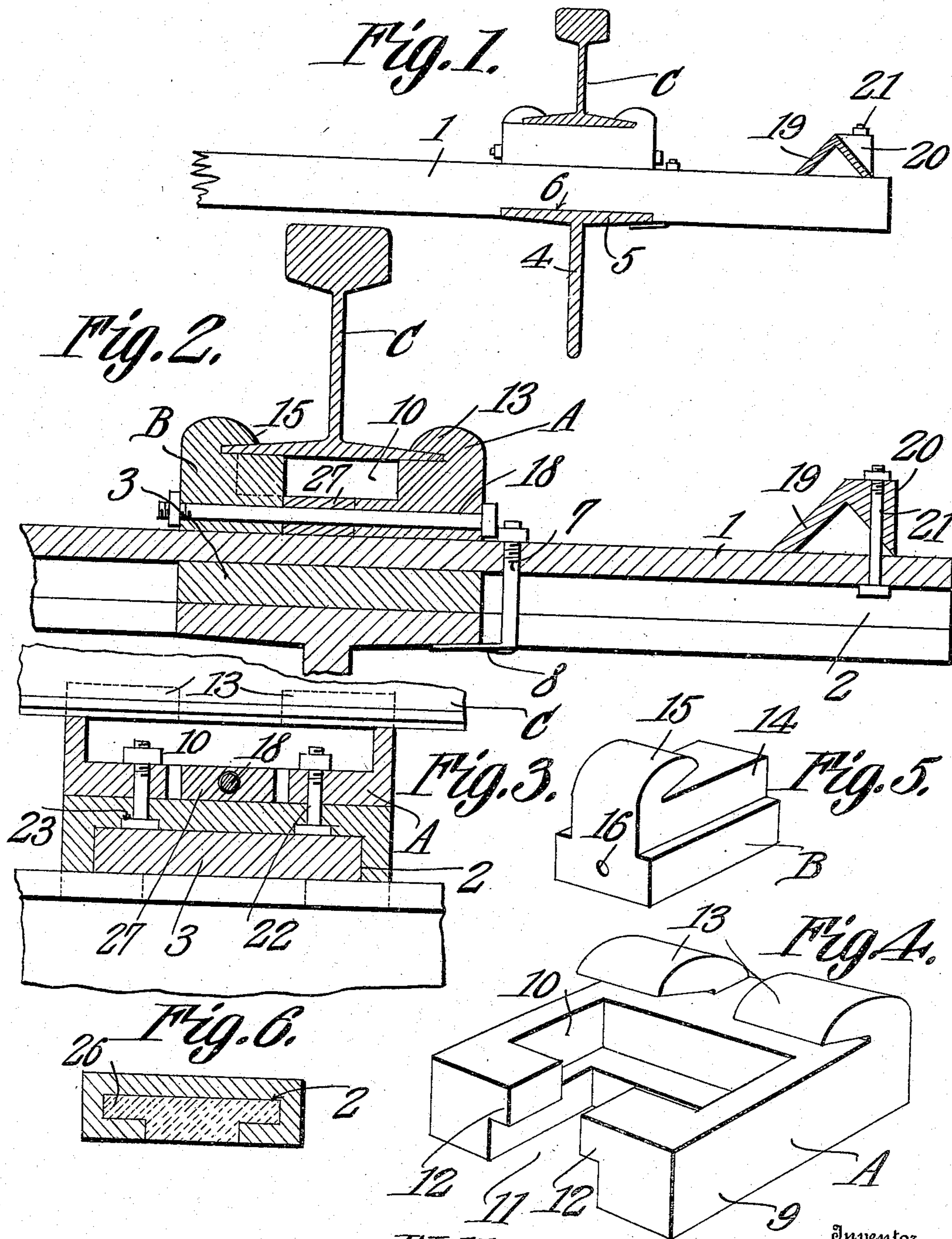


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RAIL TIE AND FASTENER.
APPLICATION FILED MAR. 22, 1909.

930,437.

Patented Aug. 10, 1909.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLARD O. TIMMONS, OF FRANKFORT, INDIANA.

RAIL-TIE AND FASTENER.

No. 930,437.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed March 22, 1909. Serial No. 484,959.

To all whom it may concern:

Be it known that I, WILLARD O. TIMMONS, a citizen of the United States, residing at Frankfort, in the county of Clinton and State of Indiana, have invented a new and useful Rail-Tie and Fastener, of which the following is a specification.

This invention relates to metallic railway ties and to means for securing rails thereon.

The object of the invention is to provide an all metal tie especially designed for use upon bridges, although it is equally as well adapted for use upon ordinary road-beds, said tie having coöperating rail-engaging devices of novel form which can be readily adjusted so as to clamp upon the base flanges of a rail.

A further object is to provide novel means whereby a series of ties may be firmly secured together upon a bridge girder or the like.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a side elevation of a portion of the tie embodying the present improvements, the rail-fastening devices being shown in elevation thereon and a supporting girder being shown in section. Fig. 2 is an enlarged longitudinal section through one end portion of the tie and the rail-fastening devices thereon. Fig. 3 is an enlarged transverse section through the tie, said section being taken through the fixed member of the rail-fastener. Fig. 4 is a perspective view of said fixed member. Fig. 5 is a perspective view of the adjustable rail-fastening member. Fig. 6 is a transverse section through the tie when used in connection with a cement anchoring portion.

Referring to the figures by characters of reference 1 designates a metallic tie body having a longitudinal channel 2 in the bottom thereof, the longitudinal walls of the channel being grooved longitudinally to receive filling-blocks 3, one of which is designed to be located directly under each of the rails upon the tie and directly over a supporting girder 4, as shown in Figs. 1 and 2. The head 5 of the girder fits within a transverse groove 6 formed within the tie body and the block 3 fills the space between this

head and the upper wall of the channel within the tie-body. The tie body is secured upon the heads of the girders 4 by means of bolts 7 having elongated heads 8 extending at right angles therefrom and projecting under the heads 5. The upper ends of the bolts are threaded to project through the tie body 1 and are engaged by holding nuts as indicated in Figs. 1 and 2.

The rail-fastening means utilized in connection with the tie consists preferably of two members, to wit: a fixed member A and an adjustable member B. The fixed member, as shown in Fig. 4, consists of a block 9 having a central recess 10 in its upper face and opening into this recess is a longitudinal slot 11, the outer end of which is overhung by retaining lugs or ears 12. Spaced jaws 13 are formed upon the upper face of the block at that end thereof farthest removed from these retaining ears, and these jaws are so shaped as to lap and bear snugly upon one of the base flanges of a rail C supported upon the block. The block is sufficiently long to extend entirely under the rail C and beyond the side edges thereof. The slot 11 is designed to receive the base portion 14 of the adjustable member B, this base portion being so shaped as to extend under and between the ears or studs 12, which thus act to prevent vertical displacement of the member B with relation to the member A. A jaw 15 is formed upon the block 14 and is so shaped as to fit snugly upon one of the base flanges, said jaw 15 extending in the direction of the jaws 13 and being disposed along lines extending between the said jaws 13. An opening 16 extends longitudinally through the block 14 and in alinement with a corresponding opening 17 formed within the member A. These openings are designed to receive a tie-bolt 18 which is designed to draw the adjustable member B longitudinally with relation to the member A, and thus move the jaw 15 toward the jaws 13 so as to clamp firmly upon the base flanges of a rail.

The ties 1 are preferably provided at necessary points with guard rails formed of metal substantially V-shaped in cross section and placed with their edges upon the ties as indicated at 19, these rails being provided at desired intervals with ears 20 for the reception of securing bolts 21 extending through the ties.

It is of course to be understood that the

fixed member A of the rail-fastener is to be secured to the tie as indicated at 22 in Fig. 3, the heads of the rivets resting upon the filling blocks 3 and within recesses 23 provided for them.

When a tie such as herein described is to be used upon an ordinary road-bed it is preferable to fill it with a cement body 26 as indicated in Fig. 6, this cement extending into the channel 2.

In order to prevent the two rail-engaging members A and B from clamping too tightly upon the rail there-between a filling-block 27 is arranged within the slot 11 and the bolt 18 extends loosely through it. It will be seen therefore that while the rail is securely held by the members A and B it is at the same time allowed to shift there-between during the expansion or contraction thereof and without correspondingly moving the tie.

Of course it is to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

1. The combination with a tie having a longitudinal channel in the lower face thereof, of a rail-engaging member fixedly secured upon the tie and having a longitudinal slot therein, a rail-engaging member slidably mounted within said slot, means extending through the members for adjusting them toward each other to bind upon a rail supported by the first mentioned member.

2. The combination with a tie, of a rail-supporting member fixedly secured upon the tie, rail-engaging jaws thereon, a rail-engaging member slidably mounted upon the tie and within the first mentioned member, said members having integral cooperating means for preventing lateral and vertical displacement of the sliding member, a spacing block within the fixed member and interposed between the two members, and adjustable means extending through the mem-

bers and the spacing block for clamping the members upon a rail.

3. The combination with a tie of a rail-supporting block having a longitudinal slot therein, said block being fixedly secured to the tie, a rail-engaging jaw upon the block, a member slidably mounted within the slot, a jaw thereon for engaging a rail, means extending through the block and member for adjusting the jaws toward each other to clamp upon a rail, said block and member having cooperating means for preventing vertical displacement of the movable member.

4. A metallic railway tie having a longitudinal channel in the lower face thereof, a transversely extending support-receiving groove within the lower face of the tie, a filling block removably mounted within the channel and above said groove.

5. The combination with a supporting structure, of a tie having a transverse groove in the bottom thereof constituting a seat for said structure, said tie having a longitudinal channel in its lower face, means for securing the supporting structure within the groove, and a filling block interposed between said structure and the top portion of the tie.

6. The combination with a metal tie having a longitudinal channel in the bottom thereof and a transverse groove intersecting said channel, of a supporting structure projecting into the groove, a securing device extending into the tie and engaging said structure to hold it within the groove, a filling block within the channel and above said structure, and rail-engaging devices upon the tie and above the filling block.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLARD O. TIMMONS.

Witnesses:

MASON WHITCOMB,
WM. A. COOL.