

M. F. BONZANO.
RAIL FASTENING.
APPLICATION FILED MAY 17, 1907.

906,859.

Patented Dec. 15, 1908.

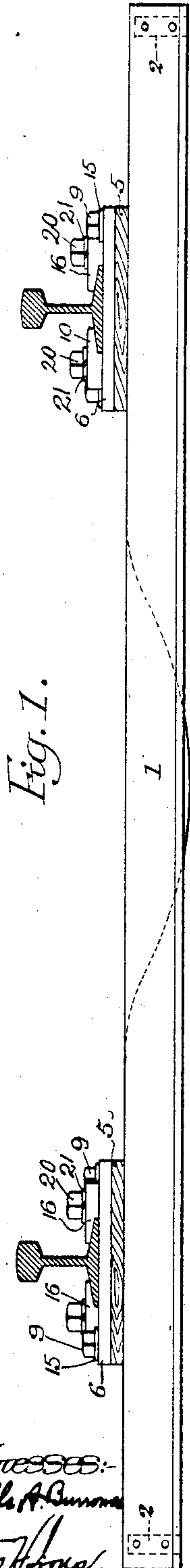


Fig. 1.

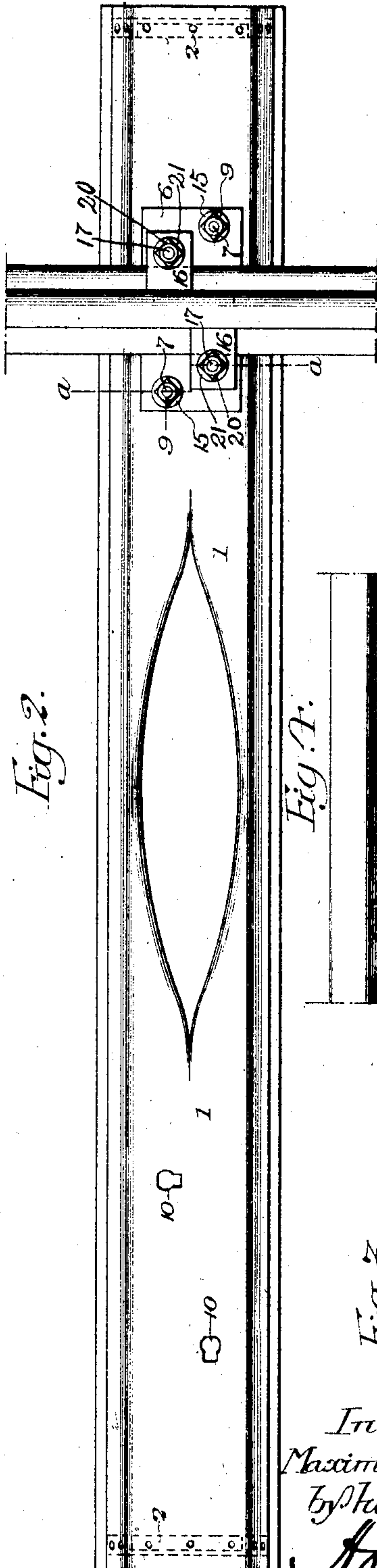


Fig. 2.

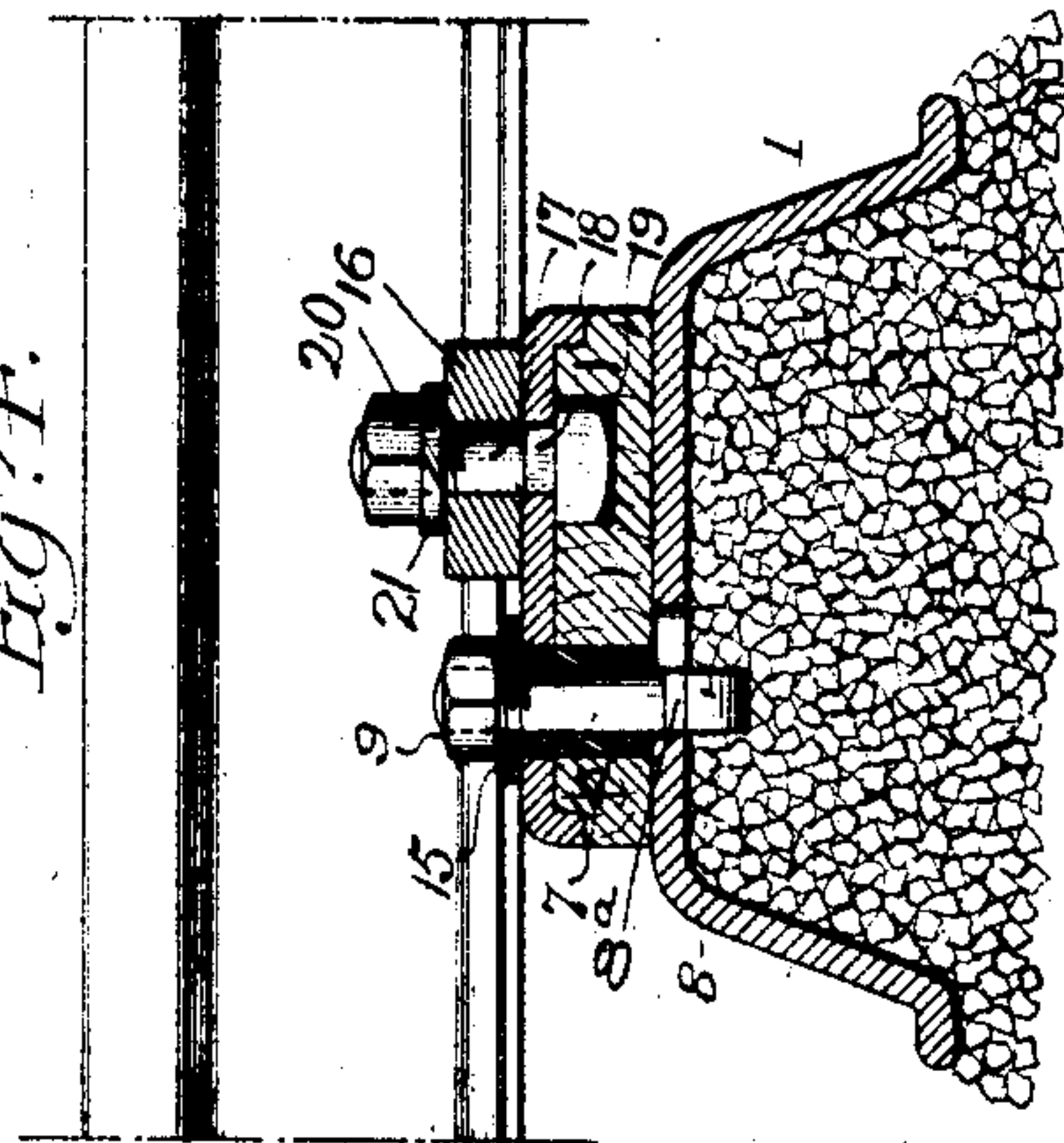


Fig. 3.

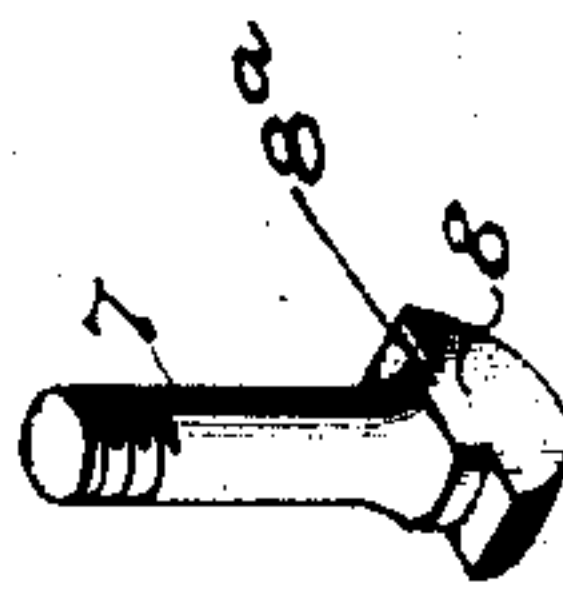


Fig. 4.

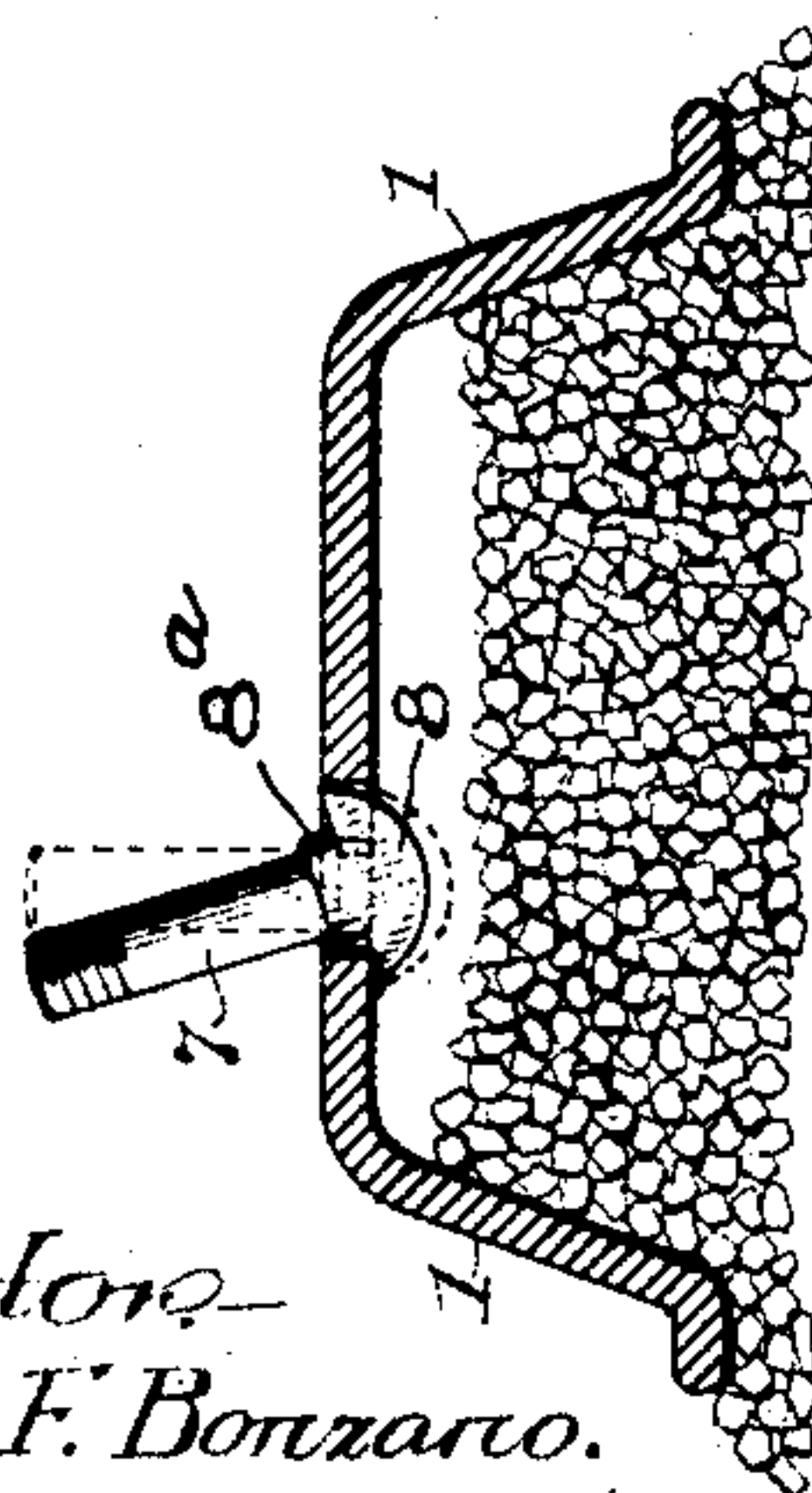


Fig. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

MAXIMILIAN F. BONZANO, OF GOSHEN, VIRGINIA, ASSIGNOR TO PENN RAILROAD TIE COMPANY, OF CAMDEN, NEW JERSEY, A CORPORATION OF NEW JERSEY.

RAIL-FASTENING.

No. 906,859.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed May 17, 1907. Serial No. 374,196.

To all whom it may concern:

Be it known that I, MAXIMILIAN F. BONZANO, a citizen of the United States, and a resident of Goshen, Rockbridge county, Virginia, have invented certain Improvements in Rail-Fastenings, of which the following is a specification.

The object of my invention is to provide efficient means for fastening rails to metallic ties, and more particularly for use in connection with such structures as that disclosed in my patent, No. 844,774, dated February 19, 1907, though not so limited, as my improved fastening device is adapted for use with any form of metallic tie employing a block of wood, fiber or other substantially resilient material between the tie and the rail.

A further object of my invention is to provide such fastening with insulating means so that it may be used when it is desired to employ the rails as conductors in the operation of electric signaling or interlocking switch and signal apparatus.

My invention is fully shown in the accompanying drawings, in which:

Figure 1, is a side elevation of a tie showing my improved rail fastening in connection therewith; Fig. 2, is a plan view of the same; Fig. 3, is a sectional view illustrating the manner of inserting one of the fastening members; Fig. 4, is a sectional view on the line *a-a*, Fig. 2, and Fig. 5, is a perspective view of one of the bolts.

In the drawings herewith, 1 represents the tie, which is preferably of channel-beam or trough section, being of substantially the same character as regards dimensions and mode of construction as that illustrated in my patent above referred to, but preferably one in which the channel-beam or trough section is flared to a greater extent so as to more readily settle over a portion of the ballast of the road-bed and secure the maximum strength and load supporting power with the minimum amount of metal employed. Such tie will be provided with the usual ballast-holding pockets, as illustrated with respect to my former tie; the ends of the same being crimped as shown therein, or provided with the plates 2 closing the end of the tie, as illustrated in present drawings.

Mounted on top of the tie 1 are blocks 5, of wood, fiber, or other resilient material, carrying wear and load distributing plates 6. In

the present instance, these blocks and wear plates are secured to the tie by means of bolts 7, having heads 8 resting against the under side of the top web of the tie and being secured to the blocks by means of suitable nuts 9.

In order to set the bolts in place from the top of the tie after the latter has been arranged in proper position, the tie is provided with two or more elongated holes 10, as clearly shown in Fig. 2, and the bolt is provided with an elongated neck or shoulder 8^a arranged to pass into these holes, in the manner clearly shown in Fig. 3; and when in the same being turned at an angle to its direction of entrance so that the projecting portions of the head may rest against the solid metal of the top web adjacent said holes.

The holes 10 at each end of the tie preferably have the elongated portions set at right angles to each other so that the bolts will more firmly hold the block without danger of having any movement of the same with respect to the tie. As the blocks 5 are provided with metallic wear and load distributing plates 6; in order that the rail fastenings, which are carried by the blocks, may be insulated from the tie, the bolts of the block fastenings are provided with insulating washers 15.

The rails are fastened to the blocks by means of clips 16 engaging the flange of the rail, in the manner shown, and these clips are confined in place by bolts 17 carried by the blocks, such bolts projecting through the wear plate, and being provided with square or oval necks 18 or other means to prevent them turning when passed through the plates 6. The blocks 5 are recessed at the point 19 to accommodate the heads of the bolts 17. The clips engage the edge of the flanges as well as overlie the same so that movement of such clips relatively to the rail is impossible. Between the clips and nuts 20 for the bolts 17, spring washers 21 are employed.

By the means I have provided, the blocks form a resilient support for the rails; are firmly held to the ties, and are so confined as to securely hold the rails against lateral movement, such securing means being insulated from the metal wear plates carried by said blocks. The rails are held to the blocks

by the fastenings carried thereby, which are wholly independent of the means for fastening the blocks to the ties.

I claim:

1. In combination with a metallic tie and a rail, a fastening comprising resilient means for supporting the rail, means insulated from the resilient means for securing the same to said tie, a wear plate carried by said resilient means and insulated from the tie, the fastening means for said resilient means being insulated from said wear plate, clips for holding said rail, and means carried by the wear plate for holding said clips in engagement with the

15 rail.

2. In combination with a metallic tie and a rail, a fastening comprising a wooden block for supporting the rail, means insulated from the wooden block for securing the same to said tie, a wear plate carried by said block and insulated from the tie, the fastening means for said block being insulated from said wear plate, clips for holding said rail, and means carried by the wear plate for holding said clips in engagement with the rail.

3. In combination with a metallic tie and rails, a rail fastening comprising resilient means for supporting the rails, means for securing said resilient means to the tie, a separate wear plate carried by each of said resilient means and insulated from the tie, means for insulating the fastening means for said resilient means from said wear plate, clips for holding each of the rails, and means carried by each wear plate for holding said clips in engagement with the respective rail.

4. In combination with a metallic tie and rails, a rail fastening comprising a wooden block for supporting the rails, means insulated from the wooden block for securing the same to said tie, a separate wear plate carried by each of said blocks and insulated from the tie, means for insulating the fastening means for said wooden blocks from said wear plate, clips for holding each of the rails, and means carried by each wear plate for holding said clips in engagement with the respective rail.

5. In rail fastenings for metallic ties, the combination of a metallic tie having its top web apertured, headed bolts adapted to be inserted in said apertures from the top and then turned for retention by the tie, resilient means for supporting the rails carried by said tie and held in place by said bolts, said resili-

ent means insulating the rails from the tie, rails, a wear plate carried by the resilient means, and means in engagement with said wear plate for holding the rails thereto.

6. In rail fastenings for metallic ties, the combination of a metallic tie having its top web apertured, headed bolts adapted to be inserted in said apertures from the top and then turned for retention by the tie, wooden rail supporting blocks carried by said tie and held in place by said bolts, said wooden blocks insulating the rails from the tie, rails, wear plates carried by said blocks, and means carried by said wear plates for holding the rails thereto.

7. In rail fastenings for metallic ties, the combination of a tie having its top web apertured, headed bolts disposed in said apertures, said bolts being inserted from the top and then turned for retention by the tie, resilient rail supporting means carried by said tie and held in place by said bolts, said resilient means insulating the rails from the tie, rails, wear plates carried by said resilient supporting means, and secured by the headed bolts, the said wear plates being also insulated from the tie, means for holding the rails to said wear plates, and curved shoulders carried by the bolts to prevent rotative movement and consequent lateral disarrangement when properly adjusted in place.

8. In rail fastenings for metallic ties, the combination of a tie having its top web apertured, headed bolts disposed in said apertures, said bolts being inserted from the top and then turned for retention by the tie, wooden rail supporting blocks carried by said tie and held in place by said bolts, said wooden blocks insulating the rails from the tie, rails, wear plates carried by said blocks and secured by the headed bolts, the said wear plates being also insulated from the tie, means for holding the rails to said wear plates, and curved shoulders carried by the bolts to prevent rotative movement and consequent lateral disarrangement when properly adjusted in place.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

MAXIMILIAN F. BONZANO.

Witnesses:

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