(No Model.)

R. S. OLIVER.

RAIL TIE.

No. 549,007. Patented Oct. 29, 1895.

Fig 1.

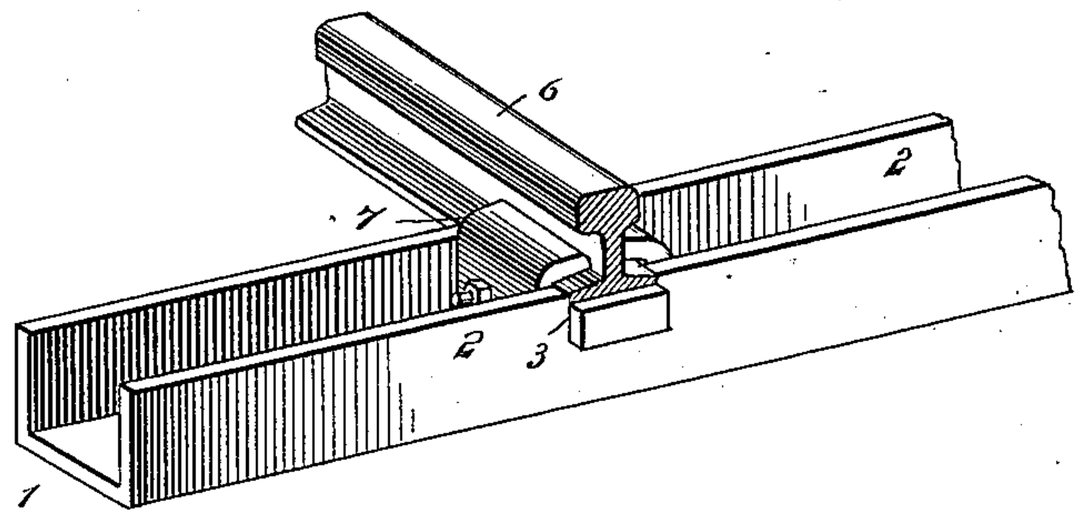


Fig 2.

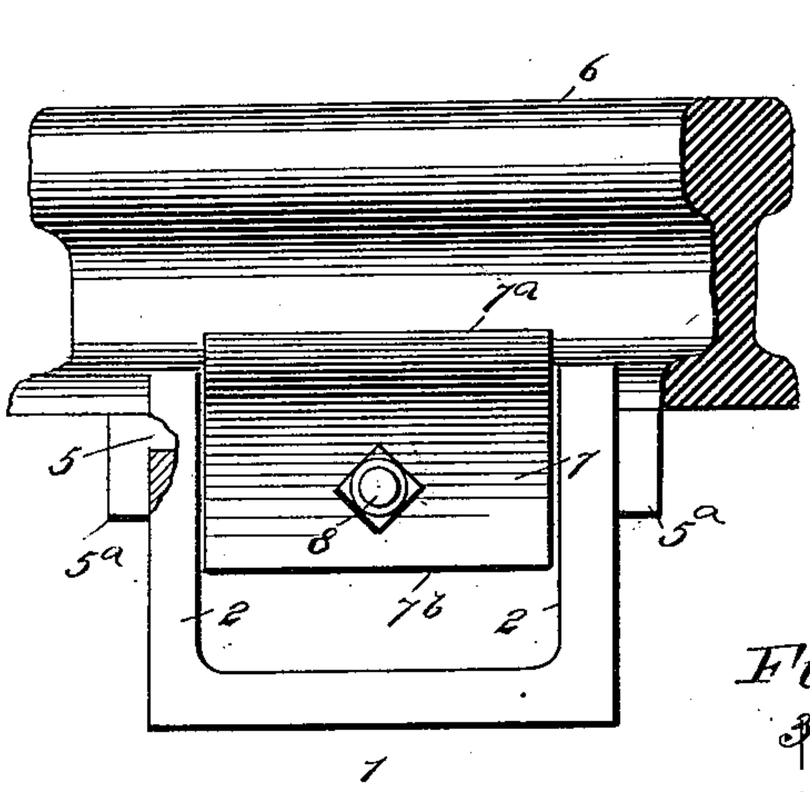


Fig 3.

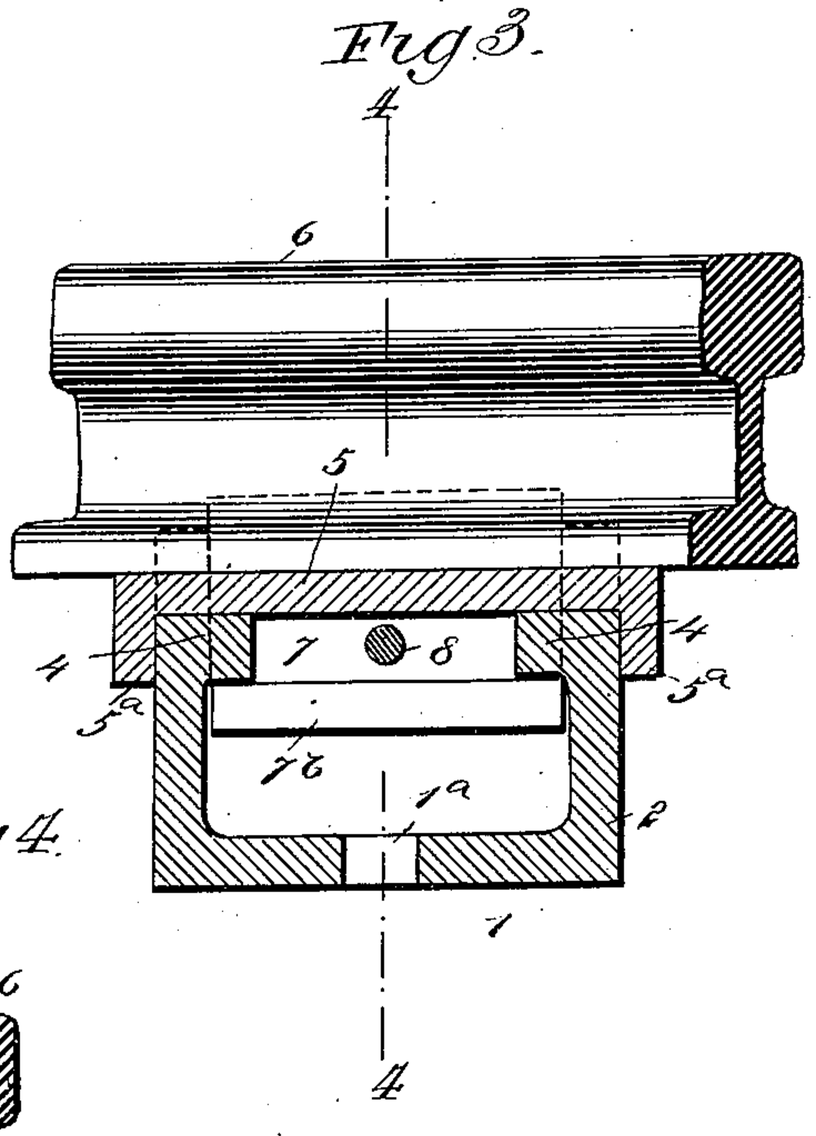
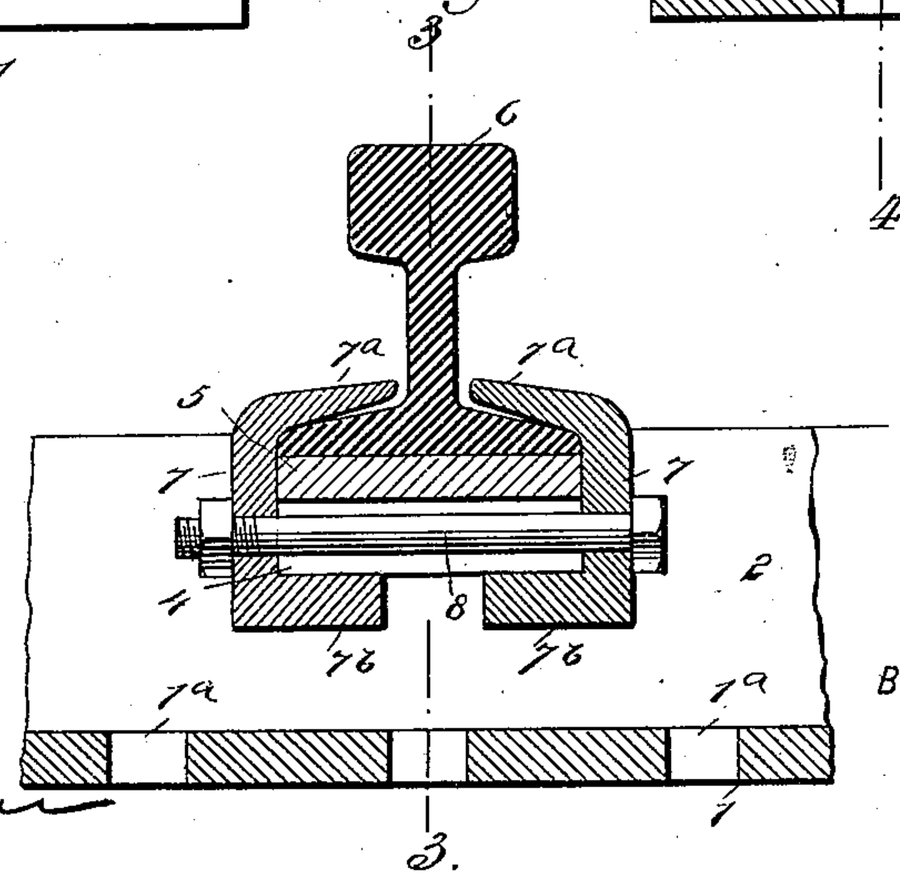


Fig 4.



WITNESSES:

Paul Jahad

J. L. Caplinger

INVENTOR

R. S. Oliver

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ROYAL SIMPSON OLIVER, OF FILLMORE, INDIANA.

RAIL-TIE.

SPECIFICATION forming part of Letters Patent No. 549,057, dated October 29, 1895.

Application filed March 25, 1895. Serial No. 543,112. (No model.)

To all whom it may concern:

Be it known that I, ROYAL SIMPSON OLIVER, of Fillmore, in the county of Putnam and State of Indiana, have invented a new and Improved Rail-Tie, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in metallic railway-ties, and has for its object to provide a tie of a simple and inexpensive and durable construction which shall present certain features of novelty and advantages over other similar devices heretofore in use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the tie. Fig. 2 is an end view of the tie. Fig. 3 is a transverse section taken through the tie and its rail-supporting devices substantially on the plane of the line 3 3 in Fig. 4; and Fig. 4 is a section taken at right angles to Fig. 3, along the line 4 4 in said figure.

In the drawings, 1 represents the tie, which may be of steel or wrought-iron, having at its opposite sides upturned flanges 2, whereby the rail is given a trough shape in cross-section.

Near each end the opposite flanges 2 of the tie are provided with corresponding notches or openings 3 3 at their upper edges, the metal of the said flanges being bent over, as seen at 4 4 in Fig. 4, inwardly to form inturned supports or shoulders for a chair or seat 5, extending across the tie from side to side and provided at its opposite ends with depending lugs or flanges 5^a 5^a, adapted to embrace the outer sides of the flanges 2 of the tie, so as to hold said seat 5 against removal.

6 represents the rail, having its base of substantially equal width with that of the chair 5, on which it rests, and the thickness of the said chair 5 as compared with the depth of the notches or openings 3 in the flanges 2 of the tie is such that when the rail is in place on the chair its base or lower flange will be below the upper edges of the flanges 2 of the tie, as clearly shown in Fig. 1, whereby the rail will be held against lateral movement.

In order to secure the rail 6 to its seat 5, I employ clamping-plates 7 7, having their upper edges 7^a bent to extend over the base or lower flange of the rail, on opposite sides of the same, and having their lower edges 7^b similarly bent and adapted to pass under the inturned edge portions or shoulders 4 of the flanges 2 of the tie. The clamping-plates 7 are secured in place by means of a bolt 8, extending through them and across the space below the seat or chair 5 and between the shoulders 4 4 of the tie, as clearly seen in the drawings.

The device as above described is extremely simple and inexpensive and durable, and by reason of the trough-like form of the tie it is rendered possible to construct the same of much lighter metal than would otherwise be necessary, this form permitting the tie to be filled with broken stone or other ballast to prevent the shifting of the tie. The means for securing the rails in place to the tie is also of the simplest and strongest form and is comparatively inexpensive.

When the tie has been placed in position and filled with the ballast, it will be protected thereby to a great extent from the influence of atmospheric changes, and consequently its expansion and contraction will be reduced to a minimum. Moreover, by reason of its trough or channeled form, when filled with ballast, the tie will present a sufficiently broad and firm foundation for the track and will hold the rails securely against movement, and the ballast will deaden the noise made by the passing train and will also reduce the shock and consequent deterioration of the tie.

In order to permit the escape of water from the tie, the same will be usually provided in its length with openings 1^a, extending through its bottom, as clearly seen in the drawings.

Other marked advantages of this tie are the facility with which the bolts may be tightened to take up looseness resulting from wear or jarring of the parts while in use; that the rails are held securely to the chair and the chair to the tie by one set of clamps, and that the rails are permitted to freely expand and contract, being capable of a slight degree of

longitudinal movement on the chairs. Moreover, the construction is such that the rail and its chair may be easily and readily removed from the tie when this is desired to be done, since the parts are held together by but one bolt.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of a railway tie having flanges at its opposite sides provided with corresponding inturned shoulders, a chair arranged across the tie and provided with stops to prevent longitudinal movement, and clamps adapted to secure the chair to the shoulders on the tie flanges, substantially as set forth.

2. The combination of a railway tie having flanges at its opposite sides provided with corresponding inturned shoulders, a chair arranged across the tie and provided with stops to prevent longitudinal movement, clamps having bent upper and lower portions adapted to engage, respectively, the upper face of the rail flanges and the lower faces of the shoulders on the tie flanges, and a bolt extending between said clamps, substantially as set forth.

3. The combination of a tie having flanges at opposite sides provided with corresponding notches and inturned shoulders adjacent to said notches, a chair arranged in said notches and having stops to prevent longitudinal movement, a rail mounted on said chair, and clamps for securing said rail to the shoulders on the tie flanges, substantially as set forth.

4. The combination of a railway tie having flanges at its opposite sides provided with corresponding laterally bent shoulders, a chair arranged across the tie and having stops to prevent longitudinal movement, and clamps adapted to secure the chair to the shoulders on the tie flanges, substantially as set forth.

ROYAL SIMPSON OLIVER.

Witnesses:
MARION SINCLAIR,
J. T. SIDDONS.