

(No Model.)

B. REECE.

METHOD OF MAKING RAILROAD TIE PLATES.

No. 494,692.

Patented Apr. 4, 1893.

Fig. 1.

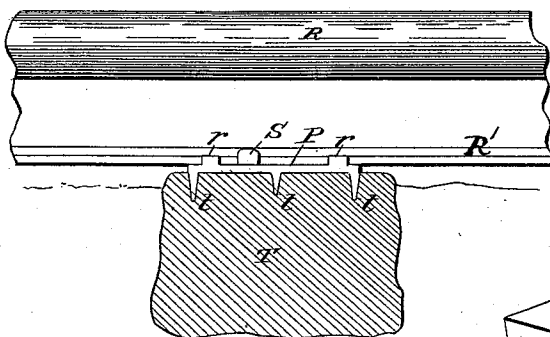


Fig. 2.

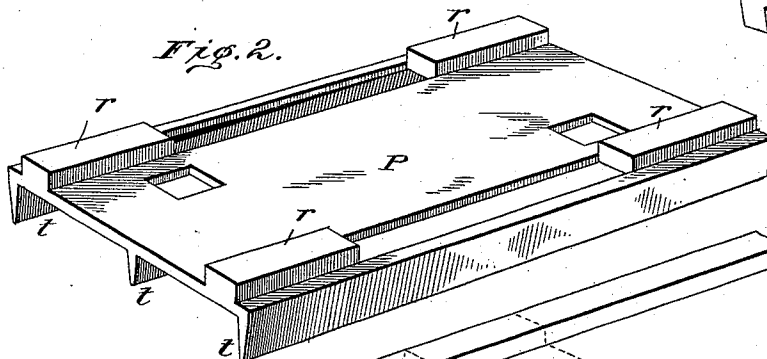


Fig. 3.

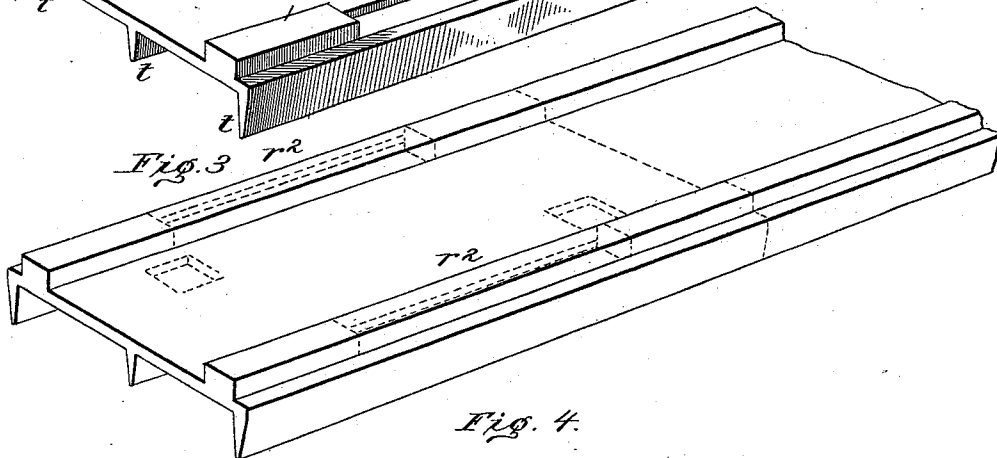


Fig. 4.

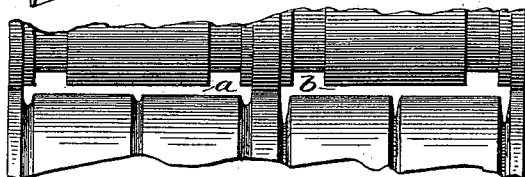
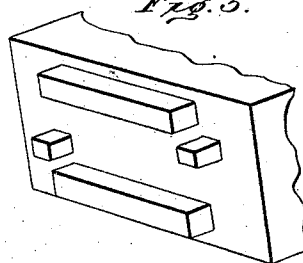


Fig. 5.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## METHOD OF MAKING RAILROAD-TIE PLATES.

SPECIFICATION forming part of Letters Patent No. 494,692, dated April 4, 1893.

Application filed October 27, 1892. Serial No. 450,145. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN REECE, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have  
5 invented certain new and useful Improvements in the Method of Making 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  
10 drawings, wherein—

Figure 1, is a view of a portion of a rail and tie, and an interposed tie-plate. Fig. 2, is a detached, perspective view of a tie plate. Fig. 3, is a perspective view of a portion of a  
15 bar adapted for making tie plates. Fig. 4, is a view of a portion of two rolls, showing passes adapted to produce a tie-plate bar of the character shown in Fig. 3, and Fig. 5, is a perspective view of a portion of a punch  
20 adapted to remove the portions of rib from the plate blank to form the foot flange abutments, and at the same operation punch the spike holes in the tie-plate.

Like symbols refer to like parts wherever  
25 they occur.

My invention relates to the method of making what are termed tie-plates, or wear-plates, used in track laying to protect the tie, prevent the breaking of the fiber thereof, and the  
30 water soaking and decay incident thereto which results in the rapid destruction of the tie. Experience has shown that such plates should be sufficiently light and elastic to preserve the advantages due to the resiliency of the tie, sufficiently strong beneath the foot  
35 flange of the rail to avoid buckling and breaking, and of a character to prevent the creeping of the plate on the tie, and any movement of the rail on the plate which would bring a  
40 drawing strain on the spikes. To meet these requirements, the best forms of tie-plates should be constructed of light plate, with longitudinal truss ribs on the under surface and a series of stops or abutments for the foot  
45 flange of the rail upon the upper surface. By the methods now commonly employed it is not only difficult, but laborious, and more or less expensive to produce tie-plates having the characteristics specified.

The object of the present invention is the  
50 rapid and economic production of such tie-plates; and to this end, the invention generally stated consists in first forming the plate blank with longitudinal ribs in different planes  
55 upon opposite faces, and then punching out sections of the ribs from one (the upper) face to form abutments for the foot flange of the rail; all as will hereinafter more fully appear.

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

In the drawings T indicates the tie, R the rail, and P the interposed tie-plate. The tie-plate P is provided on its under surface with one or more longitudinal ribs *t*, which enter  
65 the tie in line with the fiber, and said ribs serve to truss the light plate affording it support against buckling under the foot flange of the rail without materially reducing its flexibility; said ribs also prevent the creeping of  
70 the plate without breaking the fiber of the tie.

Upon the upper surface of the tie-plate P, but in different vertical planes from the ribs *t*, are a series of projections *r*, which serve as  
75 abutments for the foot flange R' of the rail, prevent the lateral movement of the rail on the plate, and undue draft or drawing strain on the spikes S.

To cheaply and expeditiously manufacture a tie-plate of the general character hereinbefore specified I first produce a blank—or preferably a bar constituting a multiple of the blank—having upon its opposite faces a series of longitudinal ribs arranged in different vertical planes—which can readily be done by drop  
85 forging, or preferably by means of rolls, such as shown in Fig. 4, having passes *a b*, and then subject the plate or bar to punches which strike out sections *r*<sup>2</sup> of the ribs and plate, thus forming the abutments *r*, to confine the rail,  
90 and removing such portions of the rib as would prevent the foot flange of the rail from resting directly on the tie-plate. In case the tie-plates have been formed in multiple (as in Fig. 3), which is the most expeditious for manufacturing  
95 purposes, the bar will be severed into sections as indicated by the transverse dotted line, Fig. 3. If desired the spike holes can be

punched in the plate by the same operation which removes the rib sections  $r^2$  to form the abutments  $r$ , for the foot flange of the rail.

5 I claim, and desire to secure by Letters Patent, is—

10 The method herein described for making tie-plates, which consists in first producing a blank having ribs upon opposite faces and in different vertical planes, and then striking out sections of the plate and ribs upon one

face to form a seat and abutments for the foot flange of the rail; substantially as and for the purposes specified.

In testimony whereof I affix my signature, in 15 presence of two witnesses, this 24th day of October, 1892.

BENJAMIN REECE.

Witnesses:

RICHD. W. WRIGHT,  
GEO. H. BRYANT.