

No. 864,594.

PATENTED AUG. 27, 1907.

N. F. ARBLE.
METALLIC RAILWAY TIE.
APPLICATION FILED DEC. 20, 1906.

2 SHEETS—SHEET 1.

FIG. 1.

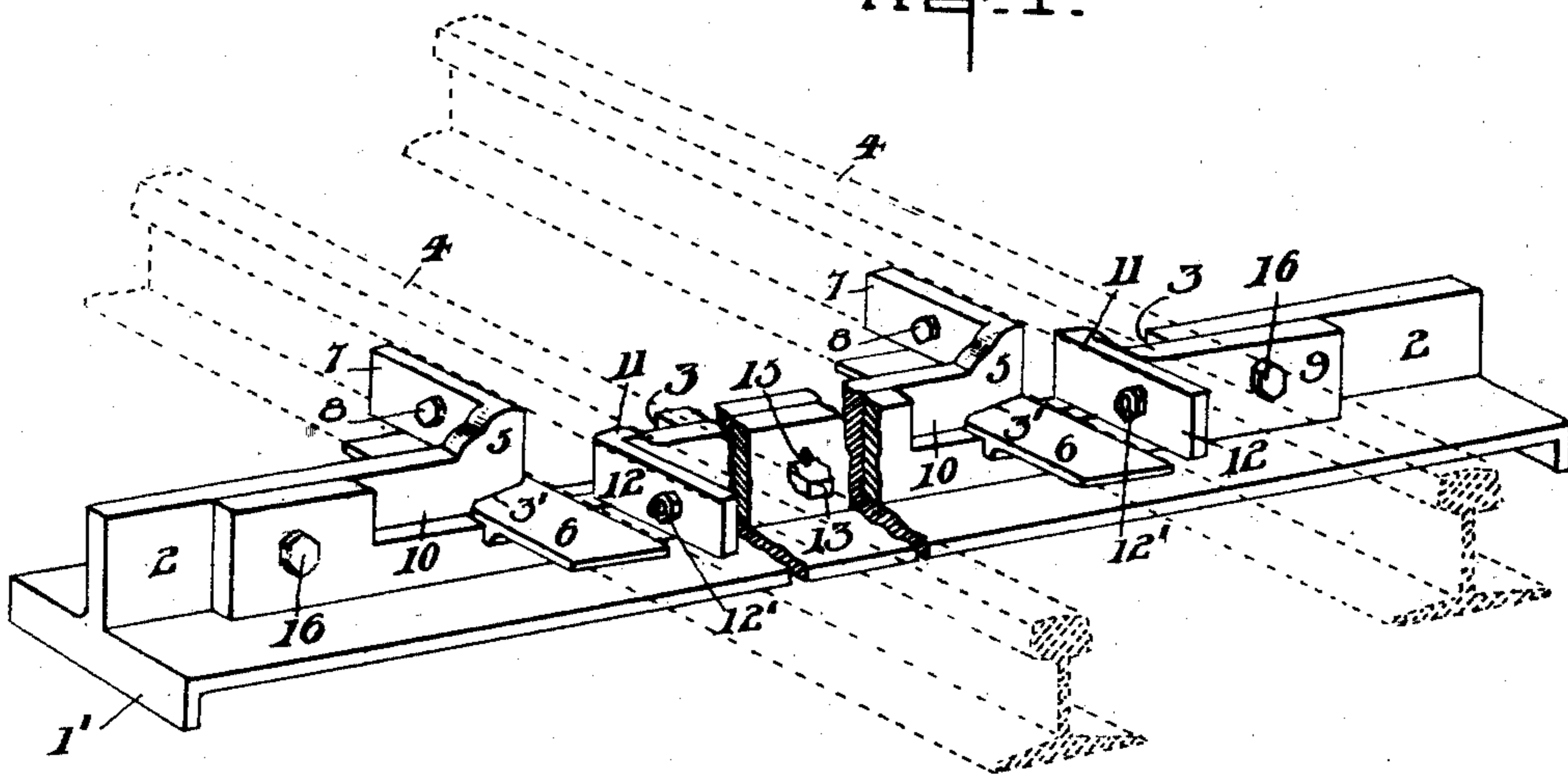


FIG. 2.

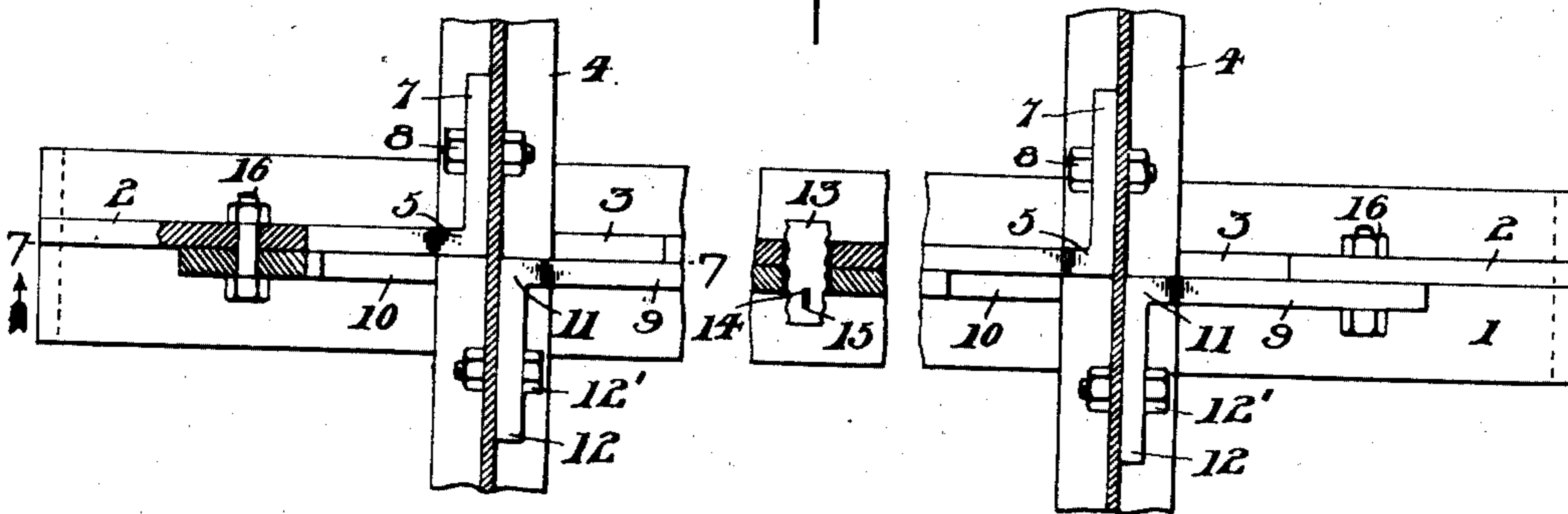


FIG. 3.

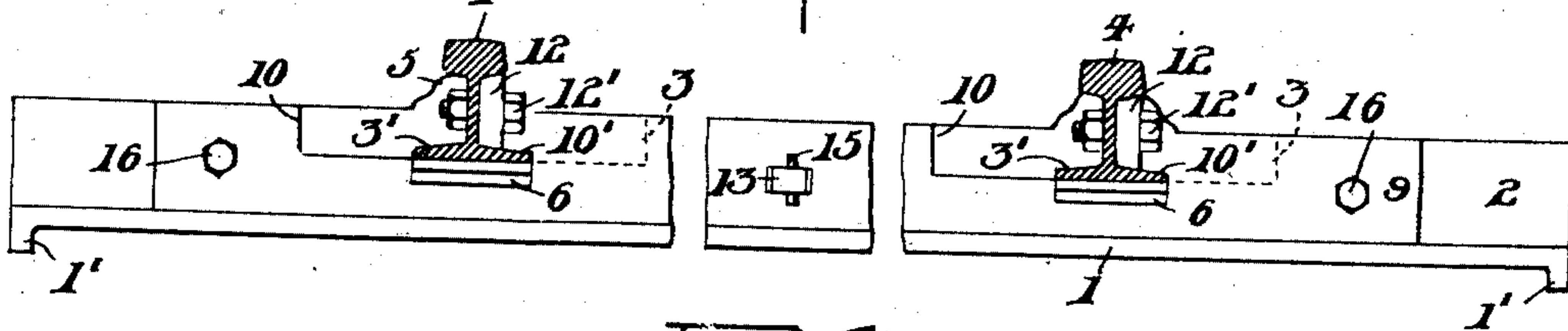
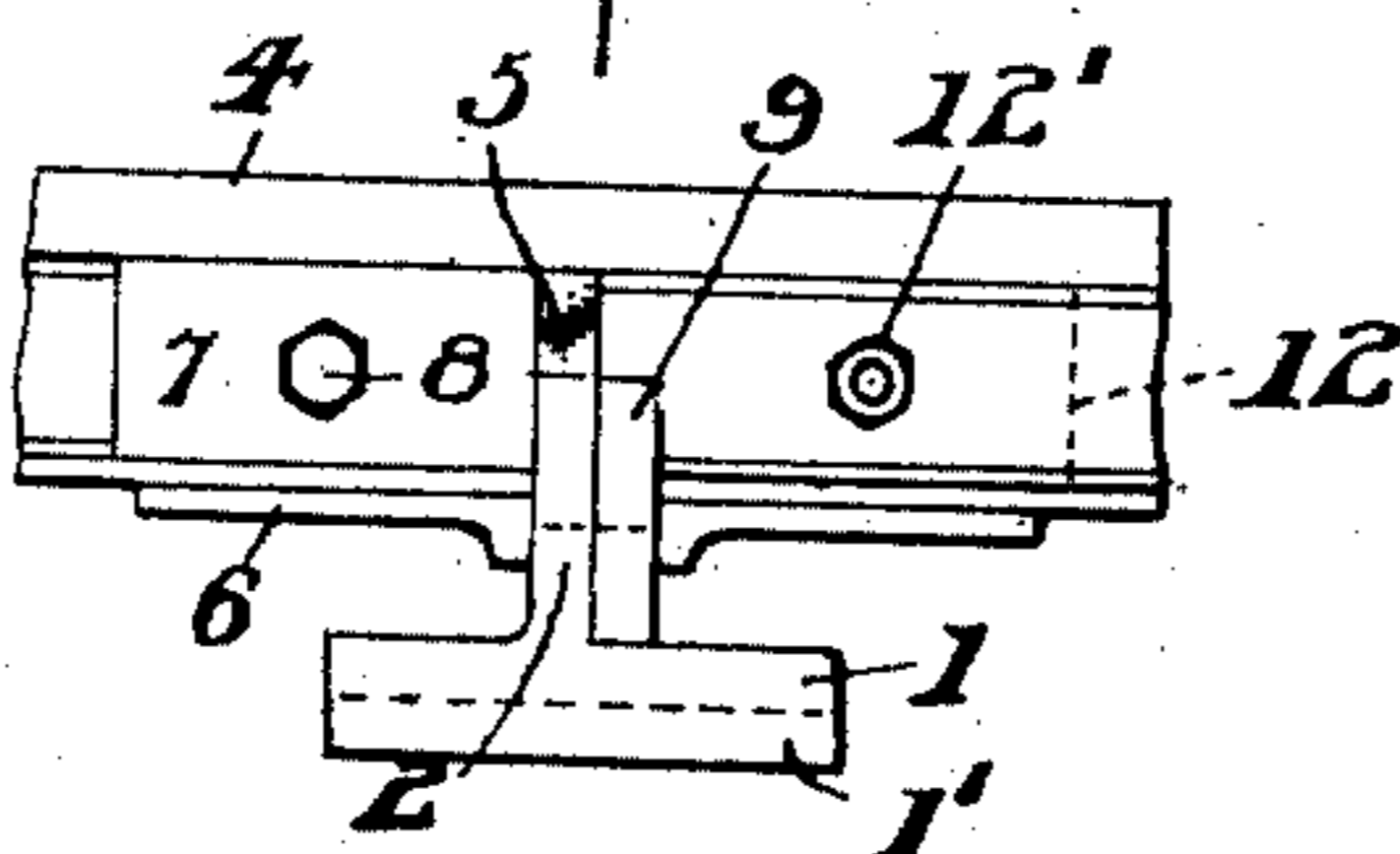


FIG. 4.



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2 SHEETS—SHEET 2.

FIG. 5.

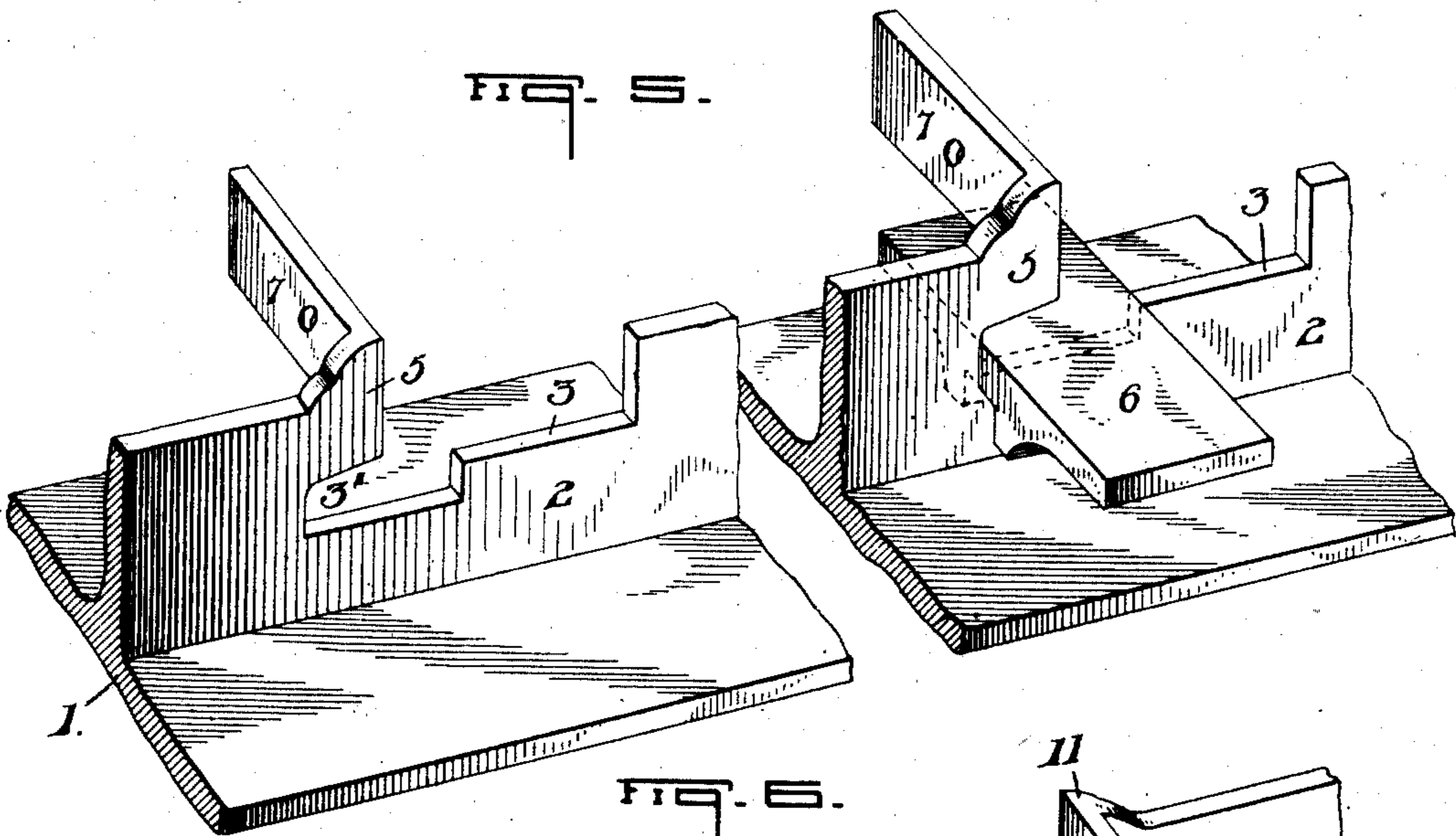


FIG. 6.

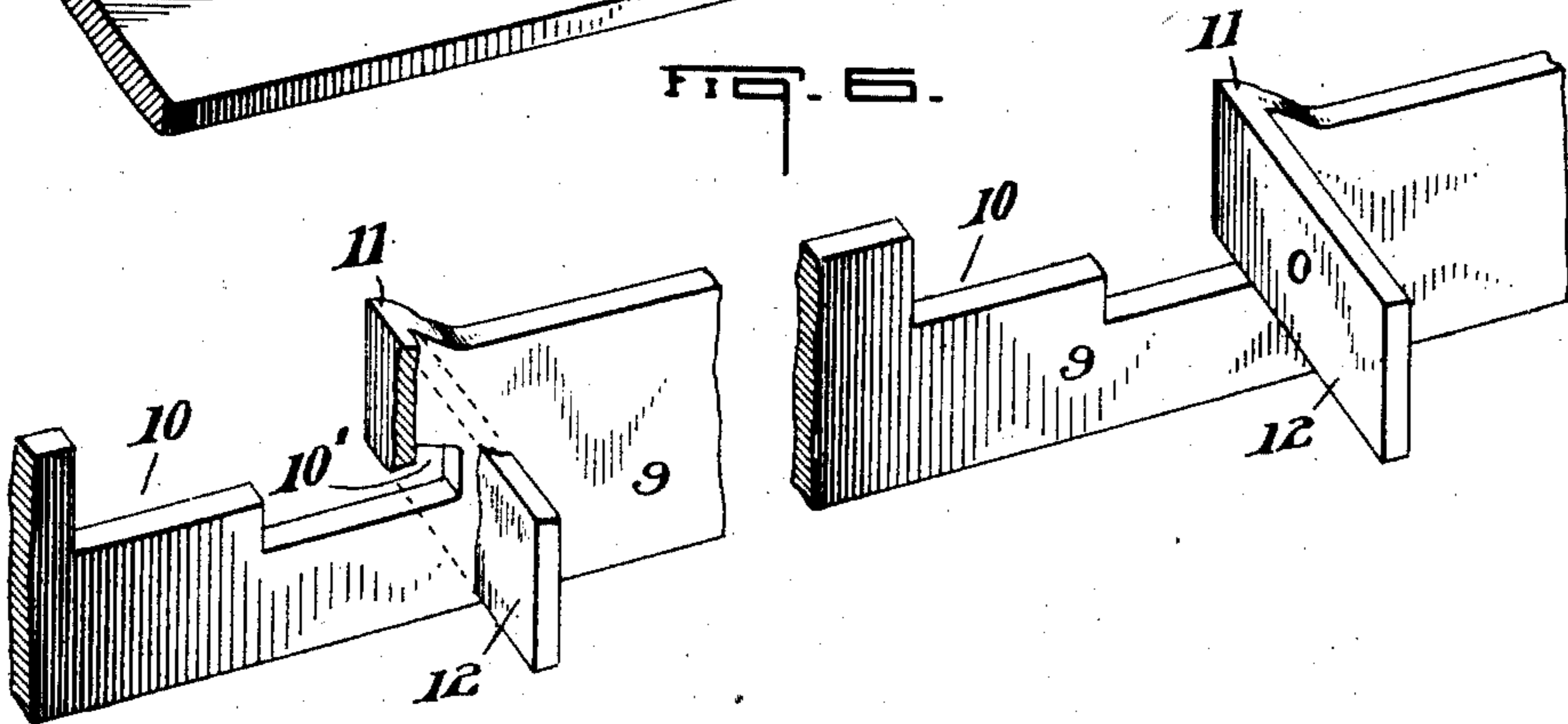


FIG. 7.

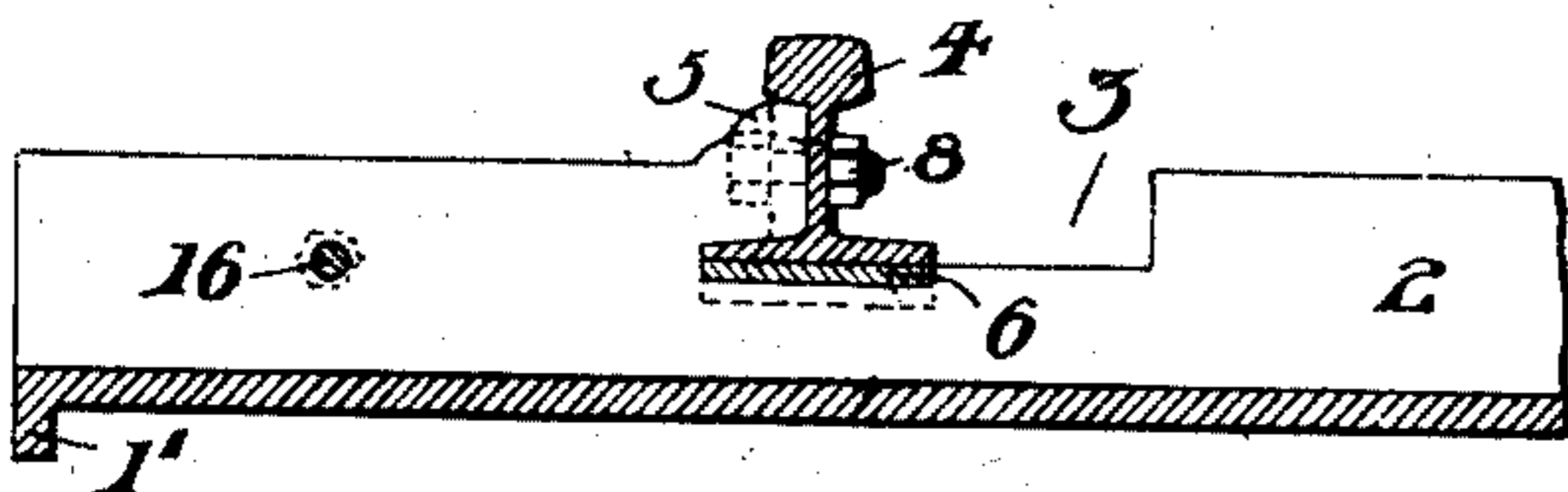
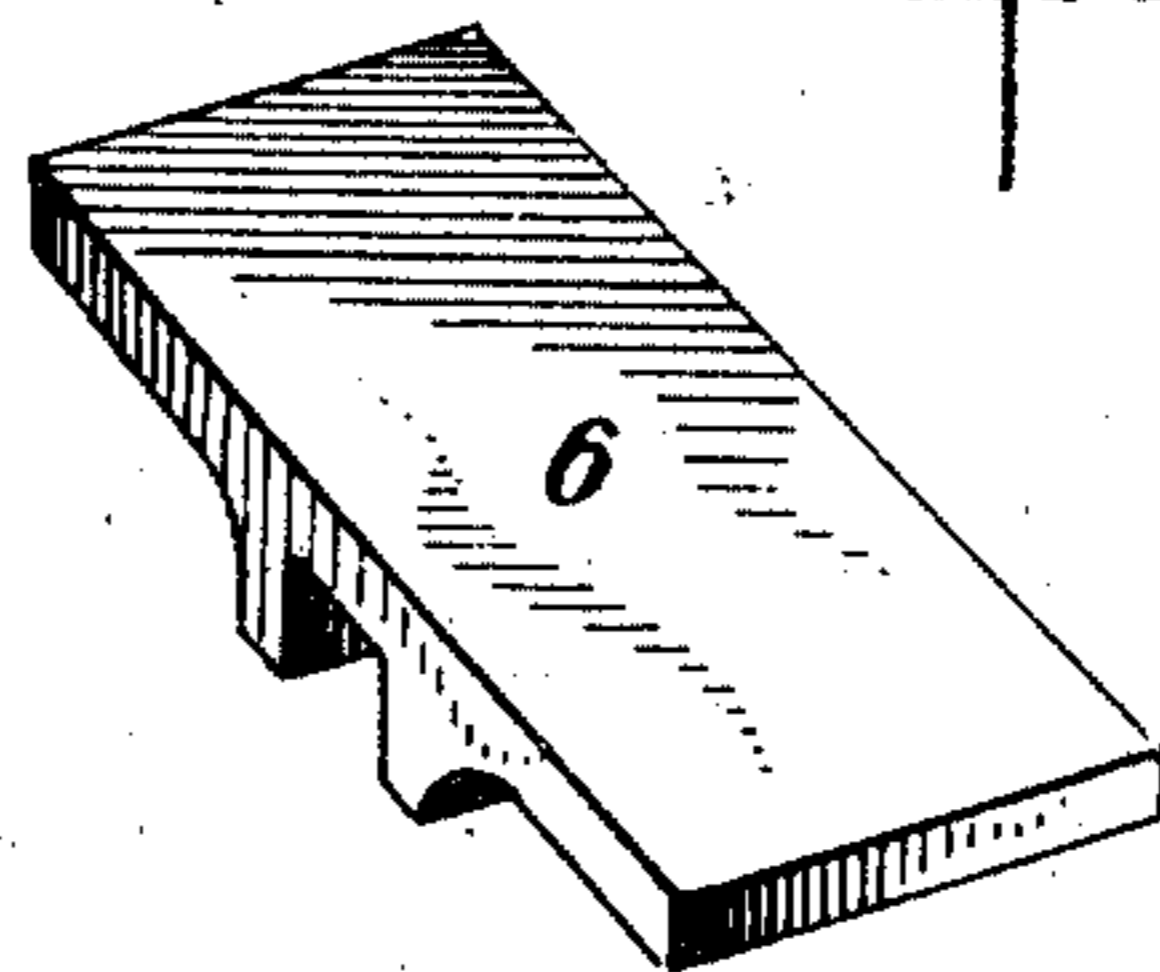


FIG. 8.



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METALLIC RAILWAY-TIE.

No. 864,594.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed December 20, 1906. Serial No. 348,736.

To all whom it may concern:

Be it known that I, NEWTON FRANKLIN ARBLE, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Railway-Ties; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to a new and useful improvement in metallic railway ties, the primary object being the construction of a device that will include only a few separate members, be simple in design and easy to adjust and provide a safe locking feature for retaining the rail sections.

In the accompanying drawings I have shown several detailed views of my invention:

Figure 1, Sheet 1, being a perspective view, in broken formation, of the assembled tie showing rail sections, in dotted lines, positioned therein. Fig. 2 is a top plan view partly in section. Fig. 3 is a side elevation, the rails being shown in section, and Fig. 4, is an end elevation, the rail being shown in fragment. Fig. 5, Sheet 2, is an enlarged view, in broken formation, of the supporting member of my tie. Fig. 6 is a similar view of the locking bar member. Fig. 7 is a longitudinal section taken on line 7—7 of Fig. 2. Fig. 8 is a perspective of the rail chair.

Throughout the drawing the numeral 1 designates the main or supporting section of my improved tie, which is preferably constructed of an inverted T bar formation, as shown, and is made sufficiently strong to comply with the necessary requirements of railway construction, depending on the size of the rail sections to be supported. At each end of this main section are provided the turned down flanges 1' which serve to prevent lateral movement of said section when properly ballasted.

At suitable parts of the vertical flange 2 are cut out portions 3—3 designed to receive the base of the rails 4—4. Both of these said cut-outs are uniform in configuration and are so spaced from each other that they determine the gage between the two sections, when the latter are properly seated therein, and are cut away sufficiently to permit of said rails being freely inserted and then slid longitudinally of the flange 2 until one side of the base flange of said rail enters and becomes firmly seated in a recess 3' conforming to the contour of said base flange. An abutting shoulder and brace portion 5 is thus provided which engages against the web and under side of the head of the rail. The slot 3 adjacent to the shoulder portion 5 is further cut away and forms a seat deep enough for the

reception of a chair 6 upon which the base of the rail rests when in position.

Part of the material which has been stamped out of the flange 2, in order to form the cut-out portion 3, is bent at right angles with the shoulder 5 and forms a projecting brace member 7 designed to engage the web and under side of the head of the rail. This member 7 serves as an additional brace to the rail and may likewise be utilized as a splice bar for uniting the ends of two abutting rail ends, being provided with suitable apertures for receiving an ordinary fastening bolt 8 which likewise passes through the rail section.

Seated on the base flange of the tie 1, and engaging the vertical flange 2, is an adjustable locking bar 9 of the same height and length as the said flange 2. Formed in this said bar member 9 are the cut-out portions 10—10 for receiving the base of each rail section being identical in configuration to those formed in said flange 2 but reversed in order to receive the base flange of the rail opposite to that held by the cut-outs 3—3. Each of these said cut-outs 10—10 is formed with the recessed portion 10' for receiving said base flange of the rail and likewise a further depression for receiving the chair 6. A shoulder portion 11 and projecting brace member 12 are also provided on the bar 9 adjacent each seat formed for receiving the chair 6 and are adapted to engage the side of the rail opposite to the brace members 5 and 7.

As will be seen by referring to the drawings the projecting brace members 12—12 formed on the bar 9 are bent at right angles with the shoulders 11—11 in an opposite direction from those formed on the supporting tie member 1, in order that when the rail sections are properly positioned in their respective seats they will be braced at each side of the tie. These said brace members 12—12 are provided with suitable apertures to receive a fastening means 12'. The chairs 6—6 upon which the rail sections 4—4 seat are of a relative width corresponding to the base of said rails, and in length equal to the distance between the outer ends of the brace members 7 and 12.

The under side of each chair 6 is provided with a transverse slotted portion of a width sufficient to straddle both contacting members of the tie, and this feature alone, when the rails are seated on said chairs, will be sufficient to prevent any longitudinal or lateral movement of the two contacting members away from each other. As will be seen the two brace members 7 and 11 will afford a means for uniting the ends of the two rail sections and serve as splice bars to hold said rails against longitudinal movement when properly positioned in my improved tie and united by the usual fastening means.

In actual practice the rail sections are first seated in the cut-out portions 3—3 formed in the flange 2, after the supporting member 1 has been placed in position

in a manner well known to those familiar with railway construction. A shoe 6 is next placed in the receptive seat formed in each cut-out 3 and the rails shoved over until they rest on said shoe and one side of the brace flange enters and seats in the recessed portion 3'. In this position the shoulder 5 and brace member 7 will closely engage the outer face of the web and under side of the head of the rail at one end of the tie, while the similar shoulder and brace on the opposite end will closely engage the inner face of the web and under side of the head of the rail at that point. The next step is to bring the bar member 9 into locking engagement with the flange 2 and rail sections, and this is accomplished by inserting said bar under the chairs 6—6 and then slide said bar longitudinally of the flange portion 2 until the base flange of each rail enters and seats in the recesses 10' when the shoulders 11 and brace portion 12 will closely engage the outside face of the web and under side of the head of one rail while the similar members on the opposite end will engage the inside face and under side of the head of the rail at that point. A wedge 13 is next driven through suitable openings provided about midway in the flange 2 and bar 9, thus tightening up all the contacting parts and locking the rail sections firmly in position. A slot 14 formed longitudinally of the said wedge permits the insertion of a tapered key 15, after which suitable bolts 16, or other fastening means, are inserted through registering openings formed in the two contacting members 2 and 9.

Having thus fully shown and described my invention what I claim as new, and desire to secure by Letters Patent is:

1. A metallic tie comprising a supporting member; cut-out portions formed in said member for receiving the rail sections; brace portions struck from said member, adjacent to the said cut-out portions and extending at an angle to the member adapted to engage the web and under side

of the head of the rail; a locking bar member adapted to slide longitudinally and contact with the supporting member; cut-out portions formed in said bar member adapted to receive the side of the rail sections opposite to that held by the supporting member; and brace portions formed on said locking bar adapted to engage the web and under side of the head of the rail, as described and shown.

2. A metallic tie comprising a supporting member; cut-out portions formed in said member for receiving the rail sections; brace portions formed on said member, adjacent to the said cut-out portions, adapted to engage the rail; a locking bar member adapted to slide longitudinally, and contact with, the supporting member; cut-out portions formed in said bar member adapted to receive the side of the rail sections opposite to that held by the supporting member; brace portions formed on said locking bar adapted to engage the rail; chair members seated over the two contacting members forming seats for the rail sections; and fastening means passing through said two contacting members.

3. A metallic tie comprising a supporting member; a locking bar member adapted to contact with said supporting member; cut-out portions formed in both of said members adapted to receive the rail sections; chairs seated in said cut-out portions affording a seat for the rail sections and so arranged as to prevent lateral movement of said contacting members; splice bars formed integral with each of said contacting members, adjacent the cut-out portions, adapted to engage the rail sections and receive a fastening means; and means, passing through both of said members, to tighten up all the contacting parts and prevent longitudinal or lateral movement of said locking bar.

4. A metallic tie comprising a supporting member; and a locking bar member; cut-out portions formed in each of said members for receiving the rail sections and splice bars struck from each of said members and extending to one side thereof designed to engage the rail sections and receive a fastening means.

In testimony whereof, I affix my signature, in presence of two witnesses.

NEWTON FRANKLIN ARBLE.

Witnesses:

BEATRICE FITZGERALD,
J. P. APPLEMAN.