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November 30, 1914.

**IN RE INVESTIGATION OF ACCIDENT WHICH OCCURRED ON THE MISSOURI,  
KANSAS & TEXAS RAILWAY OF TEXAS NEAR SAN MARCOS, TEXAS ON  
SEPTEMBER 16, 1914.**

On September 16, 1914, there was a derailment on the Missouri, Kansas & Texas Railway of Texas near San Marcos, Texas, which resulted in the injury of nine passengers. After investigation of this accident, the Chief of the Division of Safety reports as follows:

Northbound passenger train No. 10 was en route from San Antonio, Texas, to St. Louis, Mo. It consisted of one rail car, two coaches, one chair car, one dining car and three Pullman sleeping cars, hauled by locomotive No. 362, and was in charge of Conductor Williams and Engineman Lesson. Train No. 10 left Hunter, Texas, at 11.28 a.m. six minutes late, and at 11.37 a.m. was derailed at a point about three miles south of San Marcos, while running at a speed of about 55 miles per hour.

The entire train was derailed with the exception of the lead trucks of the locomotive and the rear truck of the last sleeping car, the driving wheels of the locomotive being the first to be derailed. The rear tender truck, after being derailed, slewed to one side and tore up the track, starting at a point 25 or 30 feet north of the original point of derailment, for a distance of about 575 feet. When the train was brought to a stop the locomotive was about 600 feet beyond the point of derailment. All of the cars remained coupled together, in an u-right position. With the exception of the chair car, which had a rail driven through the floor and out of the roof, the superstructures of the cars sustained very slight damage, most of the damage caused by the accident being confined to the trucks, air brake equipment and lighting fixtures.

This part of the Missouri, Kansas & Texas Railway Company of Texas is a single-track line. Trains are operated by train order and time-car rights, no block signal system being in use. The track is straight with a descending grade for northbound trains of about 1%, one mile in length. It is laid with 66-pound rails, 33 feet in length, single spiked to an average of about 19 ties under each rail. No tie plates are used. The ballast is of coarse gravel, about 10 inches in depth. The weather was clear.

The exact point of derailment was 100 feet north of bridge No. 269-1, a t-o-panel wooden bridge, 10 feet in height, built in 1907. Examination showed the first flange mark on the ties to be at a point 7 inches on the inside of the east or right-hand rail.

On the next tie north there were two flange marks, while 7 feet farther north, on the outside of the west, or left-hand rail, similar marks began. These marks continued up to the points where the track had been torn up by the rear tender trucks.

Examination of the track for a distance of 21 rail lengths south of the northern end of the bridge, showed that there were many low joints and centers, varying from one-half inch to 1<sup>1</sup>/<sub>2</sub> inch below the cross level of the track. In this distance of 21 rail lengths the track was found to be in good gauge and alignment.

An examination of bridge No. 989-1 showed it to be in bad condition, the pile and stringers being more or less decayed. Beginning at a rail joint in the middle of the bridge, in line with piling recently driven, preparatory to renewal of the bridge, and extending in a northerly direction, the track was spread nine-sixteenths of an inch for a distance of 6 feet. Five out of seven ties were badly season-split at the point of striking, and the spikes on the outside of the rail were pushed outward, resulting in their having very slight holding properties.

Examination of the track between the bridge and the point of derailment showed that for 8 or 9 feet north of the bridge the track was about 1<sup>1</sup>/<sub>2</sub> inches above the general cross level existing north and south thereof, caused by the swelling of the ground when new piles were driven. The first joint on the west rail, north of the bridge, was 1 inch low, and settled an additional inch under the weight of a train. Other joints and centers, up to the point of derailment, were alternately high and low.

Examination of locomotive No. 368 showed that the male center casting of the engine truck had been unseated and shifted about 7 inches to the left, the center pin remaining in the female casting. After recovery to the shore of the Galveston, Harrisburg & San Antonio Railway at San Antonio, examination of the locomotive by Master Mechanic Connor, of the latter-named road, showed that the male casting had been shimmed up with plates until it was seated in the female casting only to a depth of from one-quarter to three-eighths inches, although the female casting originally had a depth of three inches. One of the chains was afterwards removed so as to let the male casting down into the female casting at least three-quarters of an inch.

Engineman Lesson stated that as the locomotive crossed the bridge, the bridge seemed to give toward the right. The driving wheels of the engine were the first wheels to be derailed. He further stated that the speed of the train was about 35 miles per hour, and that he could see no reason for the derailment. Other employes on the train stated that the speed at the time of derailment was about 30 miles per hour.

While the cause of this accident could not be definitely determined, it is believed that it was due to the uneven condition of the track, which caused the locomotive to rock back and forth

until the male engine truck on tins became unseated, resulting in the derailment of the driving wheels of the engine.

