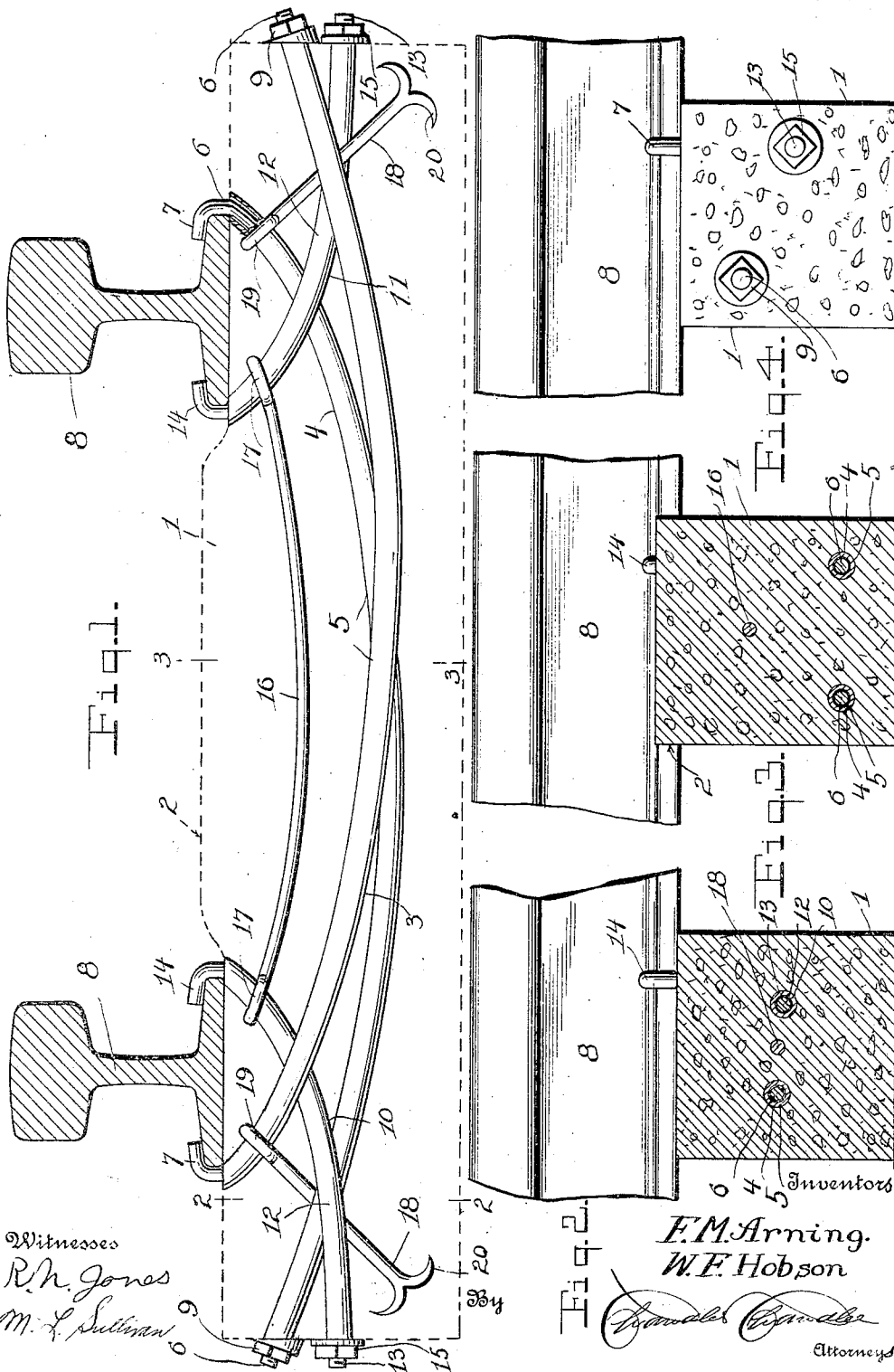


RAILWAY TIE.

1,052,120.

Patented Feb. 4, 1913.



UNITED STATES PATENT OFFICE.

FREDRICK M. ARNING AND WILLIAM F. HOBSON, OF BARTLETT, KANSAS.

RAILWAY-TIE.

1,052,120.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, FREDRICK M. ARNING and WILLIAM F. HOBSON, citizens of the United States, residing at Bartlett, in the county of Labette, State of Kansas, have invented certain new and useful Improvements in Railway-Ties; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is directed to improvements in railway ties, and particularly to one formed from cement.

The invention has for its object to provide a tie of this character with novel means for fastening the tracks thereto.

A further object of the invention is to provide a tie having embedded therein a novel form of reinforcing element.

With these and other objects in view, this invention resides in the novel features of construction, formations, combinations and arrangements of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which:—

Figure 1 is a side view of a tie, the same being shown in dotted lines and the rail fastening and reinforcing means being shown in full lines. Fig. 2 is a sectional view on line 2—2 of Fig. 1. Fig. 3 is a similar view on line 3—3 of Fig. 1. Fig. 4 is an end view.

Referring to the drawing, the numeral 1 designates a tie, the same being formed from cement and is provided upon its upper central surface with a thickened portion 2, which adds strength to the central portion of the tie, and at which point the greatest strain is imparted. The tie is formed with a pair of bores, which are arranged in cross-wise relation, the same being designated by the numerals 3 and 4, the upper ends of which open at the top of the tie 1 and near the ends thereof, while the lower ends open at the ends of the tie. Fitted within the bores 3 and 4 are tubes 5, the same being the same length as the bores.

Mounted within the tubes 5 are rods 6, the upper ends of which are provided with hooks 7 for engaging the outer flanges of the rails 8. The rods 6 have their lower

ends threaded and projected slightly beyond the ends of the tie 1 for receiving adjusting nuts 9 which are operable to draw the hooks 7 in tight engagement with the outer flanges of the rails. A second set of bores are provided, and are designated by the numerals 10 and 11, said bores having their upper ends opening at the top of the tie and adjacent the inner flanges of the rails 8, said bores also being provided with tubes 12 for receiving the rods 13 having their upper ends formed with hooks 14 for engaging the inner flanges of the rails. The lower ends of the rods 10 and 11 are threaded for engagement by clamping nuts 15 which operate in the same manner as the nuts 9 herein before mentioned.

A reinforcing bar 16 is provided and is embedded in the tie 1, and near the upper surface thereof, said bar having its ends formed with eyes 17 which receive the tubes 12 near their upper ends, thus firmly bracing the same. Embedded in the tie and adjacent the ends thereof are reinforcing bars 18, the same being arranged in inclined positions, and have their upper ends formed with eyes 19 for engaging the tubes 5 near their upper ends. The lower ends of the rods 18 are formed with a plurality of upwardly directed fingers 20 which serve to prevent movement of the same when strain is applied thereto due to traffic over the rails.

From the foregoing description taken in connection with the accompanying drawing, the operation and advantages of the tie will be obvious.

By providing the tubes the rods, should they become worn or broken may be easily removed and replaced by new ones.

What is claimed is:—

A cement railway tie having a pair of bores formed therein and arranged in cross-wise relation, said bores having their upper ends opening at the upper surface of the tie, tubes mounted in the bores, the lower ends of said bores opening at the ends of the tie, rods mounted in the tubes and having hooks formed upon their upper ends and adapted to engage the outer flanges of the rails, means for holding the hooks in engagement with the rails, a second pair of bores having their upper ends opening at the top of the

tie, and their lower ends opening at ends thereof, tubes mounted in the bores, rods mounted in the tubes and having hooks upon their upper ends for engaging the inner
5 flanges of the rails, means for holding the hooks in engagement with said flanges, and reinforcing elements embedded in the tie for engaging the respective tubes.

In testimony whereof, we affix our signatures in presence of two witnesses.

FREDRICK M. ARNING.
WILLIAM F. HOBSON.

Witnesses:

GRANT OWEN,
HARL. BENDURE.