

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON
THE ST. LOUIS-SAN FRANCISCO RAILWAY AT SMELTZER,
ARK , ON AUGUST 5, 1931.

September 25, 1931.

To the Commission:

On August 5, 1931, there was a derailment of a passenger train on the St. Louis-San Francisco Railway at Smeltzer, Ark., resulting in the death of two employees and the injury of one passenger.

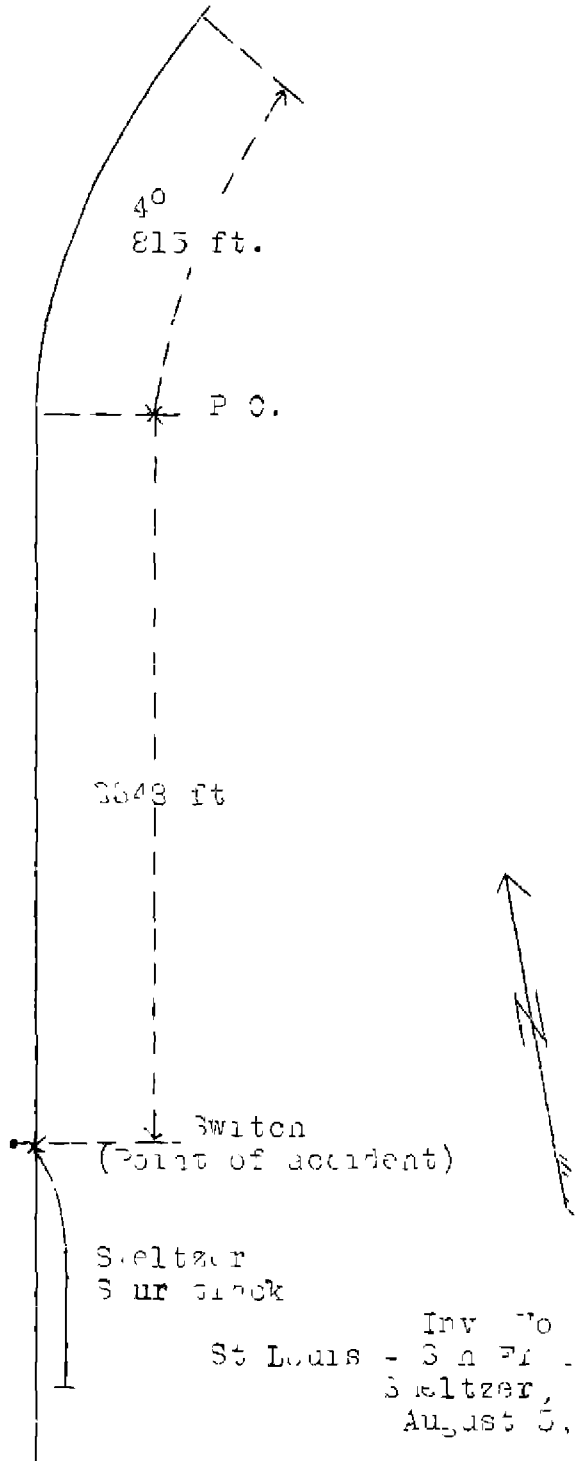
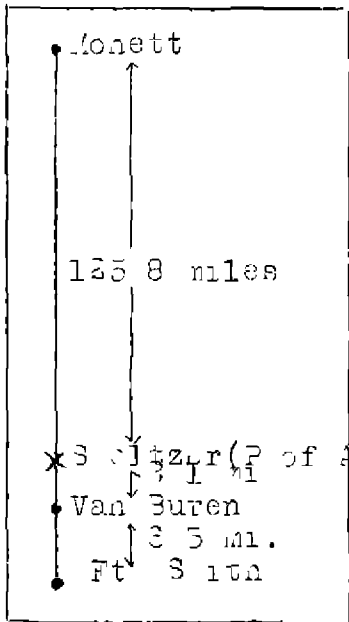
Location and method of operation

This accident occurred on the Ft. Smith Sub-Division of the Central Division, extending between Monett, Mo., and Ft. Smith, Ark., a distance of 134.4 miles, this is a single-track line over which trains are operated by timetable and train orders, no block-signal system being in use. The accident occurred at a point about 2.1 miles north of Van Buren, at the switch leading to the spur track at Smeltzer, approaching this point from the north, there is a 4° curve to the left 815 feet in length, followed by 2,348 feet of tangent to the switch, this tangent extending for a considerable distance beyond that point. The grade is slightly undulating, being 0.3 per cent ascending for southbound trains at the switch.

The switch involved is a facing-point switch for southbound trains, with a No. 10 turnout, and leads off the main track to the left or east to the spur track, which is 504 feet in length. The switch stand, of the single-target, high revolving type, 6 feet 6 inches in height, is located on the right or west side of the track, the target is 15 inches in diameter and painted red, with a white disk in the center. There is a switch lamp mounted above the target, night indications are green when the switch is closed, in which position the target is not visible, and red when the switch is open.

The track is laid with 90-pound rails, 33 feet in length, with an average of 20 ties to the rail-length, single-spiked and tie-plated, the track is well maintained. The speed limit for passenger trains is 50 miles per hour.

The weather was cloudy at the time of the accident, which occurred about 12.10 a.m.



Seltzer
 5 hr track

Inv No 1717
 St Louis - San Francisco Ry
 Seltzer, Ark
 August 5, 1931

Description

Southbound passenger train No. 703 consisted of 1 baggage car, 1 combination coach and mail car, 1 chair car, and 1 Pullman sleeping car, in the order named, hauled by engine 1042, of the 4-6-2 type, and was in charge of Conductor Land and Engineman Keithley. This train passed Chester, the last open office, 23.8 miles north of Van Buren, at 11.29 p. m., August 4, according to the train sheet, four minutes late, and was derailed at the switch leading to the spur track at Seltzer while traveling at a speed estimated to have been between 35 and 40 miles per hour.

Engine 1042, its tender, the first car and the forward truck of the second car were derailed, the engine came to a stop on its right side, diagonally across the spur track, with its front end 254 feet south of the point of switch, having struck and knocked down a fruit shed located on the east side of the spur track, demolishing about 10 feet of the north end of the shed. The tender was also on its right side, across the spur track and at right angles to it, behind the engine, while the first car remained upright. The employees killed were the engineman and fireman.

Summary of evidence

Conductor Land was riding in the second car approaching Seltzer, at which time he estimated the speed to have been between 35 and 40 miles per hour, and the last action he had of anything wrong was when the air brakes were applied in emergency, when the train stopped he looked out of the window and saw that the engine was turned over. Conductor Land then went out and looked around for the engine and fireman, but could not find them, following which he went back to the switch. Along with Engineman Paine and Fireman Draper, both of whom were dead-heading on train No. 703, it was observed by means of a lantern that the points apparently matched up perfectly, nothing wrong with them being noted except that there was a little chip off the east point, an old break watch was of no consequence. The switch was lined and locked for the spur track and the switch lamp was burning, displaying a green indication, at this time the conductor did not observe that the connecting rod was disconnected from the switch stand. North of the switch there was no indication of anything dragging and nothing was found about the condition of the switch, track or equipment that would have caused or contributed to the

derailment. Conductor Land later proceeded to Van Buren and reported the accident. On returning to the scene of the accident his attention was called to the connecting rod being disconnected, and he said that it could have been disconnected at the time he inspected the switch following the accident, without his having noticed it in the dark, in his opinion it would have been impossible for the connecting rod to have worked its way off the upturned gooseneck of the main post of the switch stand of its own accord, but instead he thought that it had been removed by somebody. A search was made for the washer that rests on top of the connecting rod hole, and the cotter key that goes through the hole in the main post after the connecting rod and washer are in place, but they could not be found. The air brakes had been tested and worked properly en route, and the last time the conductor saw the headlight, at Winslow, 35.2 miles north of Van Buren, it was burning. Statements of Engineman Paine and Fireman Draper corroborated in substance those of Conductor Land, Fireman Draper said that the cotter key hole in the gooseneck of the main post was bright inside, as though the cotter key had been recently removed. Brakeman Jones immediately went back to flag and after flagging the following train, extra 1305, he returned to the scene of the accident and saw marks around the post of the gooseneck, which had the appearance of having been made by some one prying off the connecting rod. Train Porter McPherson heard the engine whistle sounded for the station and also for a road crossing located near the switch, just before the accident occurred, he also said that he saw the reflection of the headlight as his train went around the last curve north of Smeltzer.

General Road Foreman of Equipment Forsythe was riding on the caboose of freight extra 1305, which followed train No. 703, he said that after extra 1305 was flagged and stopped at Smeltzer, at about 12.22 or 12.23 a.m., he proceeded to the scene of the accident, observing track conditions as he went along so as to discover whether there were indications of anything dragging, and arrived at the switch at about 12.30 a. m. The switch lamp was burning, displaying a green indication, indicating that the switch was lined for the main track, and the switch lock was locked. He examined the connecting rod by means of his flash light, also the headlight of the engine of extra 1305, and found that it was disconnected and that the washer and cotter key were missing, the cotter key hole in the main post of the switch

stand being bright. Search was made for the cotter key and washer, but they were not found. There were light marks, recently made, on the gooseneck of the main post and on the connecting rod, indicating that the connecting rod had been pried off as a result of malicious tampering, and he said he thought it would have been impossible for the connecting rod to work off of its own accord even though the cotter key and washer had been missing, as it would take excessive vibration for the connecting rod, which fitted down over the gooseneck or stem about 2 inches, to rise up for enough to drop off. Mr. Forsythe said that in the event the switch had been previously run through, the connecting rod would have been bent and the switch points would have been pulled away from the stock rail, which was not the case in this instance. It was his opinion that the switch points probably opened between the engine truck and driving wheels, saying that had the engine truck been the first to be derailed then the engine would have gone over it and torn it to pieces, whereas the engine truck was still in place until the engine turned over, the truck not being damaged. Engineman Wommack and Head Brakeman Pope of extra 1305 gave testimony similar to that of Mr. Forsythe.

Section Foreman McCommon gave the switch a general inspection on Saturday, August 1, nothing was developed as a result of that inspection that necessitated repairs. He made a daily inspection of the switch on August 4 at about 11 a.m., and took particular care to see that the washer, cotter key and connecting rod were in place. He arrived at the scene of the accident about 1 hour and 10 minutes after its occurrence and at that time found the switch to be in the condition previously described, which condition, in his opinion, was the result of malicious tampering. Section Laborers Williams and Harkins gave testimony similar to that of Section Foreman McCommon.

Statements of Superintendent Cantrell, Assistant Division Engineer Booth and Roadmaster Ayles were to the effect that the connecting rod would not work off due to the vibration of traffic over the switch even though the washer and cotter key were not in place, the washer and cotter key were missing and there were marks to indicate that the connecting rod had been pried off. Superintendent Cantrell was of the opinion that the accident was the result of the connecting rod having been pried off maliciously.

Assistant Superintendent of Motive Power Lister arrived at the scene of the accident about one hour after its occurrence and inspection of the engine disclosed the engine-truck wheels, driving wheels, trailer wheels, treads and flanges to be in good condition. The brake rigging, running gear, rods and spring rigging, with the exception of the cross equalizer on the back end, were still intact. Measurements were taken of the lateral in all the engine wheels, and it was found to be maintained within the prescribed limits, while careful inspection of the engine in general disclosed no defect that would have caused or contributed to the derailment.

There was a flange mark on the bolt head of a rail joint on the gauge side of the west rail at a point 23 feet south of the switch points, and another flange mark on the outside of the base of the east rail of the main track starting at a point 23½ feet from the switch point and continuing along the base of the rail for about 2 feet, where it dropped off to the ties, marking them for a distance of 98 feet, following which the track was torn up.

The last train to pass over the switch prior to the accident was northbound second-class train No. 732, a trailing-point movement, which train passed that point about one and one-half hours prior to the occurrence of the accident, and at that time nothing unusual was noticed by members of that crew.

Conclusions

This accident was caused by the defective condition of a facing-point switch, apparently due to malicious tampering.

After the accident the connecting rod was found to have been disconnected from the stem or gooseneck of the main post of the switch stand, the washer and cotter key were missing and could not be found, but the cotter-key hole was bright, indicating that the cotter key had only recently been removed, and there were marks to indicate that the connecting rod had been pried off. The switch was so constructed that even with no washer or cotter key in place, the connecting rod probably would not work off of its own accord as a result of vibration from passing trains. The switch was lined for the main track and locked, with the switch lamp burning and displaying a green indication to the

engineman of an approaching train, and no defective condition was found about the track or equipment which would have caused the accident, while the switch had been inspected about 11 a. m., the previous day and the last train to use the switch prior to the accident passed that point about one and one-half hours prior to the occurrence of the accident, at which time nothing unusual was noticed. Under all these circumstances it appears that the switch had been tampered with, although at the time of the investigation it had not been determined when or by whom the tampering was done.

All of the employees involved were experienced men and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,
Director.