

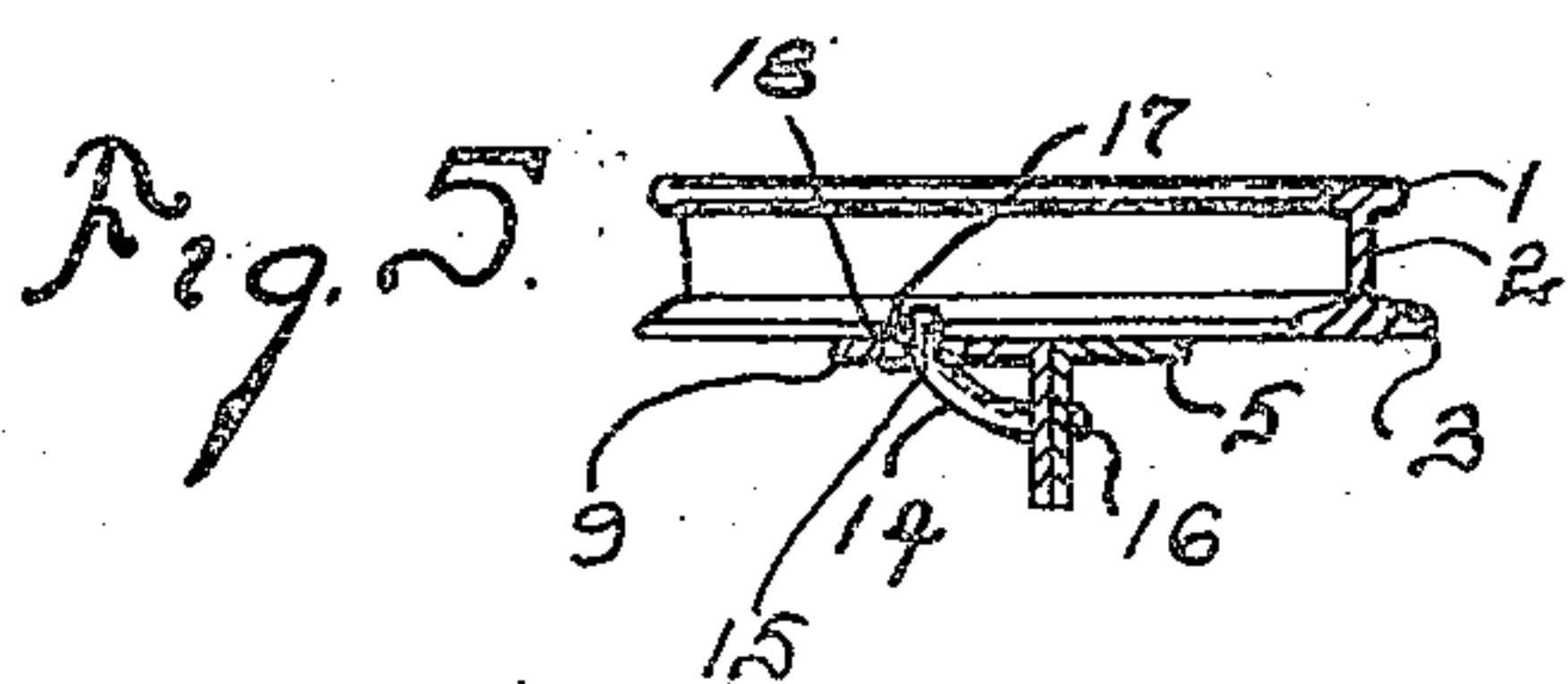
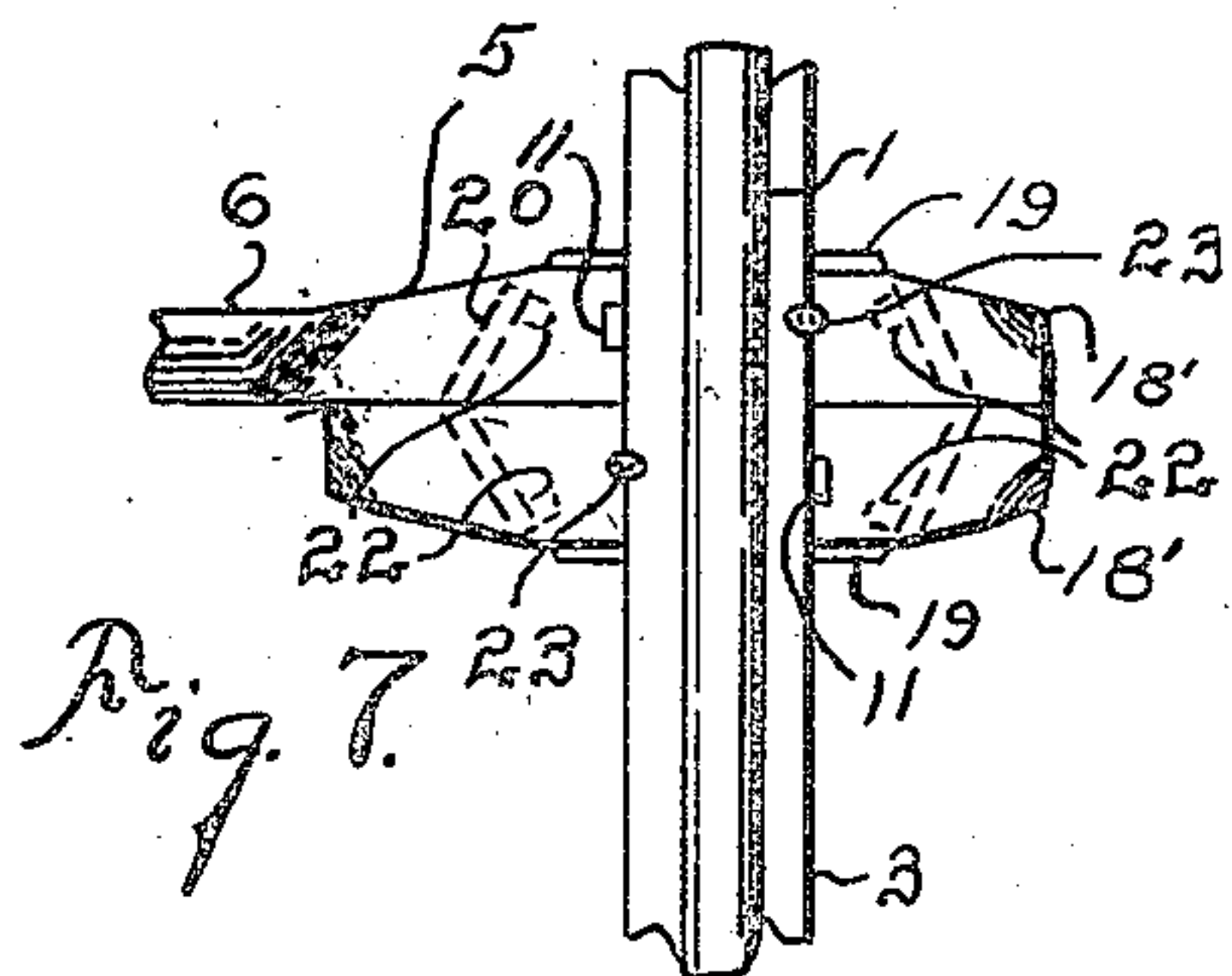
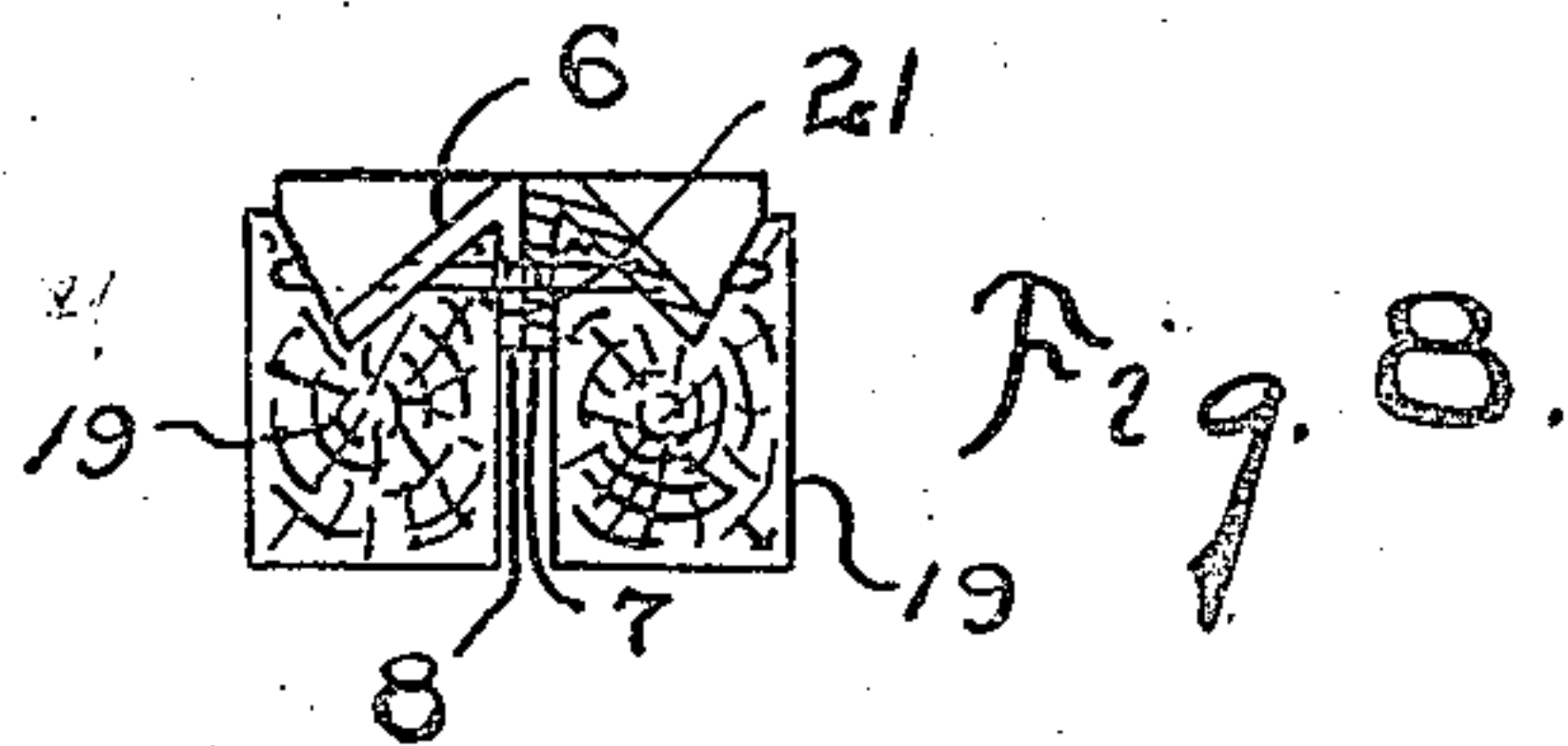
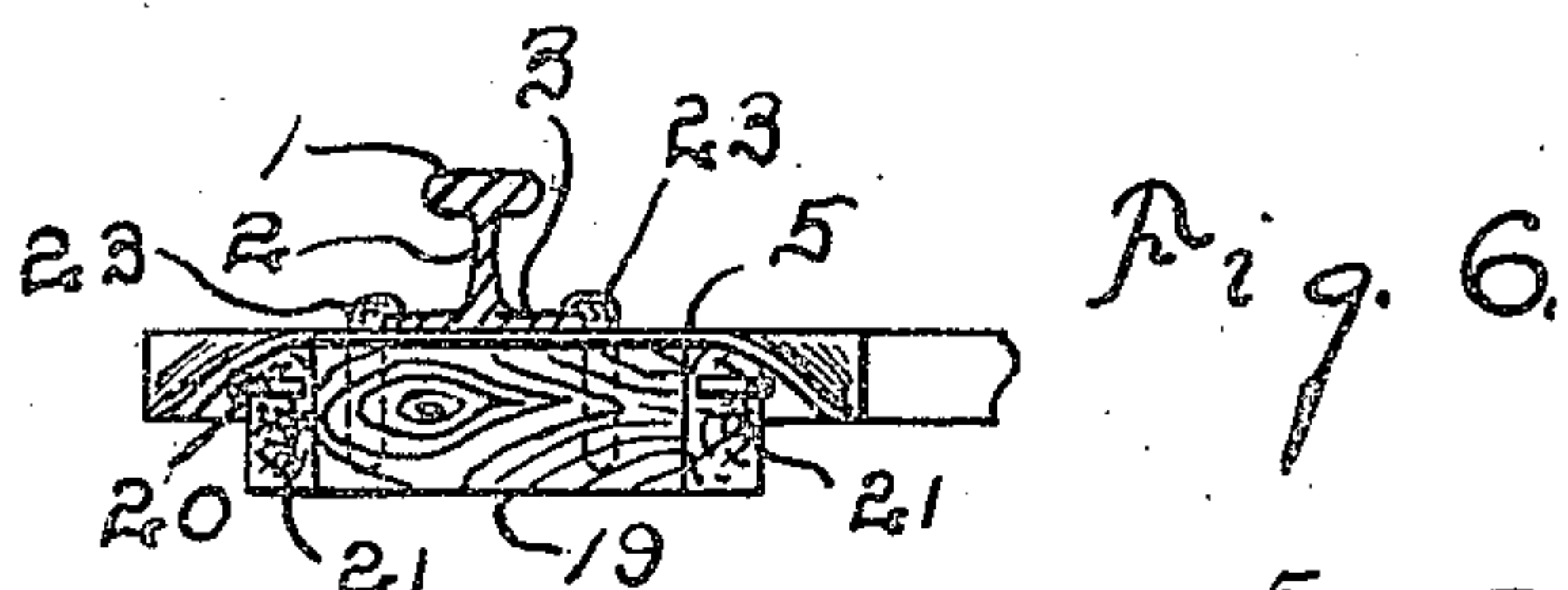
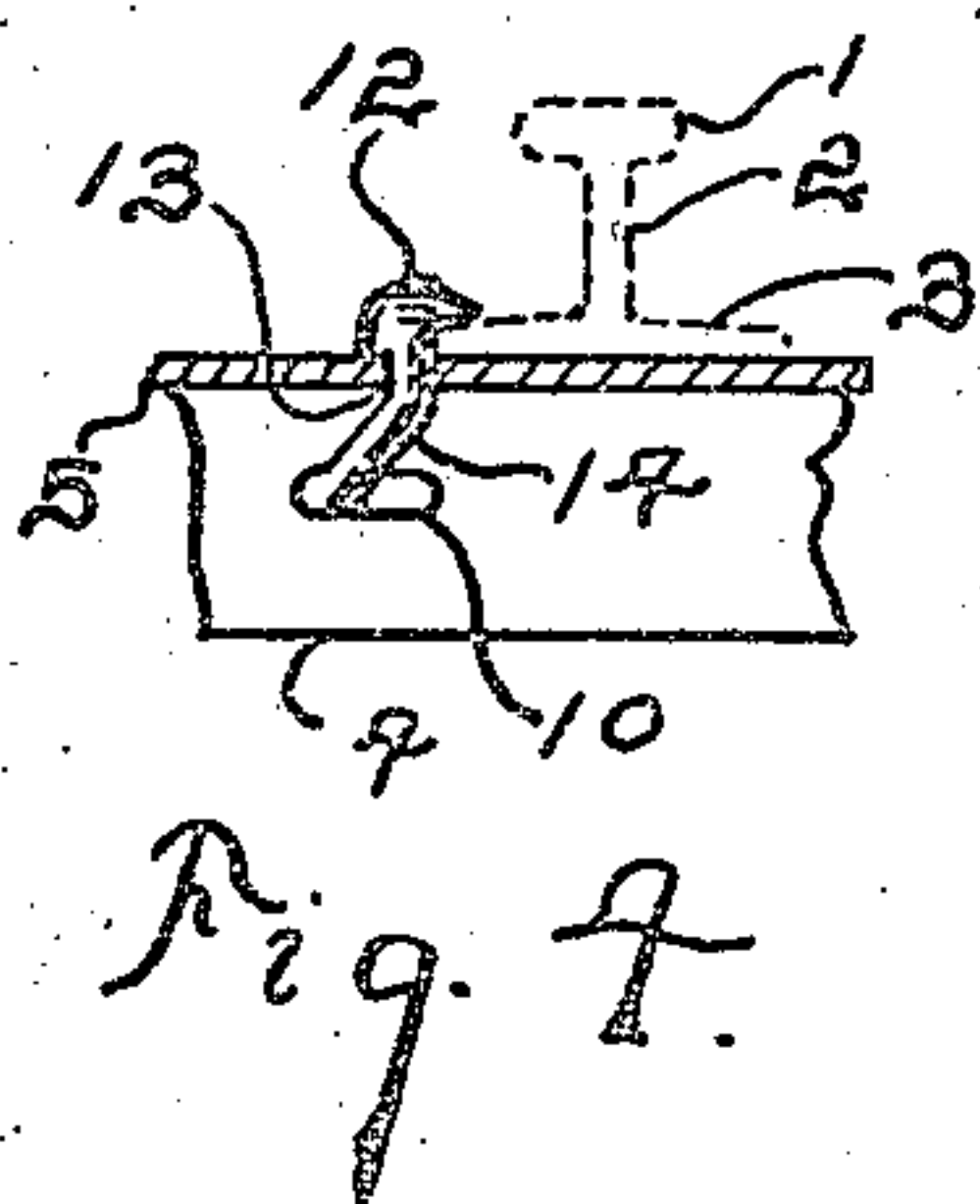
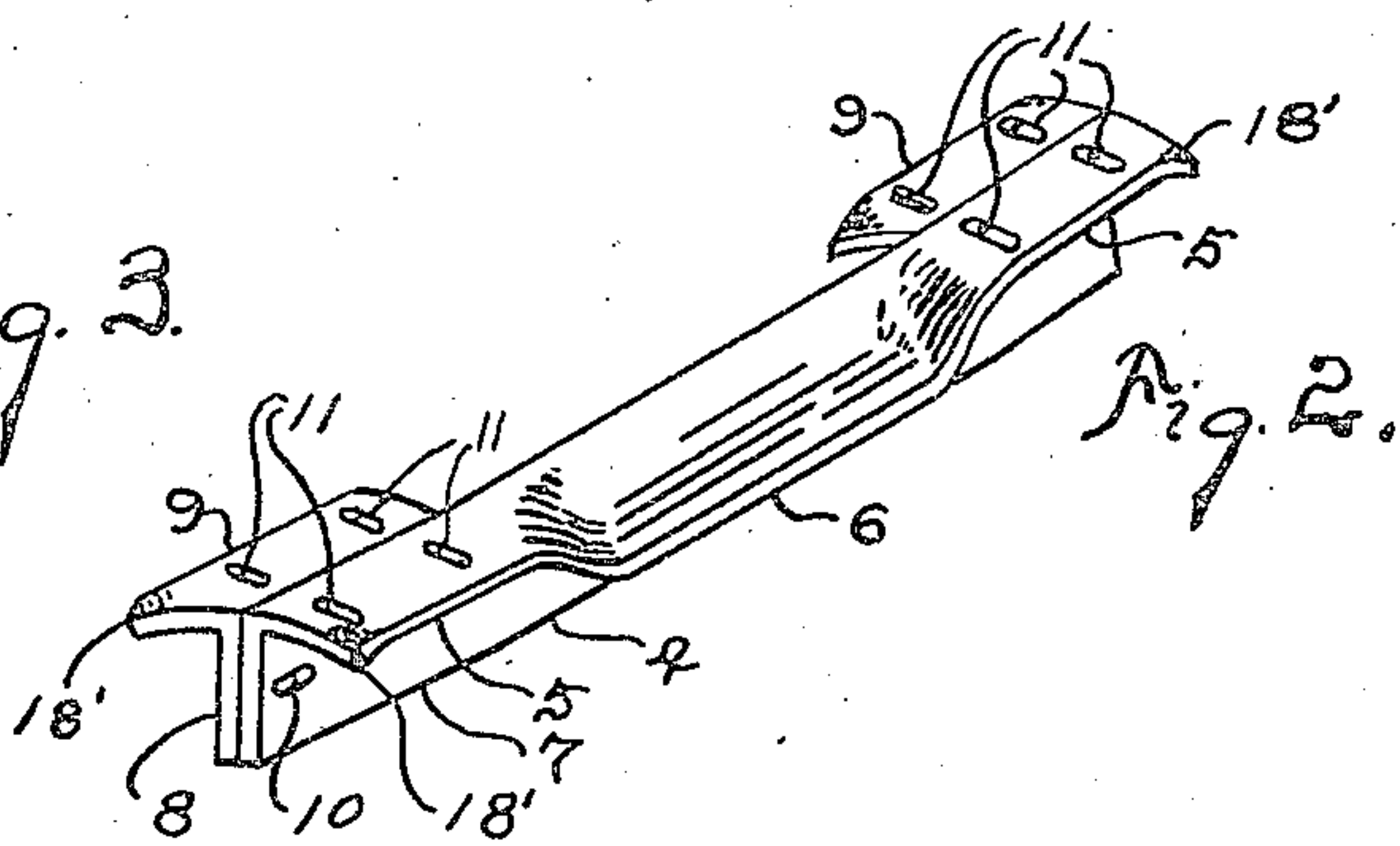
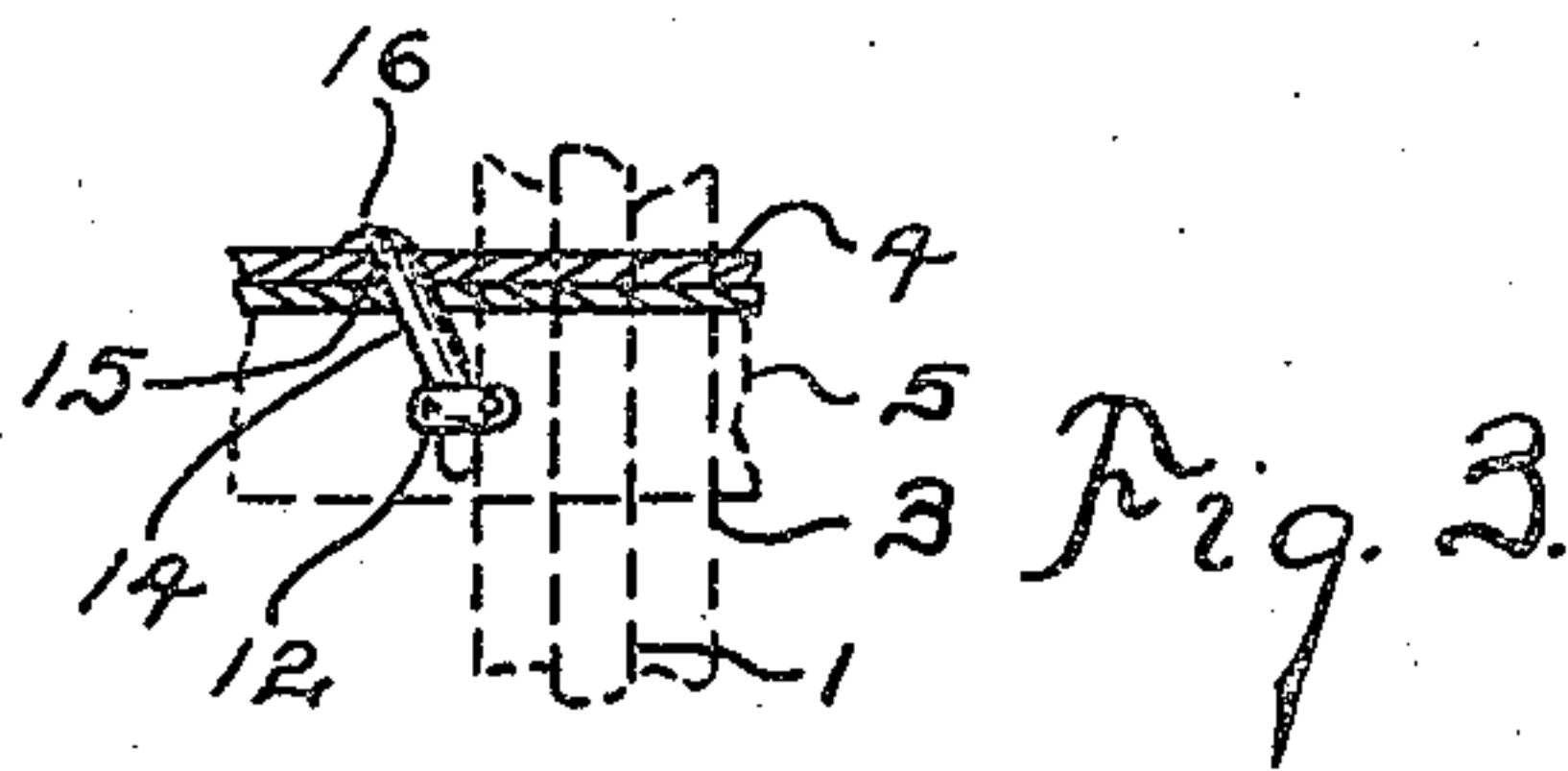
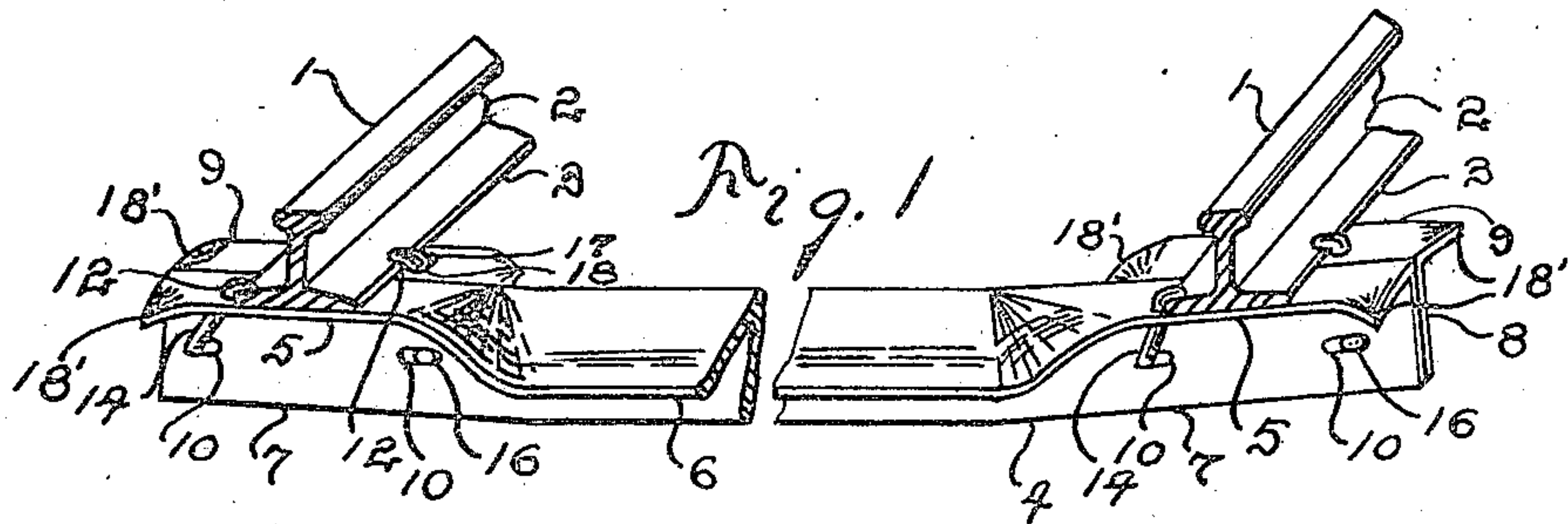
June 19, 1923.

1,459,168

H. C. TULLY

CROSSTIE

Filed April 30, 1921



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UNITED STATES PATENT OFFICE.

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CROSSTIE.

Application filed April 30, 1921. Serial No. 465,730.

To all whom it may concern:

Be it known that I, HENRY C. TULLY, a citizen of the United States of America, residing at Toledo, Lucas County, Ohio, have invented a new and useful Crosstie, of which the following is a specification.

This invention relates to rail supporting devices for the rails of railways.

This invention has utility when incorporated in cross-ties, especially of structural metal adapting the structure for manufacture as a so-called bridge shop job.

Referring to the drawings:—

Fig. 1 is a perspective view of an embodiment of the invention in a cross-tie adapted more particularly for bedding in concrete, as in street railway use;

Fig. 2 is a perspective view of the cross-tie of Fig. 1 independently of the rails;

Fig. 3 is a detail view of a rail holding means in plan showing its assembled relation;

Fig. 4 is a detail view of rail holding means in side elevation;

Fig. 5 is a detail view from another side of the rail holding means;

Fig. 6 is a fragmentary side elevation of a showing of the tie having an additional bedding block adapting it for use with loose ballast;

Fig. 7 is a plan view of the tie with the blocks in position, parts being broken away; and

Fig. 8 is an end view of the blocks assembled into position in the device of Fig. 6.

The rails are shown as having ball 1 carried by web 2 from base flanges 3. In the structure of this disclosure there is provided a tie or main structural metal member herein shown as an angle having a vertical web 4 and a horizontal flange providing rail-seat portions 5 spaced by a depressed or offset portion 6 of this flange. This depressed portion 6 when the tie is mounted in concrete ballast coacts as a holding means in retaining the tie in the ballast not only transversely but against upward shifting and also acts as a support. In order that the ball 1 of the rails may seat well in the bearing of the wheels of the rolling stock, it may be desirable to deflect the web 4 upwardly at portions 7 in the region of the rail-seats 5, thereby causing the rail-seats to slightly inwardly tip the balls 1 of the rails. Providing a supplementary sustaining seat for the rails, there are shown herewith angle

members having vertical web portions 8 and horizontally extending flange portions 9. The extent of this supplementary member 8, 9, is local to the region of the seat 5. The webs 7, 8, are provided with openings or slots 10 which may approximate registering position slightly beyond the width of the flange 3 of the rails. Adjacent the flange 3 of the rails, the seats 5, 9, are shown as provided with slots 11. Holding means is provided with head 12 shown as having bent portion 13 therefrom extending through slots 11 connected by angularly extending portion 14 to a third portion 15 extending through registering slots 10 and connected with terminus 16 overlapping as a holding means at the end of the slot 10. This headed member may be twisted into the registering webs 4, 8, and project up adjacent the flange 3 of the rail. Punching or cut out portion 17 from the slot 10 may then be inserted in the slot 11 to draw the head 12 into snug position as to the rail 3, and this portion 17 then anchored, as by spot welding 18, thereby anchoring the holding means 12, 13, 14, 15, 16, into fixed rail holding and tie assembling position. The ends of the horizontal flange adjacent the seats 5 may have downwardly bent free end portions 18', and the flange seat 9 may also have free end portions 18' downwardly bent, thereby assisting in anchoring the tie into the ballast.

In instances where it may be desirable to adapt this rail to loose ballast, wood blocks 19 may be disposed one on each side of the webs 7, 8. Registering openings 20 in these web portions 7, 8, may receive a V-shaped member 21 having inwardly bent ends 22 which are swung up and are embedded in the blocks and assemble the blocks and supplementary member with the main tie angle.

As thus complete, slots 11 in the seats 5, 9, may receive spikes 23 to engage the rail flanges 3 in anchoring the rails in position as to the ties.

The structure, whether for loose or artificial stone ballast, is one which can be economically produced in considerable quantity as a structural metal or bridge shop job. A bridge shop job is an expression common in the trade to indicate such character of work upon structural material or shapes as may be readily handled by the usual stock and equipment in a plant for the production of structural steel bridges. The weight of the metal employed may be a minimum

consistent with road construction. The tie angle is effective for maintained rail spacing. The seats are ample for rail support. The malleable iron holding means 12, 13, 14, 15, 16, may be effective for definite anchoring in the assembled relation.

What is claimed and it is desired to secure by United State Letters Patent is:—

1. A structural metal member crosstie having T-shaped cross-sectional portions providing seats on the transverse portions of the T's thereof for a plurality of rails, said T-portions embodying abutting angle members, there being engaging means coacting to hold the angle members assembled in providing said seats, said tie members being provided with openings adjacent said seats extending through the members and disposed parallel with the rails with which openings rail anchoring means may coact.

2. A cross-tie comprising a structural metal member providing a horizontal flange as a rail seat, and a separate supplementary member having a horizontal flange rail-seat-providing portion, said seat-providing portions being of less extent than the structural metal member.

3. A cross-tie integral unit having a pair of aligned spaced rail supporting seats, said tie unit comprising an L-member having a continuous intermediate portion of one leg only thereof offset, the other leg thereof being straight between said seats.

4. A cross-tie including an angle member having an intermediate portion thereof depressed.

5. A cross-tie including an angle member having a vertical web and a horizontal flange providing spaced rail seats and depressed toward the web between the seats.

6. A cross-tie comprising an angle having

a vertical web and a horizontal flange providing spaced rail seats and depressed toward the web between the seats, and a supplementary seat-providing angle member adjacent one of said seats.

7. A cross-tie comprising a main angle member having a vertical web and a horizontal flange providing spaced rail seats and depressed toward the web between the seats, a supplementary angle member providing a seat adjacent one of said rail seats of the main angle, and rail holding means locking the supplementary angle to the main angle.

8. A cross-tie comprising a main angle member having a vertical web and a horizontal flange providing rail seats, a supplementary angle having a vertical web backed against the vertical web of the main angle member, and a horizontal flange extending away from and in the plane of the horizontal flange seat of the main angle member, said webs and flanges having openings and rail holding means engaging the web openings and extending through the flange openings.

9. A cross-tie including a structural metal member having a horizontal flange providing a rail seat, said flange having an opening adjacent said seat, said member having a second flange, rail holding means for insertion through said opening and to interlock with said second flange and provided with a head effective upon turning of the means in the seat to engage a rail as said means is interlocked with said member, and an element insertable in the flange opening adjacent the rail holding means as turned to hold said means in anchored position with the member and a rail.

In witness whereof I affix my signature.

HENRY C. TULLY.