, which occurred about 8:15 a. m.

The employee killed was the conductor of Extra 803 North, and the employees injured were the engineer of engine 700 and the front brakeman of Extra 803 North.

#### Data

During the 30-day period preceding the day of the accident, the average daily movement in the vicinity of the point of accident was 5.5 trains.

The tender of engine 700 is 10 feet 9-1/2 inches wide, 44 feet long and 14 feet high. The tender of engine 803 is 10 feet 11-3/8 inches wide, 33 feet 11-1/2 inches long and 14 feet high.

#### Discussion

The operating rules on the line involved require that when a train is moving under circumstances in which it may be overtaken, the flagman must throw off lighted fuses at proper intervals where the view is obscured. When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection. Train orders continue in effect until fulfilled, superseded or annulled.

The crew of Extra 803 North and the crew of Extra 200 South held copies of a train order establishing a meeting point between these trains at Summit. Extra 200 South was inferior by direction and, therefore, was required to enter the siding at Summit.

Because of excessive tonnage, Extra 803 North stopped at Peck and then proceeded with the front portion of its train to the north siding-switch at Summit. The conductor of Extra 803 North and the conductor of Extra 200 South, acting under oral instructions from the dispatcher, arrived at an understanding

that, instead of engines 803-700 returning to Peck and bringing the rear portion of Extra 803 to Summit to comply with train order No. 2, Extra 200 would proceed to Peck to fulfill the requirements of the train order at that point. Extra 200 South departed from Summit about 7:55 a. m. and stopped at Denver about 8:05 a. m., with the rear end standing about 0.4 mile north of the station. About 8:15 a. m. the rear end of this train was struck by the front portion of Extra 803.

Engines 803 and 700, moving backward, with a caboose coupled to the rear of engine 700, departed southward from Summit about 8:05 a. m. The brake-pipe hose were coupled, the double-heading cock on engine 700 was closed, and the brakes were being controlled from engine 803. Brake-pipe pressure of 70 pounds was being maintained. As this equipment was approaching the point where the accident occurred the speed was about 25 miles per hour, the front brakeman was maintaining a lookout from the forward platform of the caboose, the conductor was inside the caboose, and the crews of both engines were on their respective sides of their engines. The flagman remained with the rear portion of the train at Peck. According to the statement of the front brakeman, engines 803-700 were about 1,800 feet north of the point where the accident occurred when he first saw the rear end of Extra 200. He crossed to the right side of the caboose platform and gave stop signals, then crossed to the left side and gave stop signals, but there was no response. When engines 803-700 were about 1,200 feet north of the point of accident, the front brakeman observed the flagman of Extra 200 giving stop signals with a red flag at a point about 800 feet to the rear of Extra 200. The front brakeman opened the conductor's emergency valve, but the distance was insufficient for this train to stop short of the rear of Extra 200. He jumped off just before the collision occurred. He said the speed was about 15 miles per hour when the collision occurred. According to the statements of both engineers, neither observed the stop signals given by their front brakeman, because of the high tenders, the track curvature, and the caboose being narrower than the tenders. The fireman of engine 700 said that as a result of the steam pressure becoming low he was occupied in operating the stoker and did not observe either the flagman or Extra 200. The fireman of engine 803 said that because of smoke from engine 700 obscuring his vision he did not observe the flagman of Extra 200 until engine 803 was about 350 feet distant, and that the flagman was giving stop signals from a point about 800 feet to the rear of his train. The fireman of engine 803 warned his engineer who immediately placed the brake valve in emergency position. The flagman of Extra 200 said that when his train stopped at Denver he immediately proceeded toward the rear to provide flag protection and had reached a point about 1,200 feet to the rear of his train when he observed engines 803-700 approaching. He



immediately gave stop signals with a red flag but apparently his signals were not observed by the enginemen. He said the front brakeman gave hand signals to stop and then opened the conductor's emergency valve. When the engines passed him the speed was about 25 or 30 miles per hour and was not materially reduced at the time of the collision. Because it was clear and daylight he did not consider it necessary to place torpedoes on the rail or to display a lighted fusee. He said that he was a sufficient distance to the rear of his train to provide full protection if the employees on the following engines had been maintaining a proper lookout. According to the statement of a railroad police officer who was on the caboose of Extra 200, the flagman proceeded back about 450 feet to the rear of his train and stood at that point until the following engines approached, and then gave stop signals. The conductor of Extra 200 said that at Summit he informed the conductor of Extra 803 that Extra 200 had switching service to perform at Denver, and that the conductor of Extra 803 said he would inform his enginemen concerning this movement; however, the engine crews said the conductor of Extra 803 boarded the caboose at Summit and did not inform them that Extra 200 was required to stop at Denver.

From the time Extra 200 stopped at Denver until the time the collision occurred the flagman had not less than 10 minutes in which to provide flag protection. The superintendent said that during a period of 10 minutes a person could walk a distance of 3,500 feet. Had the flagman proceeded approximately this distance to the rear, undoubtedly he would have been able to provide adequate flag protection.

In the vicinity of the point of accident, light engines in backward motion are authorized to move at a speed of 30 miles per hour on tangent track. The rules require that flag protection be provided at a sufficient distance to enable the engineer of a following train to stop his train from the maximum speed short of a train ahead. When Extra 200 was preparing to stop at Denver, its speed was gradually reduced throughout a considerable distance, but no lighted fusee was dropped to provide protection while the flagman was proceeding an adequate distance to the rear. Under the rules of the carrier, the movement of the following train between Summit and Peck was not restricted. If an adequate block system had been in use, the following train would have been required to proceed in such manner that it would be able to stop short of the train ahead.

The investigation disclosed that train order No. 2 had not been fulfilled, superseded or annulled when Extra 200 South passed the meeting point; however, the superintendent said that such movements are permitted by instructions from the dispatcher after there is an understanding among the members of

the crews involved. In addition, when train movements similar to the one under consideration are made, a light engine returning to the rear portion of its train must follow the opposing train between Summit and Peck, and not precede it.

Cause

It is found that this accident was caused by failure to provide adequate flag protection for the preceding train.

Dated at Washington, D. C., this twenty-second day of August, 1942.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.