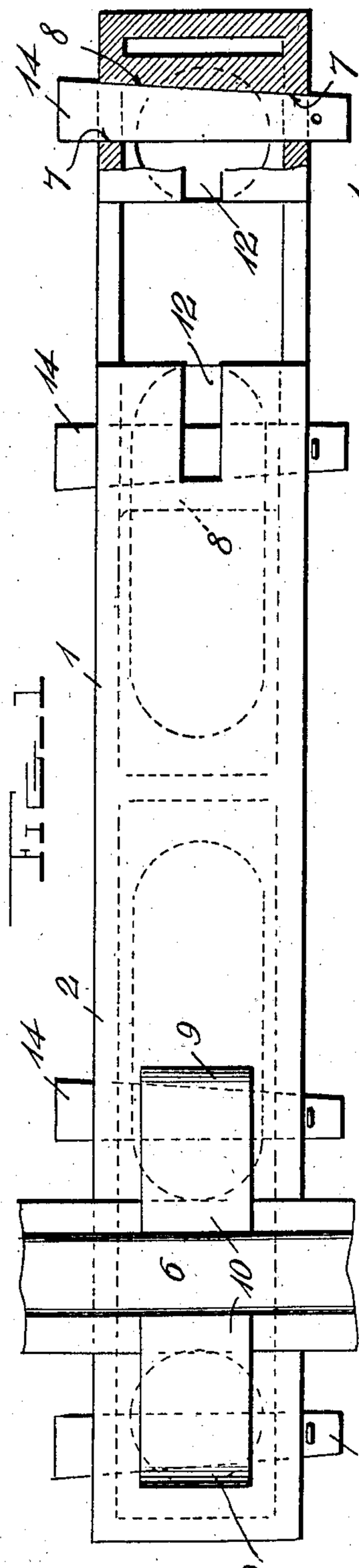
No. 892,568. PATENTED JULY 7, 1908.

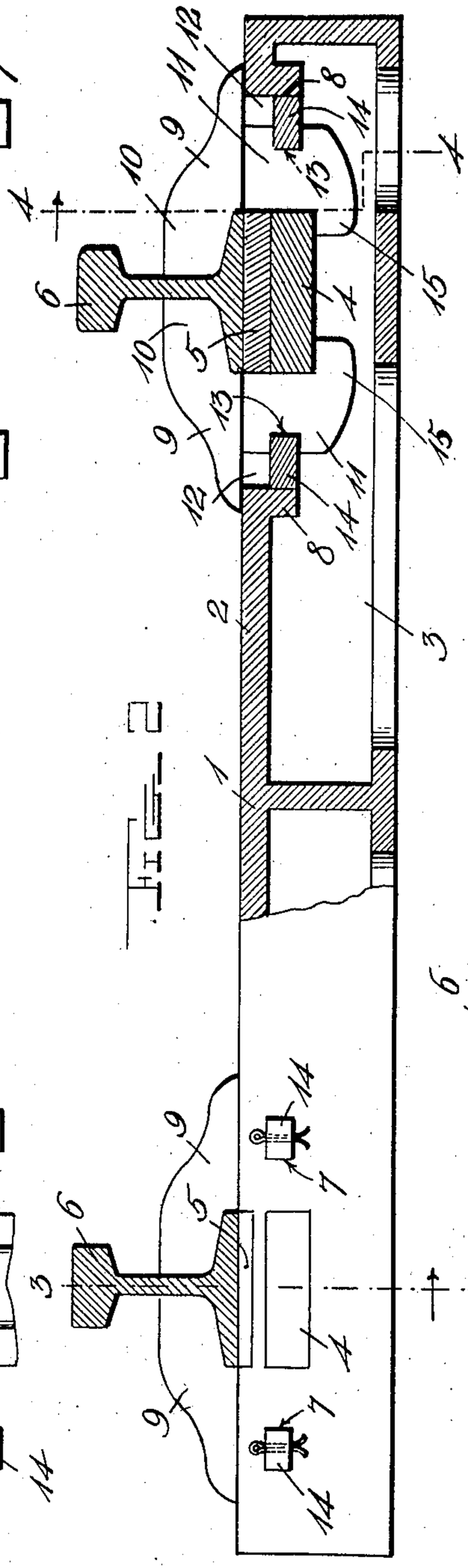
J. T. TONRY.

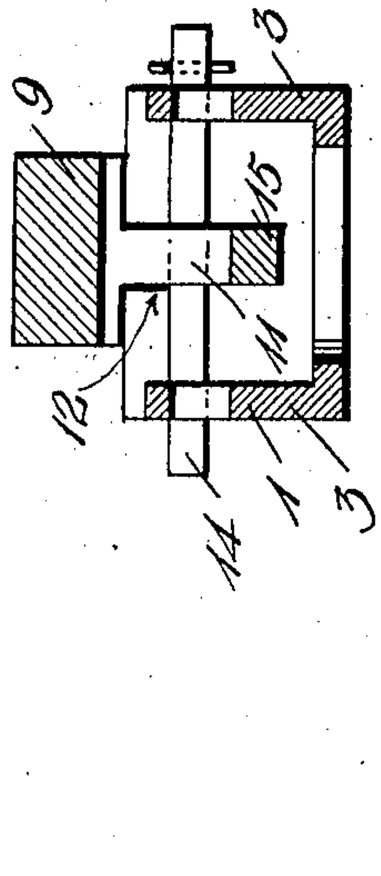
COMBINED TIE AND RAIL FASTENING.

APPLICATION FILED NOV. 4, 1907.

2 SHEETS—SHEET 1.







Witnesses

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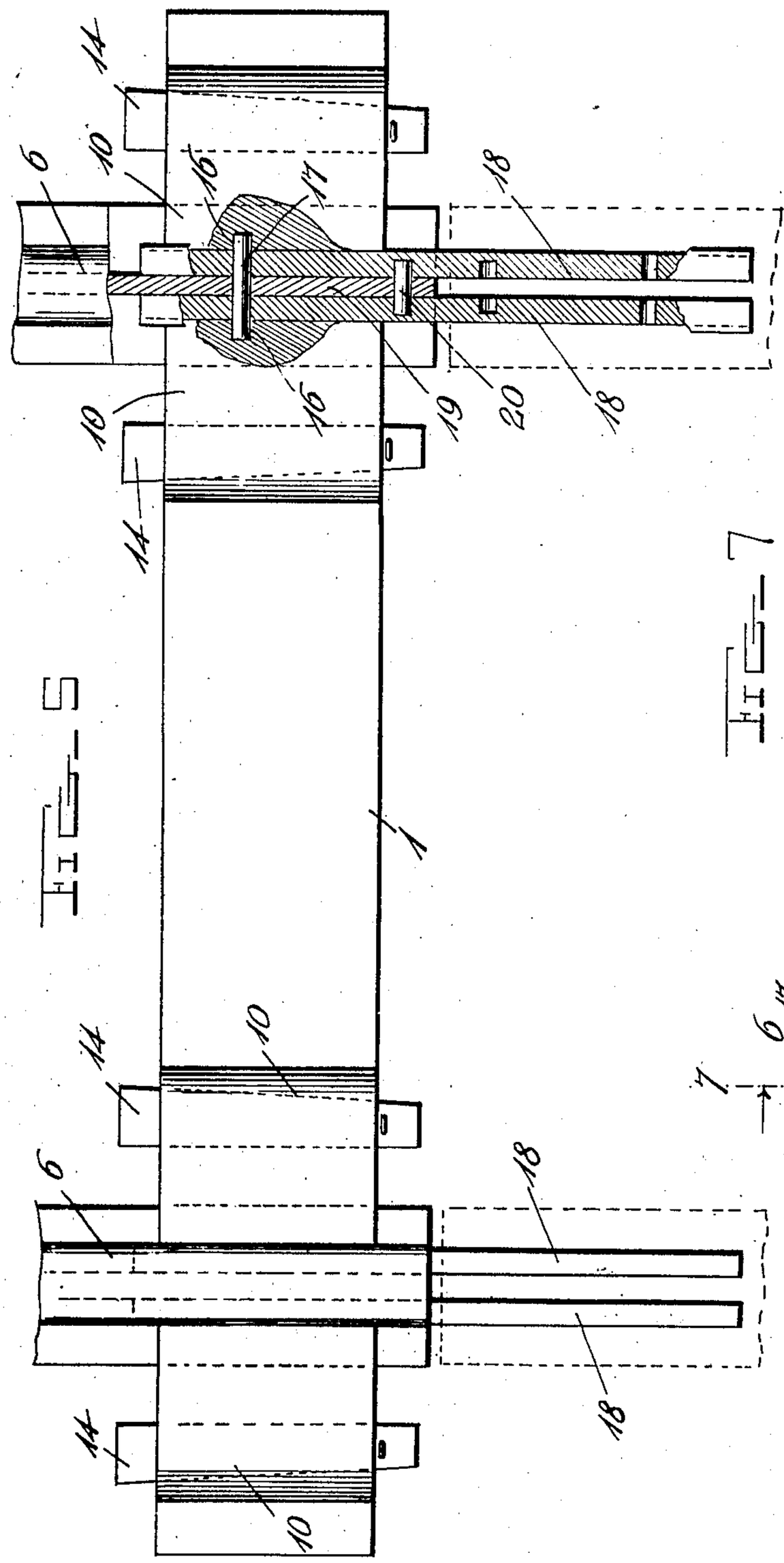

FIG. 5.

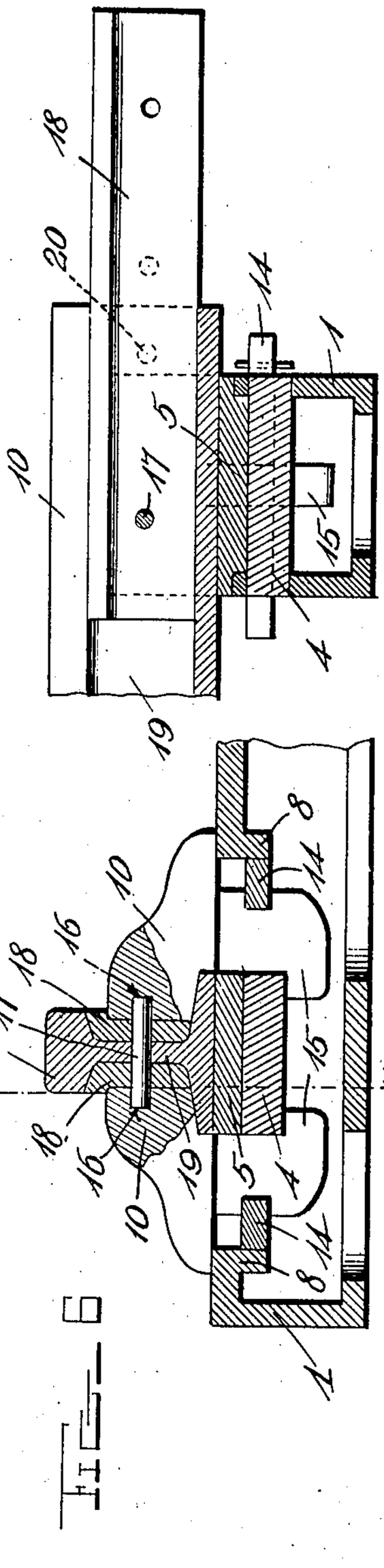

FIG. 7.

FIG. 6.

FIG. 8.

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UNITED STATES PATENT OFFICE.

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COMBINED TIE AND RAIL-FASTENING.

No. 892,568. Specification of Letters Patent. Patented July 7, 1908.

Application filed November 4, 1907. Serial No. 400,650.

To all whom it may concern:

Be it known that I, JAMES T. TONRY, a citizen of the United States, residing at Zanesville, in the county of Muskingum and State of Ohio, have invented certain new and useful Improvements in a Combined Tie and Rail-Fastening; 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.

This invention relates to new and useful improvements in combined tie and rail fastening.

The principal object of the invention is the production of a simple and inexpensive device especially adapted for the purposes intended and to provide locking means adapted to coöperate with the tie in providing a secure and substantial fastening for the track rails, and which will effectually guard against downward displacement of the rail, said tie and fastening means being such as to absorb shocks or vibrations to which the track rails may be subjected.

A secondary object of the invention is to provide a rail fastening of such form that the bolts and nuts now commonly employed as a fastening means for the rail joints may be dispensed with and an improved form of fastening means be substituted in their stead.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a plan view of a tie and rail fastening constructed in accordance with the invention, a portion of the top of one end of the tie being broken away to more advantageously illustrate the rail fastening means. Fig. 2 is a view in side elevation of Fig. 1 with both track rails in position, one end of the tie and track fastening means being shown in longitudinal section. Fig. 3 is a cross sectional view cut on the line 3—3 of Fig. 2; and Fig. 4 is a similar view cut on the line 4—4 of Fig. 2. Fig. 5 is a plan view of a modified form of the invention showing the form of rail fastening means, preferably employed at the rail joints. Fig. 6 is a central longitudinal sectional view of Fig. 5; and Fig. 7 is a cross-sectional view taken on the line 7—7 of Fig. 6.

Referring to the drawings which are for illustrative purposes only and therefor not drawn to any particular scale, 1, indicates one of the cross ties when constructed in accordance with the invention, said tie being of approximately inverted U-shape in form in cross-section, comprising a substantially flat top 2 and sides, 3.

In carrying out the invention a transversely disposed brace member 4, is arranged to extend across the tie near each end thereof, said braces being positioned immediately under the top of the tie and being sustained in position by having their ends fitted in corresponding transverse apertures or openings formed in the side members, 3, of the cross ties.

A cushion member, 5, is countersunk in the top and near each end of the tie immediately over the adjacent brace 4, and on each cushion member is mounted one of the track rails, 6.

The cross ties are preferably made from steel or other suitable metal and the cushion members of wood, so that they may absorb any shocks or vibrations to which the track rails may be subjected.

Formed in the side members of the cross ties at each side of each of the track rails are transverse openings, 7, which are oppositely disposed, the openings in one side of the cross tie being somewhat greater in length than the openings in the other side thereof, the purpose of which will be disclosed.

Cross pieces 8 formed with outer inclined side edges extend between the side walls of the cross tie and are arranged in position with their inclined edges flush with the inner end walls of the openings 7, located between the track rails, while cross pieces 8 formed with oppositely inclined inner side edges extend between the side walls of the cross pieces and are arranged in position with their inclined edges flush with the outer end walls of the openings 7, at the ends of the tie.

The numeral, 9, indicates locking members which are arranged on opposite sides of the rails and are formed with inwardly projecting members or flanges, 10, curved to fit against the webs and upper faces of the rail bases. These locking members are formed with vertical downwardly extending locking portions

11, the top of the cross tie being formed with longitudinal slots, 12, for the reception of such locking portions, when the locking members are arranged in position. These locking portions, 11, are provided with recesses, 13, in their outer edges to receive the adjacent side edges of keys or locking members, 14, the opposite edges of which are adapted to slide against or engage the inclined side edges of the cross members, 8, the ends of said members, 14, being adapted for reception by the openings, 7, formed in the side walls of the cross tie. The locking portions, 11, of the rail fastening members are formed with inwardly extending engaging portions, 15, adapted to engage under the braces, 4, to maintain said fastening members in locked position against the track rails. By forming the cross members, 8, and locking members, 14, with inclined edges, as shown when the latter are applied in position it will be evident that the locking portions of the rail fastening members will be forced tightly against the braces, 4, and that liability of the fastening members becoming displaced either vertically, laterally or longitudinally, is entirely eliminated. The small ends of the locking members, 14, are formed with vertical apertures for the reception of cotter pins or equivalent fastening means to retain them in position.

The locking members to be arranged at the rail joints are formed with sockets, 16, in the inner faces of their flanges, 10, for the reception of the ends of transverse fastening pins, 17, arranged to extend through corresponding apertures formed in the fish plates and rail webs, 18 and 19.

Each of the fish plates at the outer sides of the track rails is also preferably provided with a transverse pin, 20, near its central portion adapted to extend through corresponding apertures or openings formed in the rail webs and fit in corresponding sockets formed in the inner faces of the opposite fish plate. In the drawings only one of the cross ties employed at the rail joints is shown, as the other is of identical construction.

By constructing the rail fastening means in this manner at the rail joints it will be readily perceived that a secure and substantial fastening is provided for the rail joints in place of bolts and nuts now commonly employed and which have been found objectionable for numerous reasons, one of which is because of their liability of displacement.

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

1. In combination with a hollow tie having two longitudinally spaced slots formed in its top near each end and oppositely disposed openings formed in its side walls at its slotted portions, two rail fastening members having inwardly projecting flanges adapted to embrace opposite sides of the track rails and downwardly projecting locking portions adapted to extend through said slots, said portions having recesses formed in their outer side edges and inwardly projecting engaging portions formed at their opposite edges, cross pieces having inclined side edges arranged under the top of the tie, with their inclined side edges flush with the adjacent end walls of the tie openings, locking members adapted for reception by the openings of the tie, said members having inclined edges to slide against the inclined edges of the cross pieces and straight edges to engage the recessed portions of the locking portions of the rail fastening members and cross supporting members arranged under the top of the cross ties in position to have their under faces engaged by the engaging portions of the rail fastening members.

2. In combination with a hollow tie having longitudinal slots formed in its top near each end, and oppositely disposed openings in its side walls at points adjacent to its slotted portions, cross pieces having inclined side edges arranged under the top of the tie with their inclined edges flush with the adjacent end walls of the tie openings, rail fastening members having inwardly projecting locking portions adapted to extend through the slots in the top of the tie, said locking portions having recesses formed in their outer side edges, and locking members insertible through the openings in the side walls of the tie, said members having inclined edges to slide against the inclined edges of the cross pieces and straight edges to engage the recessed locking portions of the rail fastening members.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES T. TONRY.

Witnesses:
HELEN M. DOUGLAS,
EDWD. R. MEYR.