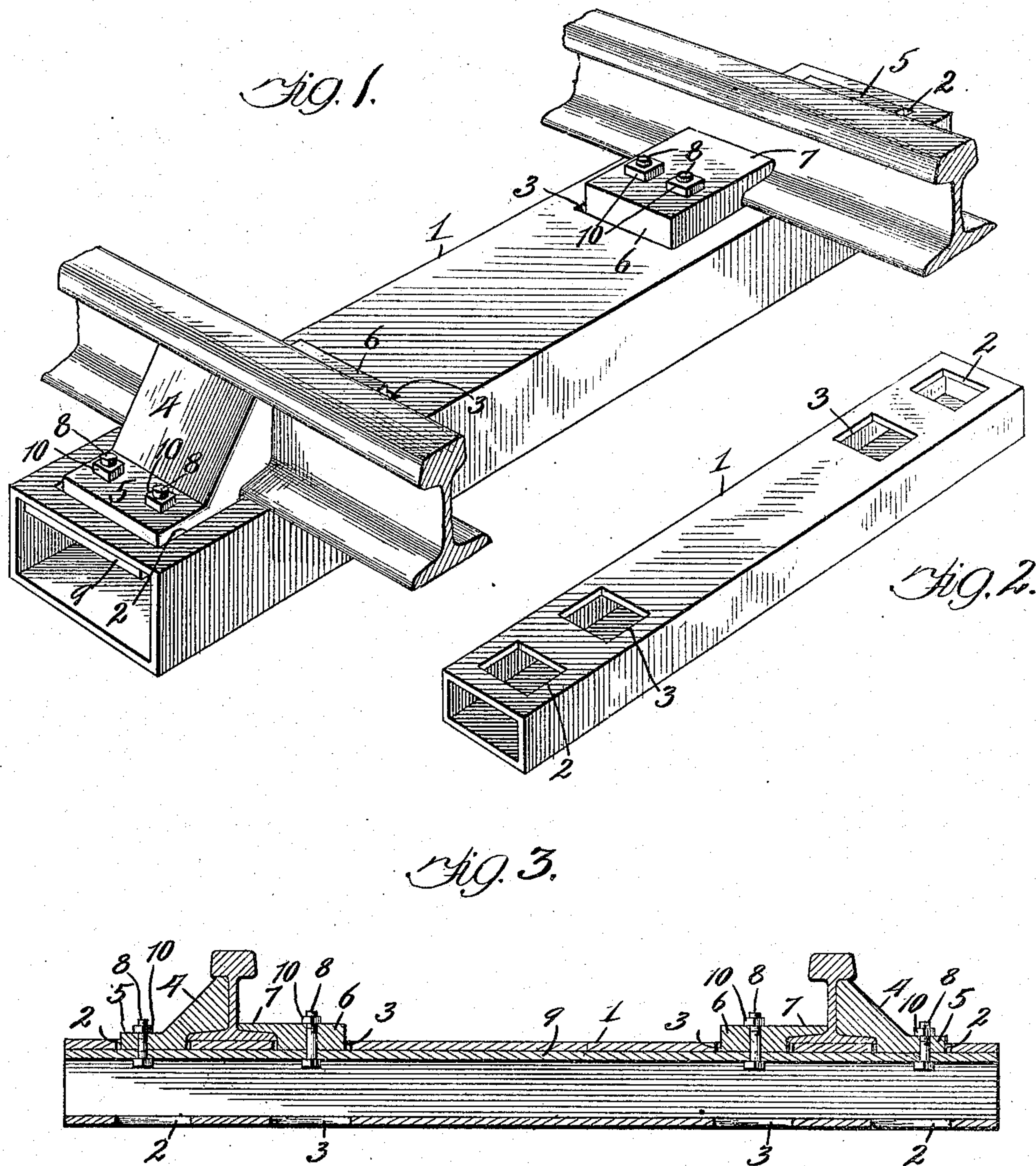


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RAILWAY TIE AND RAIL FASTENING.
APPLICATION FILED JAN. 4, 1909.

930,478.

Patented Aug. 10, 1909.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM E. JOHNSON, OF SUNRISE, WYOMING.

RAILWAY-TIE AND RAIL-FASTENING.

No. 930,478.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM E. JOHNSON, a citizen of the United States, residing at Sunrise, in the county of Laramie and State of Wyoming, have invented certain new and useful Improvements in Railway-Ties and Rail-Fastenings, of which the following is a specification.

One of the objects of this invention is to provide an improved metallic railway tie.

Another object of the invention is to provide a metallic railway tie, the upper and lower sides of which are both adapted to receive rail fastenings, whereby the tie may be reversed in case of injury to one of its sides.

A further object is to provide improved means for securing a rail to a metallic tie.

In the accompanying drawings Figure 1 is a perspective view of a tie and rail-fastenings embodying the features of my invention. Fig. 2 is a perspective view of the tie. Fig. 3 is a longitudinal sectional view through the tie, rail-fastenings, and rails.

The present embodiment of my invention comprises a tubular or hollow tie 1 of suitable length, width, and thickness, said tie being substantially rectangular in cross-section. In the upper and lower sides of the tie are formed registering openings 2 to receive the outer rail-fastenings, and registering openings 3 for the inner rail-fastenings.

Each of the outer rail-fastenings comprises a block 4 adapted to fit over the foot of the rail and lie against the central web and the under side of the head of said rail, said block having a substantially rectangular attaching portion 5, the openings 2 being adapted to receive said attaching portion.

Each of the inner rail-fastenings comprises a block 6 arranged to extend through one of the openings 3, said block having a flange 7 adapted to overlie the foot of the rail. Preferably the openings 2 and 3 are somewhat larger than the portions 5 and 6.

The rail-fastenings are secured to the tie by means of bolts 8 extending through the attaching portions 5 and the blocks 6, and through a member adapted to lie against the under side of the upper wall of the tie. As herein shown, said member is in the form of a bar 9 of sufficient length to extend from one end of the tie to the other, all of the rail-fastenings upon the tie being bolted to said bar. The parts are so arranged that when the nuts 10 upon the bolts 8 are tightened up the bar 9 will be drawn tightly against

the upper wall of the tie, and the rail-fastenings held firmly against the rails. In cold weather, however, when the ties are frozen in the ground, the bolts 8 may be left somewhat slack, to permit of a slight amount of relative movement between the rails and the tie. In laying curved portions of track, it is difficult to make the rails conform accurately to the desired curve, therefore the bolts 8 may be left a trifle slack at curves, to allow the rails to move slightly with relation to the ties. Any suitable means may be employed to hold the nuts 10 in place.

It will be observed that the tie is of strong and simple construction; that its lower side may be brought into service in case the upper side of the tie be damaged, and that the rail is securely held to the tie by strong, simple fastenings that may be readily secured in place and removed when necessary.

I would have it understood that I desire not to be limited to the details of construction herein shown and described, for various modifications will occur to persons skilled in the art.

I claim as my invention:

1. In a railway tie and rail-fastening, in combination, a hollow metallic tie having openings in one of its sides, rail-engaging members extending into said openings, and a member adapted to lie inside of said tie and against the upper wall thereof, said rail-engaging members being secured to said last mentioned member.

2. In a railway tie and rail-fastening, in combination, a hollow metallic tie having openings in one of its sides, rail-engaging members extending into said openings, a member lying inside of said tie, and means extending through said rail-engaging members and said second mentioned member adapted to hold said rail-engaging members in engagement with the rail and draw said second mentioned member against the upper wall of the tie.

3. In a railway tie and rail-fastening, in combination, a hollow metallic tie having openings in one of its sides, rail-engaging members extending into said openings, and a member lying inside of said tie and extending substantially the full length thereof, said rail-engaging members being secured to said last mentioned member.

4. In a railway tie and rail-fastening, in combination, a hollow metallic tie having openings in one of its sides, rail-engaging

members having portions adapted to lie in said openings, and adapted to engage the rail; and a member lying within said tie and extending substantially the full length thereof, said rail-engaging members being secured to said last mentioned member.

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10 5. In a railway tie and rail-fastening, in combination, a hollow metallic tie having openings in one of its sides, rail-engaging members comprising attaching portions adapted to lie in said openings, and portions arranged to engage the rails, a plate lying

inside of said tie and extending substantially the full length thereof, and means extending through said plate and the attaching portions of said rail-engaging members for drawing said plate against the upper wall of said tie and holding said rail-engaging members firmly against the rails.

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Witnesses:

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