

March 13, 1912.

MEMORANDUM TO COMMISSIONER McCHORD
relative to accident on the Pennsylvania Railroad,
February 15, 1912.

Draft submitted by the Chief Inspector of Safety Appliances
as a basis for the report of the Commission.

On February 16, 1912, the Pennsylvania Railroad reported by telegraph an accident occurring at Warrior Ridge, Pa., on February 15. Inspectors Archer, Duffy and Howard were instructed to make an investigation, and a synopsis of their report is given below.

East-bound passenger train No. 2, known as the "Pennsylvania Limited", en route from Chicago to New York and consisting of one postal car, one combination car, three sleeping cars, two dining cars, three sleeping cars and an observation car, all of which were of steel construction and hauled by engines Nos. 2982 and 3350, left Altoona, Pa., at 11:12 A. M., and was derailed at 11:52 A. M. at WG block station, near Warrior Ridge, 30 miles east of Altoona, Pa.

This derailment caused the death of two passengers and one Pullman car employee, and injuries to 62 passengers, 9 Pullman employees, 17 dining car employees (three of whom afterward died) and two trainmen. With the exception of the two engines and the postal car, the entire train left the rails and plunged down an embankment about 35 feet high, several of the

cars turning over one or more times in their descent. The speed of the train at the time of the derailment was about sixty miles per hour.

At the point of the accident the Pennsylvania Railroad is a four-track road, on a fill varying from 30 to 35 feet in depth, with a descending grade to the east of about one half of one per cent. The accident occurred at the end of about one half mile of straight track, at the beginning of a one degree curve.

The track preceding the point of the accident clearly showed that some part of the running gear of the train had broken down. Ties at different points along the road were found to be badly scored, the rock ballast was disturbed, the planking at a road crossing was split up, etc. After carefully examining the running gear of the train it was found that the bottom arch bar on the right-hand side of the forward truck of the tender of the second engine was broken behind the rear column bolt, the fracture being located underneath the column casting at the head. The column bolt itself was broken off at the lower arch bar and the two journal box bolts were broken off below the journal box. These bolts were undoubtedly broken by obstructions after the failure of the arch bar. It seems apparent that the breaking of the arch bar forced the tie bar down to such an extent that when the train reached a switch located nearly opposite EG tower the tie bar wedged in between the switch point and the stock rail. This caused the switch point to break, while at the same time the stock rail was pushed out of place, thus causing the derailment of the train.

Further investigation showed that there was an old flaw

at the rear bend in the arch bar, and it is supposed that the arch bar broke originally at this point. On account of the flaw being located underneath the column casting, concealed by the column bolt nut, diligent inspection would have failed to discover it.

Samples from the broken arch bar in the immediate vicinity of the break were taken to the laboratories of the Pennsylvania Railroad at Altoona, Pa., and after various physical tests had been made it was found that the metal of the arch bar conformed to the specifications required by them for arch bar material. Chemical analysis also showed that the material was of the character which would be expected under the specifications.

To the all steel equipment of the train can undoubtedly be attributed the comparatively small loss of life.

Respectfully submitted,

Chief Inspector of
Safety Appliances.