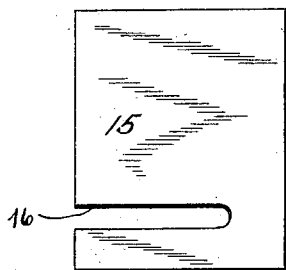
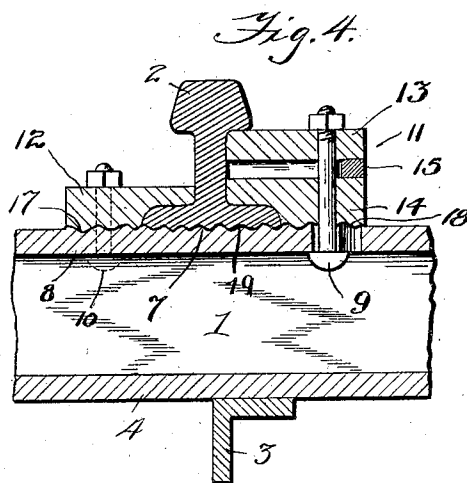
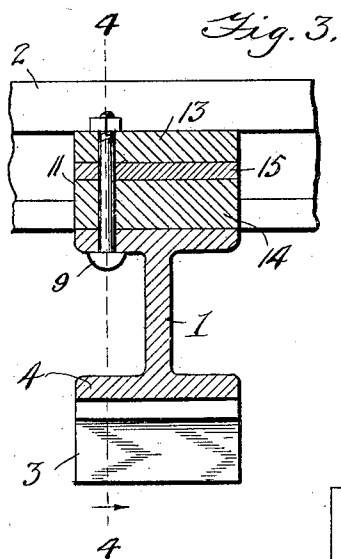
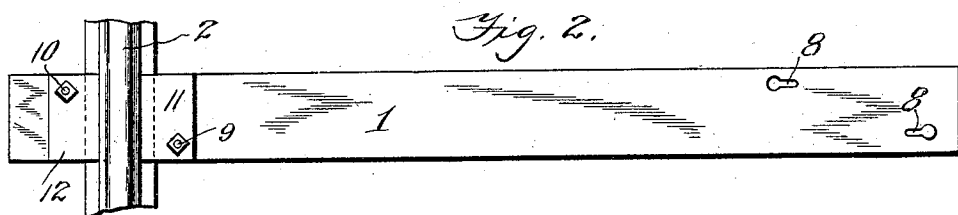
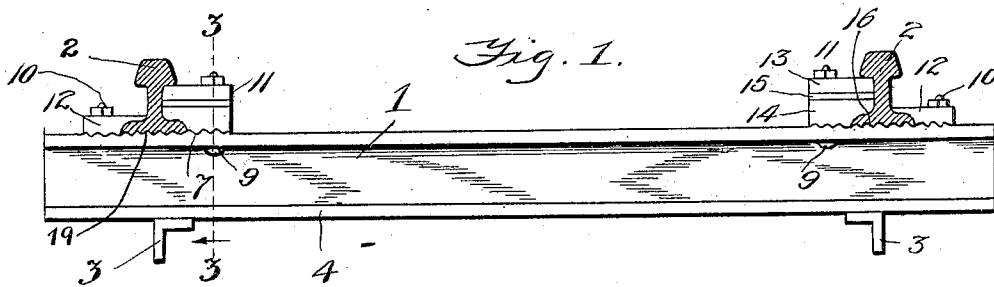


No. 820,558.

PATENTED MAY 15, 1906.

E. S. DE VOE.
RAILROAD TIE.
APPLICATION FILED MAR. 1, 1906



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UNITED STATES PATENT OFFICE.

ERNEST S. DE VOE, OF ALLENWOOD, NEW JERSEY.

RAILROAD-TIE.

No. 820,558.

Specification of Letters Patent.

Patented May 15, 1906.

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To all whom it may concern:

Be it known that I, ERNEST S. DE VOE, a citizen of the United States, residing at Allenwood, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Railroad-Ties; and I do 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.

My invention relates to improvements in railway cross-ties and means for securing the track-rails thereto.

The object of the invention is to improve and simplify the construction of devices of this character, and thereby render the same more durable and rigid and less expensive.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of my improved metallic cross-tie, showing track-rails secured thereon in accordance with my invention. Fig. 2 is a top plan view of the same, the track-rail being removed upon one side. Fig. 3 is a vertical transverse sectional view taken on the plane of the line 3 3 in Fig. 1. Fig. 4 is a detail vertical longitudinal sectional view, taken on the plane of the line 4 4 in Fig. 3; and Fig. 5 is a detail view of one of the spacing-plates by means of which the track-rail-securing cleats or blocks are made adjustable to various sizes of rails.

Referring to the drawings by numerals, 1 denotes my improved cross-tie which is preferably in the form of a metallic I-beam, which has track-rails 2 secured upon its top and transversely-disposed angle metal cleats or ribs 3 upon its bottom to prevent it from moving longitudinally and allowing the track to shift laterally. These angle-metal ribs 3 are riveted, bolted, or otherwise secured upon the bottom flanges 4 of the I-beam, the top flanges 6 of which are formed at the points where they are crossed by the track-rails 2 with transversely-extending corrugations 7 and with pairs of key-shaped slots or openings 8. The slots of each pair are disposed upon opposite sides of the track-rails and upon the opposite sides of the vertical web of the rail, as clearly shown in the drawings. Said slots

are adapted to receive bolts or similar fastenings 9 10, which respectively pass through fastening cleats or blocks 11 12, which secure the track-rails upon the tie. Each of the cleats or blocks 12 has its inner end shaped to fit the base-flange of the track-rail, and its outer portion is formed with an aperture to receive one of the bolts 10, as clearly shown in Fig. 4 of the drawings. The other cleat or block 11 is composed of sections, and thereby made adjustable to permit it to fit snugly against the web of the track-rail and between the under side of the head or tread of the rail and the upper side of its base-flange. As shown, the block 11 is composed of upper and lower sections or plates 13 14, between which are arranged one or more thin plates 15, adapted to be driven between the opposing faces of the sections 13 14. The upper section 13 has its inner end shaped to fit beneath the head or tread of the rail, and the inner end of the lower section 14 is shaped to fit the base-flange of the rail, the outer portions of both of said sections being formed with alining openings, through which the bolt 9 passes. Said bolt also passes through a slot 16, formed in the intermediate plate or section 15, (shown in Fig. 5 of the drawings,) so that said plate or section may be wedged or driven into position between the two sections 13 14. By employing one or more of the intermediate plates or sections 15 it will be seen that the height or thickness of the block 11 may be varied so that it will fit a track-rail of any size. The bottom faces of the bases of the track-rails are corrugated longitudinally, as shown at 19, at the points where they engage the cross-ties, and the bottom faces of the blocks 12 and block-sections 14 are similarly corrugated, as shown at 17 18. These corrugations 19 17 18 fit the corrugations 7 upon the upper face of the tie and prevent shifting of the track-rails after the nuts have been tightened upon the bolts 9 10, but also permit of the adjustment of the track-rails when said nuts are loosened, as will be readily understood.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be

resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined by the appended claims.

5 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. The combination of a tie, a track-rail thereon, a fastening block or cleat composed of superposed sections adapted to fit between the base-flange and head of said rail, and a bolt or the like passed through the sections of said block for securing the latter upon said tie.

15 2. The combination of a tie, a track-rail thereon, the securing-block 11 having an apertured lower section 14 to engage the base-flange of the rail, an apertured upper section 13 to engage the under side of the head of the
20 rail and a slotted intermediate section 15, and a bolt or the like passed through an opening in said tie and the alining openings and slot

in the sections of said block, substantially as shown and described.

3. The combination of a metallic tie of I 25 form in cross-section, having slots formed in its upper flanges and transverse corrugations adjacent to said slots, a track-rail having corrugations upon its base to engage the corrugations upon said tie, securing blocks or cleats 30 engaged with the rail and having corrugations upon their bottoms to engage the corrugations on said tie and openings to aline with the slots in said tie, and fastening-bolts or the like passed through said slots and openings to 35 secure said blocks upon the tie, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ERNEST S. DE VOE.

Witnesses:

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