(No Model.)

W. W. HOLMES.

RAILROAD TIE PLATE.

No. 563,037. Patented June 30, 1896.

Fig. 1.

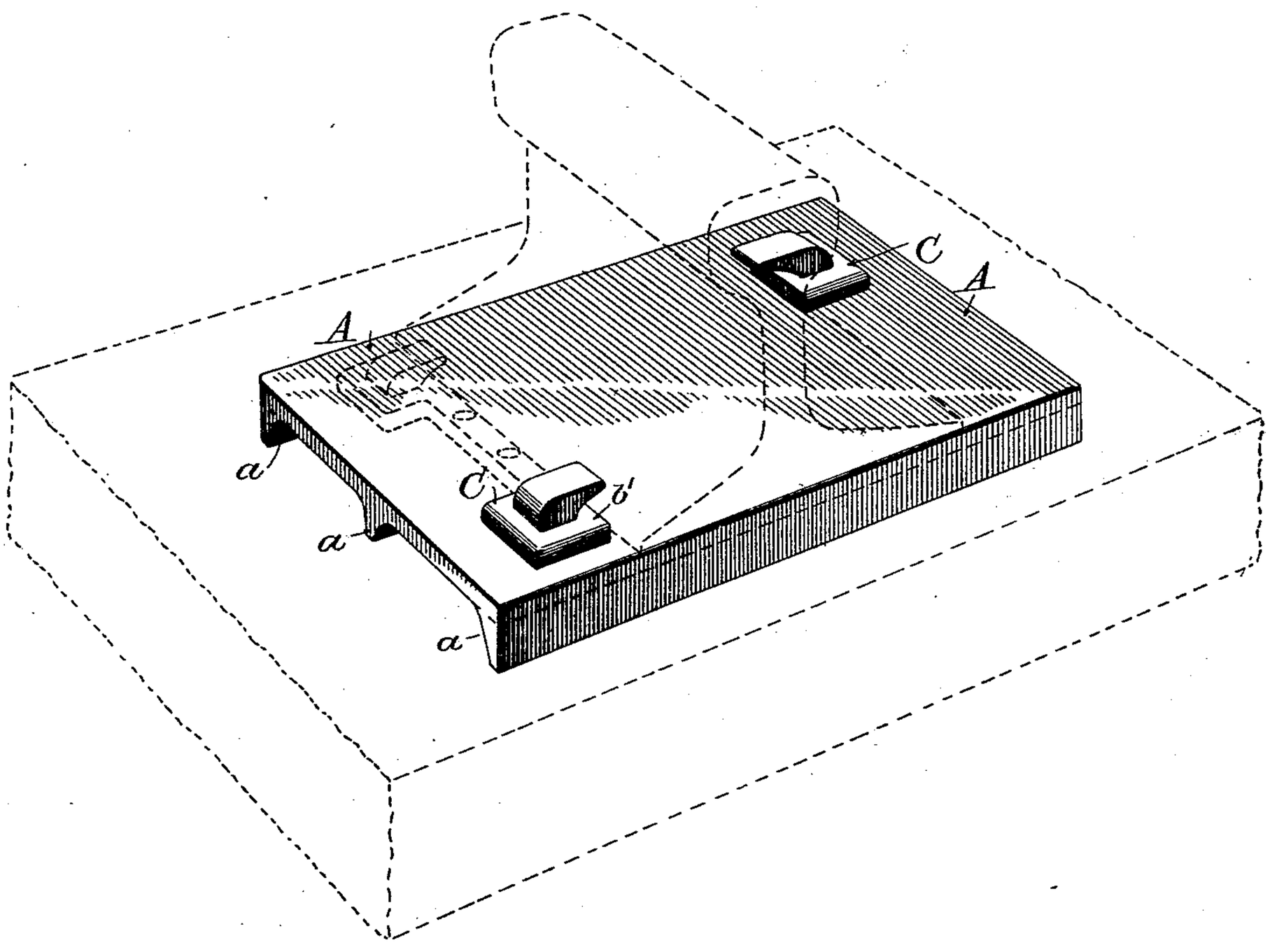


Fig. 2.

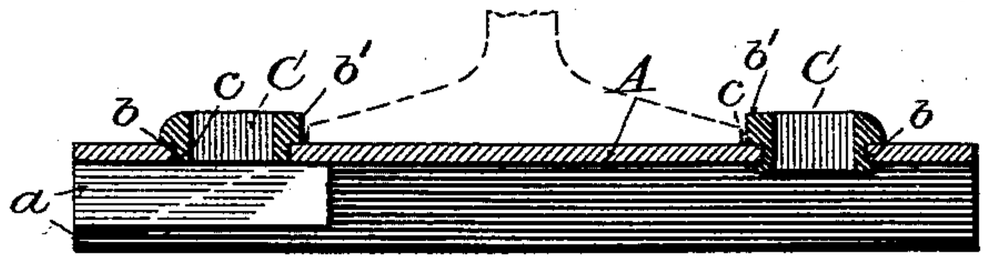
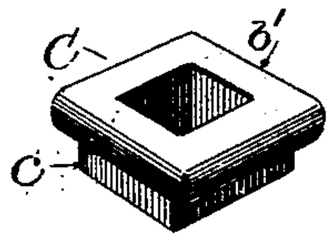


Fig. 3.



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RAILROAD-TIE PLATE.

SPECIFICATION forming part of Letters Patent No. 563,037, dated June 30, 1896.

Application filed October 23, 1895. Serial No. 566,600. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. HOLMES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railroad-Tie Plates; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a tie-plate embodying my invention, portions of the railroad-tie and a rail being shown in dotted lines, and also in dotted line on the left, the union of two bearing-blocks by a web which forms a continuous abutment for the foot-flange of the rail. Fig. 2 is a vertical transverse section through the spike-holes and bearing-blocks of the tie-plate, and Fig. 3 is a detached view of a preferred form of bearing-block.

Like symbols refer to like parts wherever they occur.

My invention relates to that class of devices—formed of light or thin resilient metal plate—which are interposed between the rail and tie in the construction of tracks for the preservation of the tie and to assist in the ready maintenance and repair of the way. In this class of devices—commonly known as "tie-plates," in contradistinction from the heavy non-resilient rail-support known as a "chair"—it is very desirable that the plate should be sufficiently light or thin to secure the resiliency of the tie and to avoid, as far as may be, the pounding of the passing loaded wheel so destructive to the way; for which reason, as well as for sake of economy, such tie-plates are preferably made of wrought metal and as light as possible. In many instances the tie-plate is so light (or thin) that truss ribs or flanges on the under face are employed to stiffen the plate and prevent its buckling.

As a consequence of the use of light metal tie-plates the spring or resiliency of the tie, and the hammering and side thrust of the passing wheel on the rail—and other incidents of railway service—(if the spikes by which the tie-plate is secured pass through spike-holes in the plate,) there is always a tendency in the plate to crack from the spike-hole and in the spike to wear back and permit the movement or creeping of the tie-plate.

The object, therefore, of my present invention is to obviate these several objectionable features—guard the tie-plate from cracking at the spike-holes—and incidentally to reduce the wear on the neck of the spike, as well as in a measure, if not entirely, obviate the tendency of the plate to creep on the tie, and to keep the rail to gage.

In carrying out my invention I provide a thin resilient metallic tie-plate with an inserted bearing-block having a rectangular spike-hole, so that said bearing-block shall be interposed between the spike and tie-plate on at least three sides, whereby the plate is relieved from the direct bearing of the spike and from lateral and longitudinal thrust, thus obviating the tendency of the plate to crack from the spike-hole and the spike to wear back and permit the creeping of the plate, and such a construction embodies one feature of my invention.

The bearing-block may, if desired, be of such size and shape as to rest against, and by preference it does rest against, the foot-flange of the rail as well as against the plate within the spike-hole of the tie-plate, and thus may—and preferably does—form a rail-abutment on the upper face of the tie-plate—which may be either detachably or permanently connected with the tie-plate—and such construction embodies a second feature of my invention.

I will now proceed to describe my invention so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates the tie-plate, which, in the instance chosen for illustration, is provided with truss ribs or flanges *a a* upon one face, though said ribs or flanges may be omitted if desired without departing from the spirit and scope of my invention, and a plate plain on both faces or otherwise trussed may be employed if desired.

The plate A is provided with one or more spike-holes *b*, properly located with relation to the rail-seat, said holes being of an area which without encroaching upon the rail-seat will permit the insertion within the spike-hole of a bearing-block C of such size as will re-

duce the spike-hole to its proper dimensions for the spike. This bearing-block C may be of general U-shape, or, in other words, composed of three sides and open at the rear, so as to guard the plate and spike from lateral thrust as well as from the direct thrust on the rail side, but is preferably a four-sided hollow figure or rectangular block with central hole for passage of a spike, which reinforces the spike-hole of the plate in all directions, and said block is preferably provided with a dependent flange *c*, entering the spike-hole, and abutments *b'*, which rest upon the upper face of the tie-plate. Whatever the form selected for the bearing-block, it may be either detachably inserted in or securely riveted to the tie-plate, the latter being preferable as affording security against loss of the reinforce-block, and if a plurality of spike-holes are provided on the same side of the plate the bearing-blocks may be connected by an intermediate web or connection, which, if desired, may in turn be riveted to the tie-plate, as indicated in dotted lines, Fig. 1.

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

1. The combination with a thin metal tie-plate of a bearing-block having a rectangular spike-hole, said block arranged in the spike-hole of the tie-plate, substantially as and for the purposes specified.

2. The combination with a metal tie-plate having a spike-hole, of a bearing-block having a pendent flange which rests in the spike-hole of the plate against the inner edge thereof, said bearing-block also provided with an abutment which rests upon the upper surface of the tie-plate at the edge of the rail-seat constituting a support or abutment for the foot-flange of a rail, substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 17th day of October, 1895.

WILLIAM W. HOLMES.

Witnesses:
J. C. ROUZER,
J. MELMER.