

INV. NO. 322.

DECEMBER 31, 1915.

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON
THE ATCHISON, TOPEKA & SANTA FE RAILWAY NEAR
NORTH POMONA, CALIF., ON DECEMBER 31, 1915.

On December 31, 1915, there was a derailment of a passenger train on the Atchison, Topeka & Santa Fe Railway near North Pomona, Calif., which resulted in the injury of 19 passengers. After investigation of this accident the Chief of the Division of Safety reports as follows:

Westbound train No. 9 consisted of locomotive 1228 and nine cars, and was in charge of Engineer Roberts and Conductor Donaldson. This train left San Bernardino, Calif., at about 7:25 a.m., practically three hours late, and at 8:03 a.m. was derailed about 2,500 feet east of the station at North Pomona, or about 25 miles west of San Bernardino, while running at a speed of about 35 miles per hour.

The tender was the first of the train to be derailed, the front trucks of which dropped down and came in contact with the ties, stripping both trucks from the frame, which remained attached to the locomotive. The derailment of the tender resulted in the derailment of the first six of the nine cars in the train, namely, 1 express car, 1 combination mail and baggage car, 1 baggage car, 2 coaches and 1 tourist car, the first of which was reinforced steel, and the latter five of all-steel construction. The tender frame became detached from the forward end of the express car, and, together with the engine, came to a stop about 400 feet from the point of derailment. The track at the point of the accident is straight, there being a descending grade of 1.1 -

per cent for westbound trains.

Examination of the equipment of the derailed train developed the fact that the forward axle on the front tender truck had broken. This axle, measuring 7 inches, in diameter at the wheel fit or hub, broke inside of and close to the wheel on the left side of the truck. It was developed that there was an old fracture at this place in the axle, having a depth of 2-5/8 inches at its deepest point, and extending in a crescent shape over nearly half the circumference of the axle, from a point 1/16 inch within the hub to a point about 1/16 inch without the hub. This made it a concealed defect and consequently one difficult of detection, even by the most diligent inspection. This railroad has all tender axles whitewashed, in order to facilitate the detection of any possible defects. This feature, however, proved of no value in this instance, because of the outermost point of old fracture being only about 1/16 inch without the hub.

Locomotive 1229 was the leading locomotive of a train the rear end of which was struck in a collision the day before the derailment. At 1:00 a.m. on the morning of the accident this locomotive arrived at the roundhouse at Barstow, Calif., at which place it attached to train No. 9. It was inspected as closely as possible, but the fact that the running gear of both the engine and tender were covered with snow and ice, and that it was wanted as promptly as possible for train No. 9 precluded the most minute examination of all parts.

Engineer Robert [redacted] that he personally inspected his locomotive at Barstow, but that he discovered no indication

of a fracture in the tender axle. He stated that he had no intimation of anything being wrong, that he noticed no grinding effect of the wheel on the rail as if the axle had been bent causing the wheels to be out of gauge, his first knowledge of the derailment being a jerk upon his engine and when he looked around the derailment was occurring. He stated that after his engine, with the tender frame attached, came to a stop about four and one-half telegraph poles beyond the point of derailment, he went back to learn the cause of the accident and found the broken axle. He stated that there was an old, rusty fracture in it, which he stated he did not measure. Engineman Roberts stated that he did not think that fracture could have been detected even by a very close inspection.

This derailment was caused by the breaking of the forward axle on the front tender truck, which was greatly facilitated by the presence of an old fracture which extended over nearly half the circumference of the axle. Its greatest depth was $2\frac{3}{8}$ inches, which was slightly more than one-third the entire diameter of the axle. Owing to its location on the axle, this fracture was practically impossible to detect, one end extending $1/16$ inch into the hub and the other end being only $1/16$ inch without the hub.