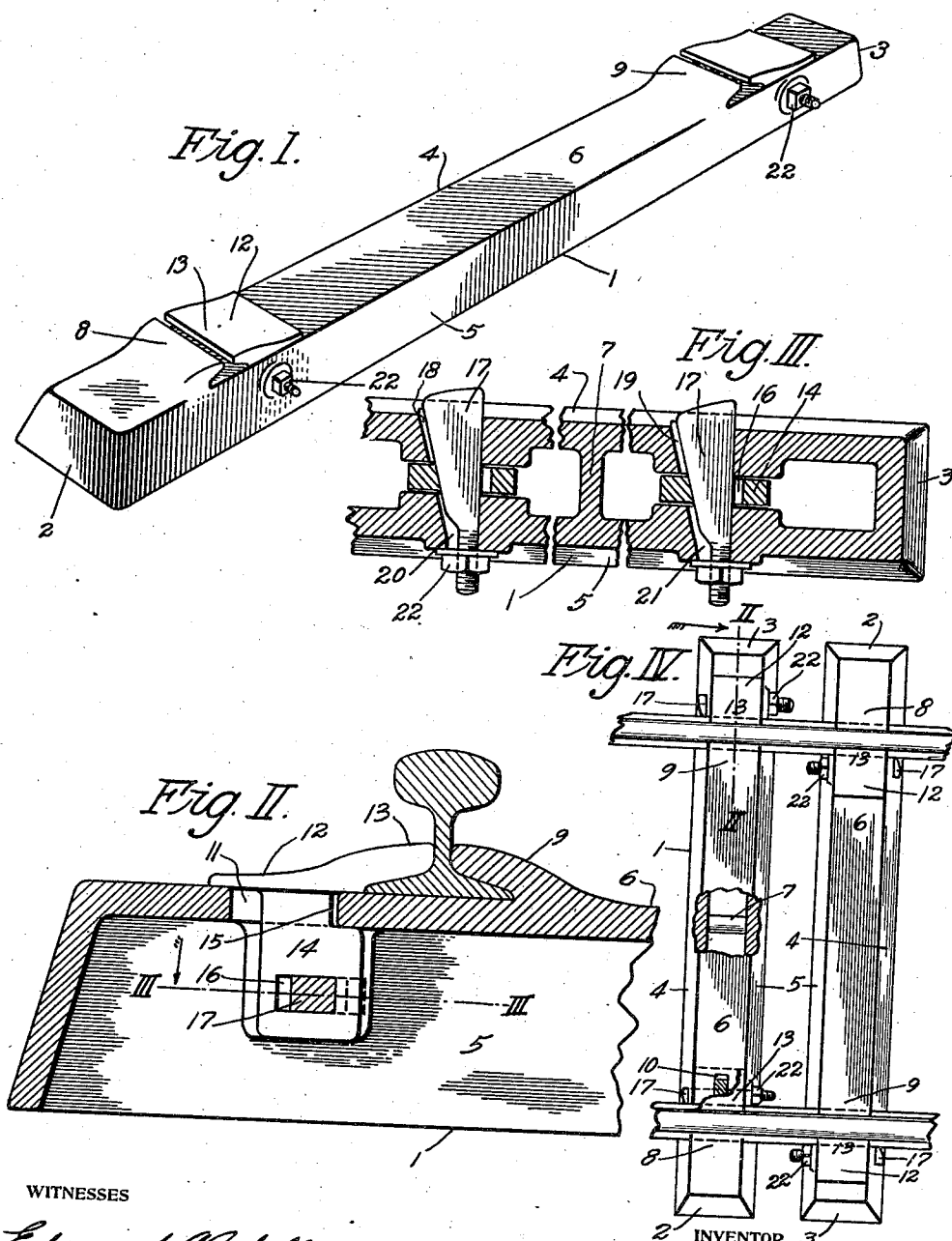


D. B. REED.
METAL CROSS TIE FOR RAILROADS.
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1,066,320.

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WITNESSES

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METAL CROSS-TIE FOR RAILROADS.

1,066,320.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DAVID B. REED, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Metal Cross-Ties for Railroads, of which the following is a specification.

My invention relates to metal cross-ties for railroads.

The objects of my invention are: first, to provide a cheap, substantial and durable metal cross-tie; second, to provide a cross-tie adapted for rigidly supporting the rails seated thereon without the aid of spikes and bolts; third, to provide a cross-tie which may be quickly installed, readily inserted and easily removed; fourth, to provide a cross-tie provided with a rigid support on one side of the rail and an adjustable support on the opposite side of the rail adapted to alternate in position beneath the rails to provide strength and rigidity to the tracks to prevent spreading of the rails; and fifth, to provide a movably-secured rail-fastening cooperating with a rigid fastening adapted for holding the rail securely and properly seated on the cross-tie. I accomplish these objects by the means and devices illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view of my invention; Fig. 2 is a longitudinal section on line II, II, Fig. 4. Fig. 3 is a sectional view on line III, III, in Fig. 2; Fig. 4 is a plan view of my invention.

Similar numerals refer to similar parts throughout the drawing.

Referring to the drawing, the numeral 1 indicates an inverted trough-shaped body made of any suitable metal, such as iron, steel and the like, preferably of steel, either cast or pressed to shape. The dimensions of the cross-tie in length and breadth are similar to the cross-tie of commerce used in supporting the rails of a railroad track. The end walls 2 and 3, and the side walls 4 and 5, are flared downwardly and outwardly. The crown 6 is substantially flat. The said walls and crown are cast or formed integral, and may be of any suitable thickness. A transverse bar 7 is formed integral with the inside surfaces of the side walls 4 and 5, to provide strength and rigidity.

Additional similar members may be provided for the same purpose.

An upwardly-extending and inwardly-inclined lug 8 is formed integral with the outer surface of the crown 6, adjacent one end of the body 1 having a width substantially the same as the width of the crown 6. A similar lug 9, but outwardly inclined, is similarly formed integral with the crown 6, adjacent its opposite end. The terminal ends of said lugs 8 and 9 are each flat-faced, adapted to impinge squarely against the web of a railroad-rail adjacent its base-flange. The receding under-surface of the lugs 8 and 9 are each shaped to substantially conform to the base-flange of the rail against which the lugs are adapted to impinge.

A slot 10 is longitudinally apertured in the crown 6, inwardly from and adjacent the lug 8, and a slot 11 is similarly apertured in said crown 6, outwardly from and adjacent the lug 9. The said slots 10 and 11 may be of any suitable dimensions, adapted for the purpose of movably mounting therein a clamping-member 12, hereinafter described. The said clamping-member 12 comprises a body of metal, preferably similar to the metal in the body 1, and dimensioned to have a width corresponding with the width of the crown 6 of the body 1, and of a length adapted for the purpose intended. The said body of metal is provided with a flat level under surface, adapted for slidable movements forwardly and backwardly upon the crown 6. A lug 13, formed substantially similar to the lugs 8 and 9, integral with the upper surface of the body of said clamping-member, is inclined forwardly toward the terminal end, and the under-surface of the same is shaped substantially similar to the under-surface of the lugs 8 and 9, and is adapted to impinge upon the web and base-flange of the rail directly opposite to the said lugs 8 and 9. A downwardly-extending lug 14 is centrally formed integral with the under-surface of said clamping-member 12, adapted to engage the slots 10 and 11. The said lug 14 is provided with a recess 15, extending downwardly from the under-surface of said clamping-member 12 a distance required for the entry therein of the portion of the crown exposed at the forward end of the slots 10 and 11, when the clamping-member is opera-

tively assembled with the body. A slot 16 is centrally and transversely apertured in said lug 14 adjacent the recess 15. The said slot 16 is dimensioned to accommodate a draw-bar 17, hereinafter described.

A slot 18, extending longitudinally, is apertured in the side-wall 4 of the body 1, substantially in line with the slot 10 in the crown of the body 1, and a similar slot 19 is similarly apertured in line with slot 11 in the crown of said body 1. A slot 20 is apertured in the side-wall 5 of the body 1 opposite the slot 18 in the side-wall 4, and a similar slot 21 is apertured in said side-wall opposite the slot 19 in the side-wall 4. The forward ends of slots 18 and 19 are each beveled inwardly, and the forward ends of slots 20 and 21 are each beveled outwardly. The rear ends of said slots are each straight. The formation of the slots 18, 19, 20 and 21 are for the purpose of the entry therein of the draw-bar 17, which is formed flat, having one side-edge straight and its opposite side straight-beveled, the beveled edge being adapted for engagement with the beveled-end of said slots 18, 19, 20 and 21, and the intervening slot 16, in the lug 14 of the clamping-member 12, the forward end of said slot 16 being also similarly beveled. The slots 18 and 19 have greater length than slots 20 and 21, and slot 16 has a greater length than slots 18 and 19.

To apply my invention the body 1 is disposed beneath the rails, bringing the base-flange of the opposite rails to seat on the crown 6 and to firmly impinge upon the lugs 8 and 9. The clamping-member 12 is then placed upon the crown 6, opposite each of said lugs 8 and 9, with the lug 14, integral with the clamping member, entered in each of the slots 10 and 11, respectively. The draw-bar 17 is then inserted in slot 18, through slot 16 in the lug 14 of the clamping-member, and through the slot 20 with the beveled-edge of the draw-bar in engagement with the beveled forward ends of said slots. As the draw-bar is advanced forwardly the movably-mounted clamping-member is impelled horizontally forward until the lug 13 impinges upon the rail opposite to the rigid lug on the body 1. During the horizontal movement of the clamping-member forwardly the exposed portion of the crown at the forward end of the slot

18 enters and engages the recess 15, preventing thereafter upward movement of the clamping-member. The draw-bar prevents backward movement of the clamping-member after it is adjusted to the rail. To secure the adjustment thus obtained, the draw-bar is provided on its narrow-end with screw threads, upon which a screw-threaded nut 22 is wound to impinge against the body 1.

To remove my invention from the railroad, the nut 22 is removed from the draw-bar, the draw-bar withdrawn, the clamping-member removed from the body and the body drawn from beneath the rails.

My invention provides a rigid support and brace for railroad-rails, without the use of spikes and bolts for that purpose, and if the cross-ties are disposed alternately beneath the rails, the rails will be outwardly braced by supports rigid with the cross-ties, thus obtaining a maximum of strength and rigidity, and preventing spreading of the rails.

Having described my invention, I claim:

A metal cross-tie for railroads, consisting of an inverted trough-shaped metal tie formed with a fixed chair-shaped lug extending upwardly and forwardly from its top wall adjacent its opposite ends, one of which lugs forwardly bears against the outer side of one rail and the other lug forwardly bears against the inner side of the opposite rail, a clamping member movably disposed forwardly of each lug on said tie, said clamping member being formed with a fixed chair-shaped lug extending from its top and forwardly bearing against the side of the rail in opposition to the bearing of the lug on the tie and with a fixed lug extending from its under-side vertically piercing the top wall of the tie provided forwardly with a locking recess interlocked with a cut away portion of the top wall of the tie, in combination with a draw-bar extending through the side walls of the tie piercing the clamping member and adapted for holding the clamping member interlocked with the top wall of the tie.

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Witnesses:

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