

J. C. THATCHER.
RAILWAY TIE AND FASTENING DEVICE.
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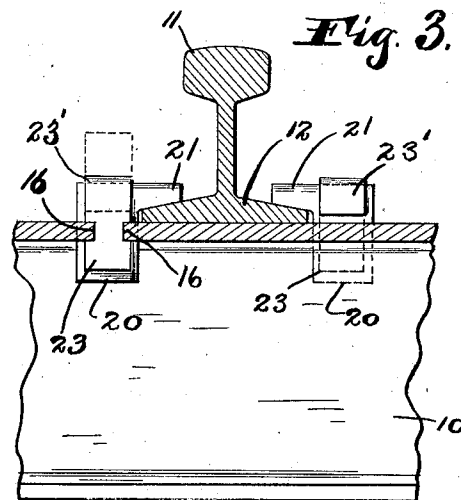
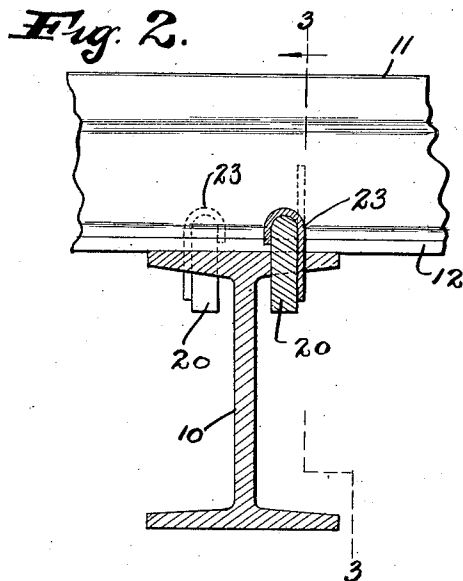
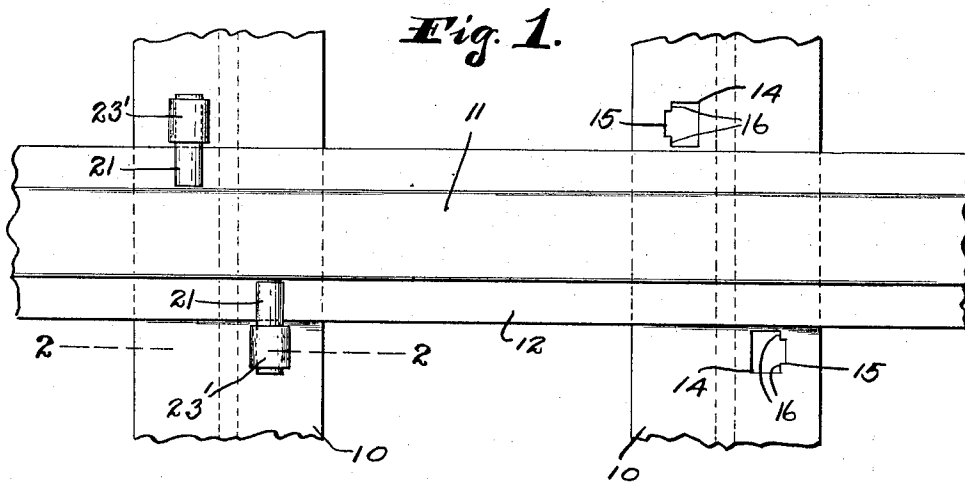
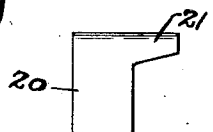
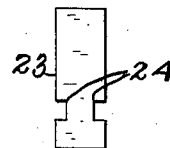


Fig. 4.



Witnesses:
H. J. Bettins.
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Fig. 5.



Inventor:
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UNITED STATES PATENT OFFICE.

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RAILWAY-TIE AND FASTENING DEVICE.

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To all whom it may concern:

Be it known that I, JAMES C. THATCHER, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Railway-Ties and Fastening Devices; and I 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 pertains to make and use the same.

This invention relates to a new and useful improvement in railway ties and fastening devices for securing rails to the ties.

The object of this invention is to provide a fastening device for securing rails to metallic ties which can be readily applied and which when in position will permanently and rigidly secure the tie and rail together but which will also permit of being taken off in case it is desired to relay the rail or replace a tie.

A further object of my invention is to provide a securing device of this character which can be very cheaply produced.

With these objects in view and with the intention of securing other advantages which will hereinafter appear, my invention consists in certain features of construction and combination of parts, the preferred form of which is described in the specification, pointed out in the claims and illustrated in the accompanying drawings.

In the accompanying drawings Figure 1 is a top plan view showing a rail secured to ties by devices embodying my invention. Fig. 2 is a section on line 2—2, Fig. 1. Fig. 3 is a section on line 3—3, Fig. 2. Fig. 4 is a view of the clamping member of the securing device. Fig. 5 is a view of the binding member.

In the accompanying drawing 10 represents the ties which are of the I-beam type as commonly used, but my invention can be applied to a channel or any other section. 11 represents the rail which is also of the usual type having a base or flange 12, and the said rails are laid along on top of the ties in the usual manner. Before the ties are placed in position I form therein a pair of openings 14 at each end of the tie. The openings of each pair of openings are preferably arranged on opposite sides of the web, when an I-shaped section is used, and the said openings are also spaced apart a

distance equal to the width of the base of the rail so that one opening lies at one side of the rail and the other opening lies at the opposite side of the rail when the rail is placed on the tie. In the side wall of each opening is also formed a small recess or groove 15 so that shoulders 16 are formed which may be said to extend into the common opening formed by the opening 14 and the recess 15. The clamping device comprises a shank portion 20 and a lip portion 21, the under surface of the lip 21 being beveled or inclined so as to correspond to the bevel or inclination on the upper surface of the base of the rail. The shank portion 20 of said clamping member has a cross-sectional area but slightly less than the cross-sectional area of the opening 14 so that the said shank portion 20 is adapted to fit into the said opening 14 and be snugly held therein. When the said shank portion 20 is slipped into the said opening 14 the lip 21 extends over on top of the adjacent flange or base portion of the rail. Now in order to hold the said clamping member in position and bind it tightly against the flange or base of the rail I provide a binding member or strap 23. This strap is made wider than the width of the recess 15 but a short distance above the lower end thereof at each side thereof are formed notches 24 which reduce the intervening portion of the strap to a width equal to the width of the recess 15 and form shoulders above and below said reduced portion. Now before the shank portion 20 is placed in the opening 14 the said strap 23 is placed in said opening 14 and is then moved to the side so that the reduced portion thereof enters the recess 15 and the shoulders below the reduced portion fit in under the shoulders 16, so that the said strap is thereby locked against upward movement. The shank portion of the clamping member is then put in as before described and the upper end of the strap 23 then extends above the clamping member, as shown in dotted lines in Fig. 2. The upwardly extending end of the strap 23 is then engaged with any suitable tool and is bent down tightly over the clamping member in the form of a hook 23' as shown in the drawings, thereby tightly clamping the said clamping member against the base of the rail.

It will be readily seen that with my clamping device a rail can be quickly secured in position and although the said

connection when once installed will be absolutely permanent, it is still possible when necessary or desirable to disengage the rail from the tie, for to accomplish this all that is essential is to straighten out the upper end of the binding strap 23 which permits the clamping member to be lifted out of its seat which allows the rail to be removed. It will be further seen that my arrangement permits the rail to be tightened if necessary, the same as a spiked rail can now be tightened when it works loose. To accomplish this tightening it is only necessary to strike the strap 23 where it is bent over the clamping member which will result in tightening the whole device, for as the lower end of the strap is held against both upward and downward movement a blow on the upper end of the strap where it is arched over the clamping member will force the free end of the strap down and take up any slack.

What I claim is,—

1. In combination, a tie having a surface adapted to form a support for a rail, said surface being provided with an opening and having shoulders extending into said opening, a rail adapted to rest on said tie and a fastening device comprising a clamping member and a binding strap arranged to enter the opening in said tie, said clamping member being arranged to engage with the base of the rail and said binding strap having at its lower end shoulders adapted to engage the shoulders on the tie which extend into the opening in said tie and having at its upper end a hook adapted to tightly engage said clamping member.

2. In combination, a tie having a surface adapted to form a support for a rail, said surface being provided with an opening, having in one side wall thereof a recess of less width than the width of said opening, a rail adapted to rest on said tie and a fastening device comprising a clamping member consisting of a shank portion adapted to fit snugly in the opening in said tie and having a lip portion arranged to extend over the base of said rail and a binding strap having a reduced portion intermediate of its ends adapted to fit in the recess at the side of said opening, the upper portion of said binding strap extending above said clamping member and being adapted to be bent down over said clamping member so as to hold it in position.

3. In combination, a tie having a surface adapted to form a support for a rail, said surface being provided with two spaced openings, each opening having in one side wall thereof a recess of less width than the width of said opening, a rail adapted to rest

on said tie intermediate of said openings and a pair of fastening devices, each fastening device comprising a clamping member consisting of a shank portion adapted to fit snugly in the opening in said tie and having a lip portion arranged to extend over the base of said rail and a binding strap having a reduced portion intermediate of its ends adapted to fit in the recess at the side of said opening, the upper portion of said binding strap extending above said clamping member and being adapted to be bent down over said clamping member so as to hold it in position.

4. In combination, a tie having a surface adapted to form a support for a rail, said surface being provided with an opening, a rail adapted to rest on said tie adjacent said opening, a clamping member comprising a shank portion adapted to fit into said opening and a lip portion arranged to extend over the base of the rail and a binding strap adapted to fit in said opening along side of the shank portion of the clamping member, said strap being provided at its lower end with a shoulder adapted to engage with the tie at the edge of said opening and having at its upper end a hook arranged to inclose the top of said clamping member so as to hold said clamping member rigidly against the base of the rail.

5. In combination, a metallic tie having a surface adapted to form a support for a rail, said surface being provided with two spaced openings, each opening having in one side wall thereof a recess of less width than the width of said opening, a rail adapted to rest on said tie intermediate of said openings, a clamping device, said clamping device comprising a shank portion adapted to fit snugly in the opening in said tie and having a lip arranged to extend over the base of said rail and a binding strap having a reduced portion intermediate of its upper end, shoulders being formed above and below said reduced portion and the said reduced portion being adapted to fit into the recess at the side of the opening, the upper portion of said binding strap extending above said clamping member and having sufficient flexibility to permit the same being bent down over the said clamping member so as to hold said clamping member in position.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

JAMES C. THATCHER.

Witnesses:

VICTOR C. LYNCH,
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