June 24, 1930. B. F. BECKMAN 1,767,647

TIE PLATE

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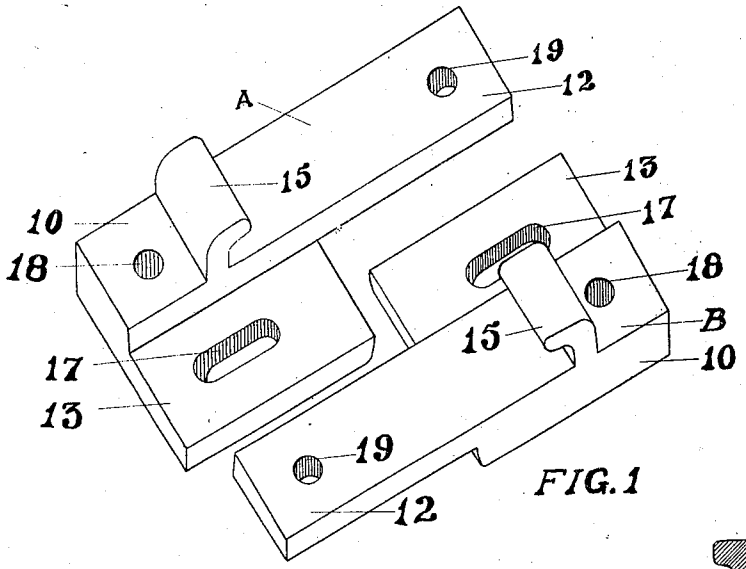


FIG. 1

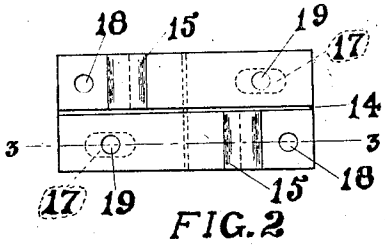


FIG. 2

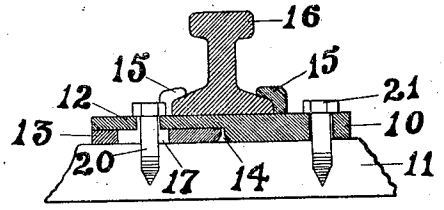


FIG. 3

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TIE PLATE

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This invention relates to tie-plates for railway rails, its object being to provide a device of that character which shall be economical in manufacture, convenient in its application to the rail and tie and which shall be rigid in its construction, firmly holding the rail in position. Further objects are to make the plate adjustable as to various widths of the base flanges of the rails, and to provide extensive surfaces of contact between the plate and the tie.

In the accompanying drawings I have shown that form of tie plate which is now preferred; but the claims herein are not intended to be limited to the exact structure shown any further than their express terms make necessary.

In the said drawings, Fig. 1 is a perspective view of my preferred form of tie-plate, the same showing the two members of the plate separated or spaced apart in order more clearly to illustrate the specific structure; Fig. 2 is a plan view of the said tie-plate on a reduced scale, with the parts assembled; Fig. 3 is a section through the tie-plate of Fig. 2, taken on the broken line 3—3 thereof, and showing the manner in which the elements making up the plate are assembled with reference to the tie and the railway rail.

That form of tie-plate which is shown in the drawing comprises two members, A and B, which are similar in shape to the letter L. These members are identical in structure and are interchangeable. Each member at the angle of the L may be said to be of double thickness, as indicated in the portion marked 10. As will be seen from Fig. 3, this thickened portion is adapted to rest directly upon the tie, which is indicated at 11. The thickened portion extends for substantially half the length of the member A or B, beyond which the member is cut away on its lower side to form a relatively thin extension 12. Extending longitudinally of the rail from the thickened portion 10 is another thinned extension 13. As will be plain from Fig. 1, the thinned portions 12 and 13 are at right angles to each other; and, whereas the portion 12 projects from the upper part of the thickened portion 10, the thinned portion 13 projects from the lower part of the thickened portion. When the tie-plate is assembled, as shown in Figs. 2 and 3, the part 12 of one member lies upon the part 13 of the other member. These parts are each of substantially half the thickness of the part 10, so that the assembled plate is of uniform thickness throughout, except that, in applying it to rails having base flanges of different widths, or to ties of greater or lesser widths, the members may be spaced apart more or less, as indicated at 14 in Figs. 2 and 3.

Extending upwardly from the upper surfaces of the thickened portions 10 of the members A and B are hooked projections 15, which are adapted to extend over the adjacent base flanges of the rail, which is indicated at 16. In assembling, the members A and B are applied beneath the rail from opposite sides of the latter until the hooked projections come into substantial contact with the base flanges of the rail.

The thinned portion 13 of each of the members is provided with an elongated slot 17, while the thickened portion 10 is provided with a spike hole 18 and the thin portion 12 with a similar spike hole 19. When the tie-plate is assembled, the holes 19 register with the elongated slots 17 so that spikes 20 may be inserted through the holes and slots into the tie 11, as shown in Fig. 3. Because of the elongated slots, the members may be spaced transversely of the rail more or less and still permit the insertion of the spikes 20. In this way, therefore, the tie plate is made adjustable for various widths of base flanges of the rails. For holding down the thickened portions 10 of the members, spikes 21 are passed through the holes 18 and forced into the tie.

The parts above described may be made out of any suitable material. The portions which engage with the tie have extended areas in contact with the latter so that the hammering incident to heavy traffic results in comparatively little damage to the ties. The holes which are necessarily made in the ties or spaced substantial distances

from the rails and the material of the ties beneath the rails and adjacent the edges of the base flanges of the latter remain intact and in condition for sustaining the stresses due to heavy traffic. Further, when the bolts or screws are set down tightly against the tie-plate members, the parts which are in contact with the tie are drawn tightly against the latter, thus slightly compressing the fibers of the tie and preventing moisture from reaching the holes in the tie.

Having thus described my invention what I claim as new is:

1. A tie-plate comprising a pair of members which are adapted to be assembled from opposite sides of the rail, each of said members comprising a thickened portion adapted to rest upon the tie, a thinner portion extending from the thickened portion in the direction of the rail and also adapted to rest upon the tie, and a second thinner portion extending from the thickened portion transversely of the rail and adapted to overlap the first mentioned thinner portion of the opposite member, the first mentioned thinner portion of each member being provided with an opening therethrough and the second thinner portions having openings therethrough adapted to register with the first mentioned openings for the reception of means for securing the members to the tie.

2. A tie-plate comprising a pair of members which are adapted to be assembled from opposite sides of the rail, each of said members comprising a thickened portion adapted to rest upon the tie, a thinner portion extending from the thickened portion in the direction of the rail and also adapted to rest upon the tie, and a second thinner portion extending from the thickened portion transversely of the rail and adapted to overlap the first mentioned thinner portion of the opposite member, the first mentioned thinner portion of each member being provided with an opening therethrough and the second thinner portions having openings therethrough adapted to register with the first mentioned openings for the reception of means for securing the members to the tie, and means carried by the thickened portions of the members for holding the base flange of a rail to said members.

3. A tie-plate comprising a pair of members which are adapted to be assembled from opposite sides of the rail, each of said members comprising a thickened portion adapted to rest upon the tie, a thinner portion extending from the thickened portion in the direction of the rail and also adapted to rest upon the tie, and a second thinner portion extending from the thickened portion transversely of the rail and adapted to overlap the first mentioned thinner portion of the opposite member, the first mentioned thinner portion of each member being provided with an elongated opening extending transversely of the rail and the second thinner portion having openings therethrough adapted to register with the said elongated openings for reception of means for securing the members to the tie.

4. A tie-plate comprising a pair of members which are adapted to be assembled from opposite sides of the rail, each of said members comprising a thickened portion adapted to rest upon the tie, a thinner portion extending from the thickened portion in the direction of the rail and also adapted to rest upon the tie, and a second thinner portion extending from the thickened portion transversely of the rail and adapted to overlap the first mentioned thinner portion of the opposite member, the first mentioned thinner portion of each member being provided with an elongated opening extending transversely of the rail and the second thinner portion having openings therethrough adapted to register with the said elongated openings for reception of means for securing the members to the tie, and means carried by the thickened portions of the members for holding the base flange of a rail to said member.

5. A tie plate comprising a pair of identical and interchangeable L-shaped members which are adapted to be assembled from opposite sides of the rail, each of said members comprising a thickened portion at the angle of the L, which portion is adapted to rest upon the tie, and a pair of thinner portions extending from the said thickened portion at right angles to each other, that thinner portion which extends in the direction of the rail having its lower surface in the same plane as the lower surface of the thickened portion, and that thinner portion which extends transversely of the rail having its upper surface in the same plane as the upper surface of said thickened portion, the said transversely extending thinner portion on one member overlying the lower thinner portion of the other member when the parts are assembled, and the said members having openings therethrough for the reception of means for attaching them to a tie.

6. A tie plate comprising a pair of identical and interchangeable L-shaped members which are adapted to be assembled from opposite sides of the rail, each of said members comprising a thickened portion at the angle of the L, which portion is adapted to rest upon the tie, and a pair of thinner portions extending from the said thickened portion at right angles to each other, that thinner portion which extends in the direction of the rail having its lower surface in the same plane as the lower surface of the thickened portion and also resting

upon the tie, and that thinner portion which extends transversely of the rail having its upper surface in the same plane as the upper surface of said thickened portion, the said transversely extending thinner portion on one member overlying the lower thinner portion of the other member when the parts are assembled, the said members having openings therethrough for the reception of means for attaching them to a tie, certain of said openings being elongated, for the purpose specified, and means carried by the said thickened portion for engaging the base flange of the rail.

7. A tie plate comprising a pair of identical and interchangeable L-shaped members which are adapted to be assembled from opposite sides of the rail, each of said members comprising a thickened portion at the angle of the L, which portion is adapted to rest upon the tie, and a pair of thinner portions extending from the said thickened portion at right angles to each other, that thinner portion which extends in the direction of the rail having its lower surface in the same plane as the lower surface of the thickened portion, and that thinner portion which extends transversely of the rail having its upper surface in the same plane as the upper surface of said thickened portion, the said transversely extending thinner portion on one member overlying the lower thinner portion of the other member when the parts are assembled, the said members having openings therethrough for the reception of means for attaching them to a tie, and means on the upper sides of the said thickened portions of the members for engaging the base flanges of the rail, said means being so positioned that substantially half of the width of the base flanges rests on each of the thickened portions.

In testimony whereof I have signed my name to this specification.

BURCHARD F. BECKMAN.