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J. T. CLARK.
RAILWAY TIE AND FASTENER.
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1,041,964.

Patented Oct. 22, 1912.

2 SHEETS—SHEET 1.

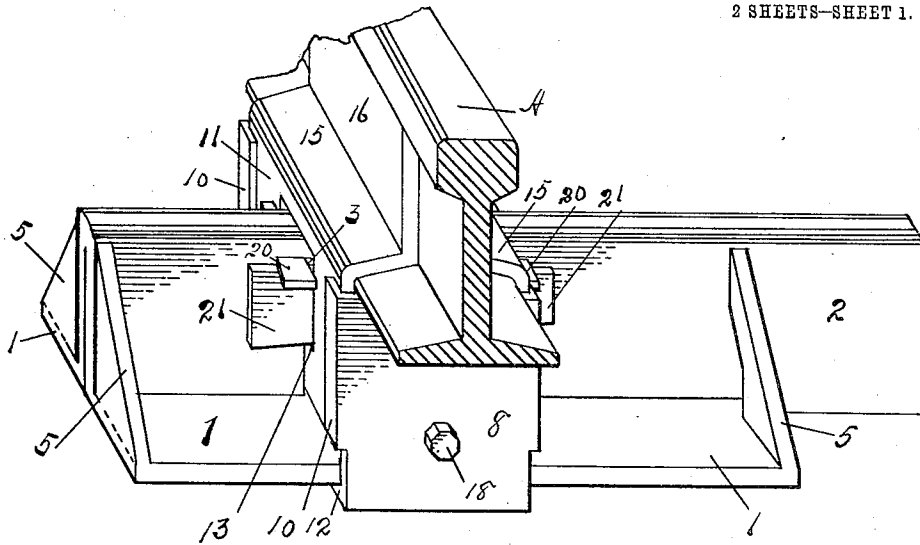


Fig. 1.

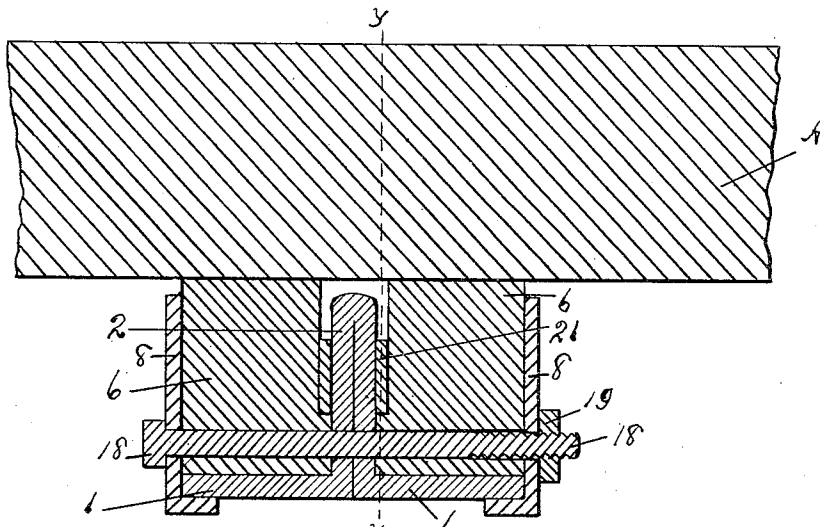


Fig. 2.

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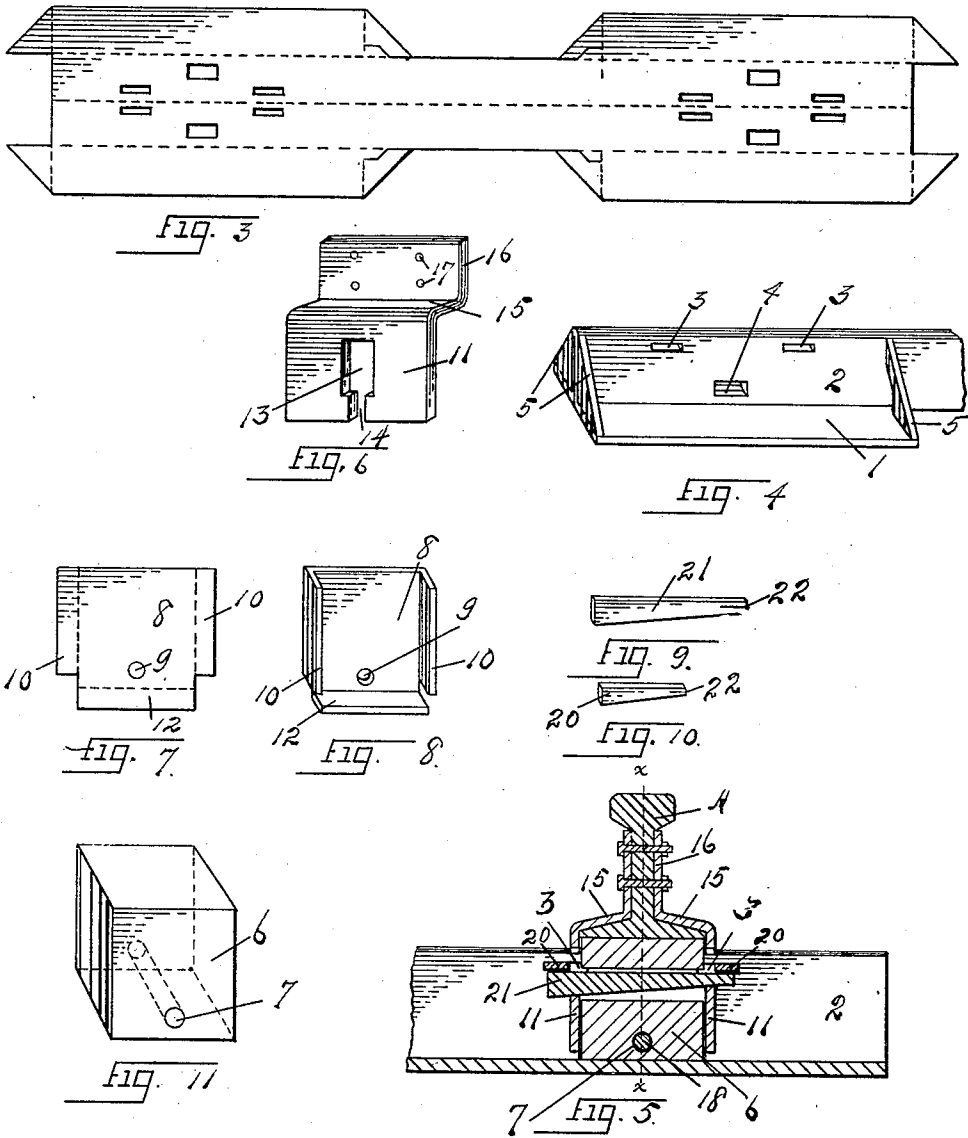
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UNITED STATES PATENT OFFICE.

JOHN T. CLARK, OF PROVO, UTAH.

RAILWAY-TIE AND FASTENER.

1,041,964.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN T. CLARK, a citizen of the United States, residing at Provo city, in the county of Utah and State of Utah, have invented certain new and useful Improvements in Railway-Ties and Fasteners, of which the following is a specification.

My invention relates to metallic railway ties and fasteners therefor and has for its object to provide a metal tie having a broad bearing surface for those portions on which the rails rest and a narrow surface for the intermediate portion.

A further object is to provide a metal tie which will be resilient and not so rigid and stiff as a more compact form would be, thus permitting a possible bending and yielding of one end without disturbing the other end.

Another object is to provide a longitudinally and vertically adjustable fastening means whereby the longitudinal and vertical position of the rail on the tie may be changed as desired without disturbing the tie on the roadbed.

These and other objects which will be apparent I accomplish with the tie and fastener illustrated in the accompanying drawings in which similar letters of reference indicate like parts throughout the several figures, and as described in the specification forming a part of this application.

In the drawings Figure 1 is an isometric view of one end of the tie and a part of a rail secured thereon with my fastener. Fig. 2 is a vertical section on line *x x* of Fig. 3. Fig. 3 is a plan view of the tie as cut from a sheet of metal and before it is bent into form. Fig. 4 is a view in perspective of one end of the tie. Fig. 5 is a vertical section on line *y y* of Fig. 2. Fig. 6 is a view in perspective of one of the clamps. Fig. 7 is a plan of one of the locking boxes before it is bent. Fig. 8 is a view in perspective of the same when bent into form as used. Figs. 9 and 10 are views in perspective of the keys. Fig. 11 is an isometric view of one of the rail supporting blocks.

My tie is cut from a sheet of metal and provided with elongated slots therein. It is then bent on the dotted lines, shown in Fig. 3, to form a flat base 1 and a vertical center piece or web 2, which has elongated

slots 3 and 4 therein. Portions of the sides of said sheet are bent to form braces 5, for said center piece 2. Adjacent said slots 4 and resting on the base 1, is placed the cushion blocks 6. Each having an opening 7 therethrough vertically alined with said slot 4. Adjacent the outer faces of each of said blocks 6 is placed one of the locking boxes 8 having a hole 9 therein in alinement with the opening 7 in the cushion block adjacent. The vertical sides 10 serve as stays for the clamps, and the bottom or horizontal side 12 is fitted under the edge of the said base 1 of the tie to support and lock the outer edge thereof. The rail A is then placed on said cushion blocks 6, and the clamps 11 are shoved down into position. Each of said clamps has a rectangular hole 13 cut therein, with a somewhat narrower slit 14 opening to the bottom edge to permit each clamp to be placed with a portion on each side of the center piece or web 2. A portion 15 of each of said clamps is bent at an angle to engage the base flange of the rail A, and another portion 16 bent parallel to the main body of the clamp intended as a brace to the said rail and within which portion is provided holes 17 through which bolts may be inserted to prevent creeping of the rails and at the joint between the rails said portions 16 of said clamps may be used as fish plates and to replace the ordinary form of fish plates. To bind said locking boxes, cushion blocks and tie together a threaded bolt 18, having a threaded nut 19 thereon, is placed through the said holes 9, 7 and 4. The elongated form of the said hole 4 permits the shifting of the entire fastening means, and thereby the rail when secured thereon, longitudinally on the tie when so desired and when said nut 19 is not turned up on the said bolt 18. To accomplish said shifting and to fix the position of said fastening means on the tie, keys 20 are inserted through the said slots 3, one on each side of the fastening means and bearing against the said clamps 11. To fasten the rail to the tie the keys 21 are driven, one on each side of said center piece 2, through the hole 13 in each pair of clamps and in slidable contact with the bottom of said holes and bearing against the bottom of said keys 20. The tightening of the said bolt 18 will draw

the said blocks against the sides of said keys 21. If desirable a slit 22 may be provided in the point of each of said keys 20 and 21 and when each key is in position a portion of the point of the key may be bent to engage the contacting element to prevent unintentional removal.

Having thus described my invention I desire to secure by Letters Patent and claim;—

10 1. A railway tie consisting of a sheet of metal cut and bent to form the base and web portion of a tie and having elongated slots therein; braces integral with the base of said tie and adapted to support the web portion thereof.

15 2. A railway tie consisting of a sheet of metal cut and bent to form the web of a tie and a base on each end portion thereof; braces integral with the base of said tie and adapted to support the web portion in a vertical position.

20 3. A railway tie consisting of a sheet of metal cut and bent to form the web of a tie and a base on each end portion, the web portion being provided with elongated slots therein; braces integral with the base of said tie and adapted to support the web thereof; rail supporting blocks resting on said base; and means to bind a rail supported by said blocks to said tie by engagement through said elongated slots.

25 4. A railway tie consisting of a sheet of metal cut and bent to form the web, and a base on each end portion of a tie; braces integral with the base of said tie and adapted to support the web thereof; rail supporting blocks resting on said base; and means to bind a rail supported by said blocks to said tie.

30 5. A railway tie and fastener consisting of a sheet of metal bent to form an inverted T-shape tie; having elongated slots longitudinally cut therein; clamps having open cuts therein, the upper portion being wider than the lower portion and adapted to be placed over the vertical web portion of the tie; rail supporting blocks resting on the base portion of the tie and between said clamps and provided with a hole through each alined with one of the elongated slots in said tie; locking plates adjacent said blocks each having a hole therethrough alined with the hole in said blocks; a bolt through said locking plates, said blocks and said tie to bind them together; keys adapted to be driven in the upper of said elongated slots in said tie; and other keys driven in wider portion of the open slots in said clamps adapted to bind the said clamps in gripping contact with a rail base.

60 6. A railway tie and fastener therefor consisting of a tie having elongated slots, longitudinally cut in the web portion thereof; rail supporting blocks resting on the base of said tie, each having a hole there-

through alined with one of the said slots in said tie; means to bind said blocks against the web of said tie; clamps having the portion of each bent to grip the base flange and web of a rail, and with the intermediate portion cut out to receive the web portion of a tie, and the upper portion of said cut being wider than the thickness of said web; keys in said elongated slots in said tie slidably contacting with said clamps and adapted to adjust the longitudinal position of said clamps on the tie; other keys transversely driven beneath the end portion of said first mentioned keys through said clamps and adapted to bind said tie and rail together.

70 7. A railway tie and fastener therefor consisting of a tie having elongated slots longitudinally cut in the web portion thereof; rail supporting blocks resting on the base of said tie, each having a hole therethrough alined with one of the said slots in said tie; means to bind said blocks against the web of said tie; clamps adapted to grip the base flange of a rail that is supported by said blocks, with the intermediate portion of each cut out and adapted to hold the web of said tie, and with the upper portion of said cut being wider than said web; keys driven through the upper of said elongated slots in the web of the tie and slidably contacting with said clamps; other keys transversely driven through the cut in said clamps and in slidable contact with the underside of and transverse to said first mentioned keys and contiguous to the web of the tie.

80 8. A railway tie and fastener therefor consisting of a tie having elongated slots longitudinally cut in the web portion thereof; rail supporting blocks resting on the base of said tie, each having a hole therethrough alined with one of the said slots in said tie; means to bind said blocks against the web of said tie; clamps having a portion of each bent to grip the base flange and web of a rail and with the intermediate portion cut out to receive the web portion of a tie, and the upper portion of said cut being wider than the thickness of said web; keys in said elongated slots in said tie slidably contacting with said clamps; and other keys transversely driven beneath the end portion of said first mentioned keys through said clamps adapted to bind said tie and rail together.

90 9. A rail tie including an inverted T-shaped member having upper and lower longitudinally elongated slots cut in the web portion thereof; rail supporting blocks having an opening through each in alinement with the lower of said slots; clamps having a portion of each bent to grip the base flange and the web of a rail and with a cut opening to the intermediate portion thereof to receive the web portion of said tie; 130

keys in the said upper slots of said tie adapted to adjust and secure said clamps in position on said tie; and other keys driven through said clamps adjacent the web of said tie and slidably contacting with the underside of the end portions of said first mentioned keys.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN T. CLARK.

Witnesses:

SAM RANEY,
D. MACMILLAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents
Washington, D. C."