(No Model.) 2 Sheets—Sheet 1.

F. ROBERT & E. P. EASTWICK, Jr.

TIE AND CLAMP FOR RAILWAY RAILS.

No. 414,921. Patented Nov. 12, 1889.

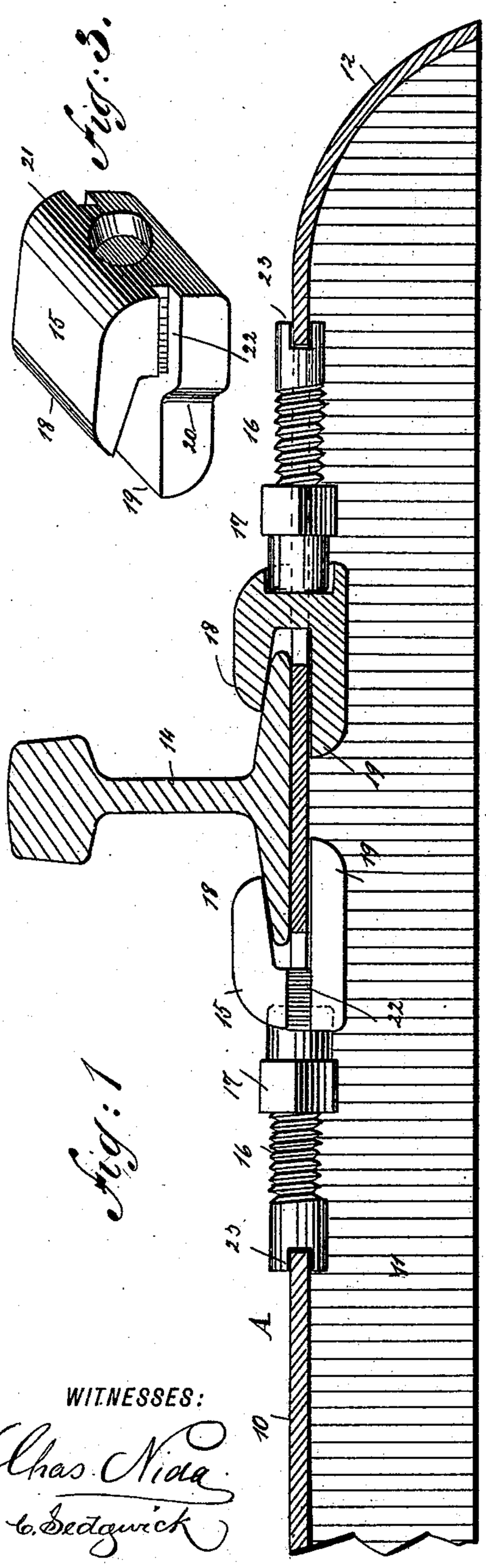

Fig: 1.

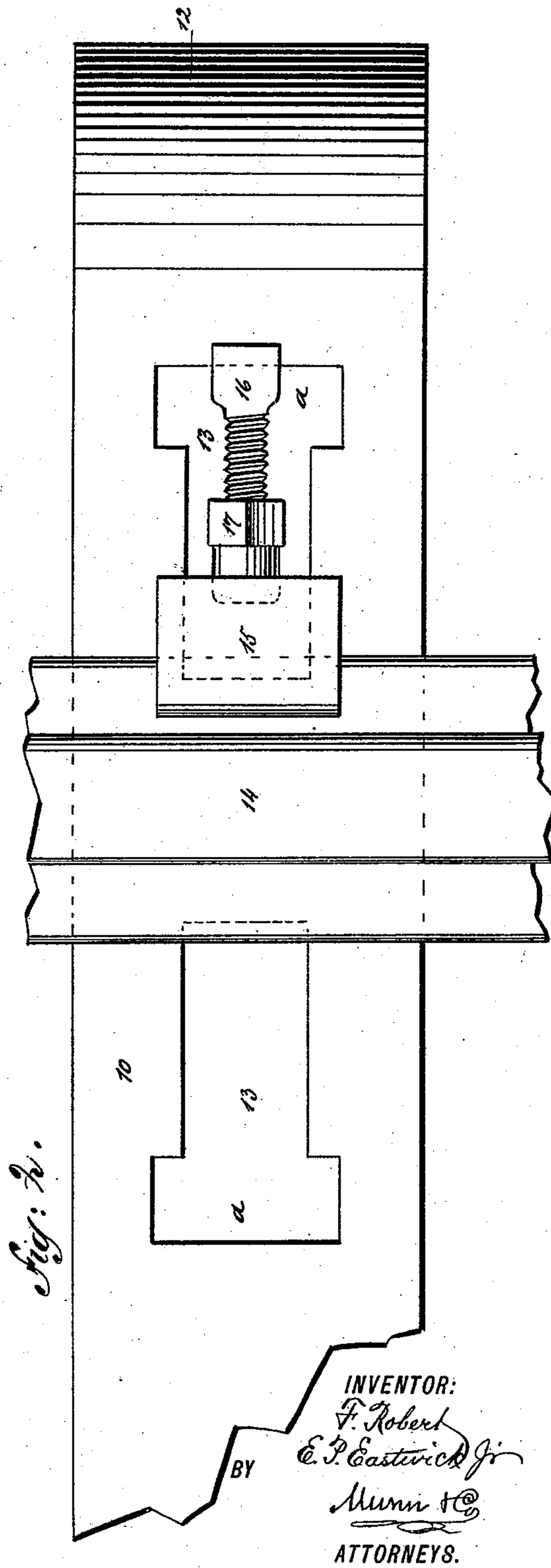

Fig: 2.

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(No Model.) 2 Sheets—Sheet 2.

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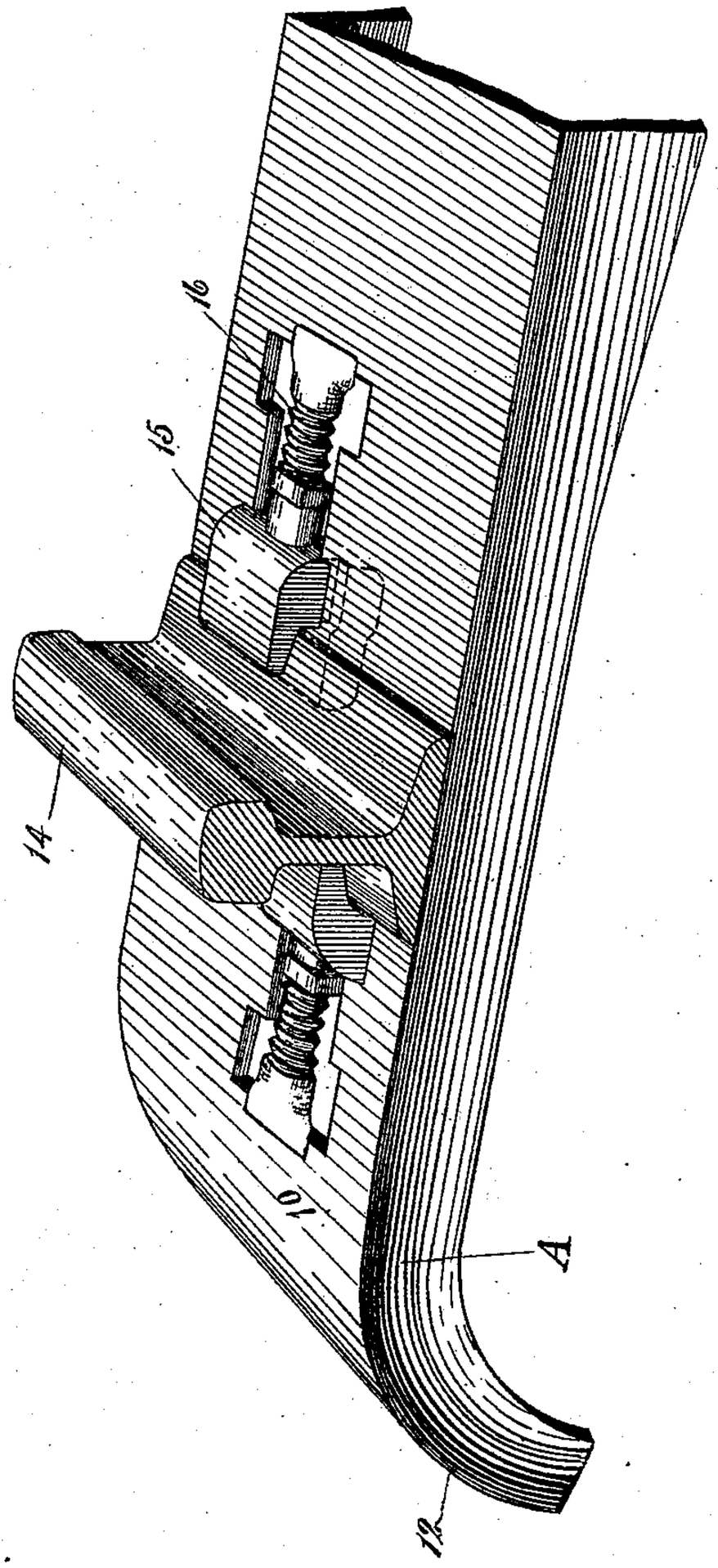
Fig. 4.



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UNITED STATES PATENT OFFICE.

FREDERICK ROBERT AND EDWARD P. EASTWICK, JR., OF NEW YORK, N. Y.

TIE AND CLAMP FOR RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 414,921, dated November 12, 1889.

Application filed July 30, 1889. Serial No. 319,197. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK ROBERT and EDWARD P. EASTWICK, Jr., both of New York city, in the county and State of New York, have invented a new and useful Improvement in Ties and Clamps for Railway-Rails, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in metal ties for railway-rails and novel devices for fastening the rails to the ties.

The invention has for its object to provide a means whereby lateral movement of the rail-sections may be readily obtained when desirable, and it, morever, provides a means for removing the ties without affecting the rail-sections.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a longitudinal section through a tie and the rail and one of the clamps. Fig. 2 is a plan view of the tie and one clamp in position upon the rail. Fig. 3 is a perspective view of the clamp detached, and Fig. 4 is a perspective view of the improvement.

The tie A is made of metal and comprises a flat body surface 10, provided with a longitudinal flange 11, projected downward from each side, the ends of the flanges being preferably cylindrical, and the body is curved downward at the end of the base to the extremity of its flange, as shown at 12 in Figs. 1 and 2. We do not, however, confine ourselves to the especial shape of the tie—as, for instance, the ends may be square or beveled instead of cylindrical, as shown.

At each side of the center of the tie-body a longitudinal T-slot 13 is produced, the heads or transverse sections *a* of the slots being located nearest the ends of the tie, as best shown in Fig. 2, and the space between the approaching end walls of the slots is of sufficient width only to accommodate the flange of the rail-section 14.

In connection with the ties two clamping-blocks 15 and two screw-bolts 16 are employed, each bolt having screwed thereon an adjusting-nut 17, the clamps 15 consist of a block of metal in the front or inner edge of which a longitudinal recess is made extending from end to end and forming two members 18 and 19, the upper member whereof is narrower than the lower member, and the lower member is of less length than the upper one, which latter effect is accomplished by recessing the lower member at both ends, as illustrated at 20 in Fig. 1. In the rear or outer side of the clamping-block a preferably circular bore 21 is formed, and in each end of the block a horizontal groove or channel 22 is produced, extending from the rear and terminating at the recess in the front edge, the base wall of both the front and rear recesses being in the same horizontal plane.

The screw-bolts 16 are provided with a slot 23 in the heads, and upon the threaded end of each bolt the nut 17 is screwed, the nuts being of a suitable size and contour at their outer ends to enter the openings 21 in the clamps, as best shown in Fig. 1. In addition to the nuts 17 jam-nuts may also be employed, carried by the screw-bolts; or the nuts 17 may be especially constructed to effect the same object.

In operation the rail is placed transversely upon the center of the tie between the slots 13, as shown in Figs. 1 and 2. The clamps are then entered at the head or transverse section of the said slots 13 and carried forward, the side walls of the reduced section of the slots entering the end grooves or channels 22 of the clamp. Thus the clamp is rigidly bound to the tie, and yet free to move longitudinally thereon. When the clamps contact with the rail, the upper face of the lower member 19 contacts with the under face of the tie beneath the flange of the rail and the under face of the upper member 18 is brought to a firm contact with the upper bevel-surface of the rail-flange. The bolts 16 are now placed in position—that is, the outer end wall of the T-slots 13 are made to enter the slots 23 in the heads of the bolts and the nuts 17 are screwed inward until they enter the clamp-openings 21 and firmly press the clamp to a rigid bearing against the rail. By this means the rail is effectually prevented from moving

in any direction when the clamps are pressed to place, and if it is desired at any time to shift the rail laterally in the direction of either side it is simply necessary to manipulate the nuts 17 to permit one clamp to move the desired distance in the direction of the end of the tie, which is accomplished after the nut is loosened by crowding forward the opposite clamp.

It is obvious that the tie may be removed from the rail at any time without affecting the rail in the least, and that the bolts and clamps can be removed and replaced while the tie is in position.

The fastenings are adjustable, so as to receive all sizes of rails and allow lateral adjustment of gage.

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

1. A clamping-block for railway-rails, having a slot produced in its surface, forming two members, the under face of the upper member being inclined or beveled, and also provided with side grooves for adjustment upon the tie, substantially as shown and described.

2. A clamping-block for railway-ties, having a slot produced in its upper surface, forming two members, the under face of the upper member being inclined or beveled and having side grooves for adjustment upon the tie and an opening in the rear face centrally located between the top and bottom for the reception of a horizontal adjusting device, substantially as shown and described.

3. The combination, with a clamping-block for railway-rails, having a slot produced in its inner surface, forming two members, the under face of the upper member being inclined or beveled, and also provided with side grooves for adjustment upon the tie, of a horizontal adjusting-screw contacting at one end with the tie and at the other end with the block, substantially as shown and described.

4. The combination, with a clamping-block for railway-rails, having a slot produced in its inner surface, forming two members, the under face of the upper member being inclined or beveled, of an adjusting-screw capable of contact with the tie, and a nut carried by the said screw, adapted for contact with the block, substantially as shown and described.

5. The combination, with a clamping-block for railway-rails, having a slot produced in its inner surface, forming two members, the under face of the upper member being inclined or beveled, and also provided with end grooves for adjustment upon the tie, and an opening in the outer side surface, of an adjusting-screw capable of contact with the tie, and a nut carried by the said screw capable of entering the opening in the block, substantially as shown and described.

6. The combination, with a metal tie provided with a slot at each side of the center, of a clamping-block held to slide in each slot, recessed at the inner side to form two members, the upper member of which is provided with a beveled under face, and screws capable of contact with one end wall of the slots and the outer side of the clamps, substantially as shown and described.

7. The combination, with a metal tie provided with a longitudinal T-slot at each side of the center, of clamping-blocks held to slide in the said slots, having the front or inner face recessed to form an upper and a lower member, the under face of the upper member being beveled, threaded bolts adapted for contact at their heads with the end walls of the T-slots, and lock-nuts screwed upon the inner ends of the said bolts, which lock-nuts contact with the outer or rear faces of the clamps, all combined for operation substantially as and for the purpose specified.

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