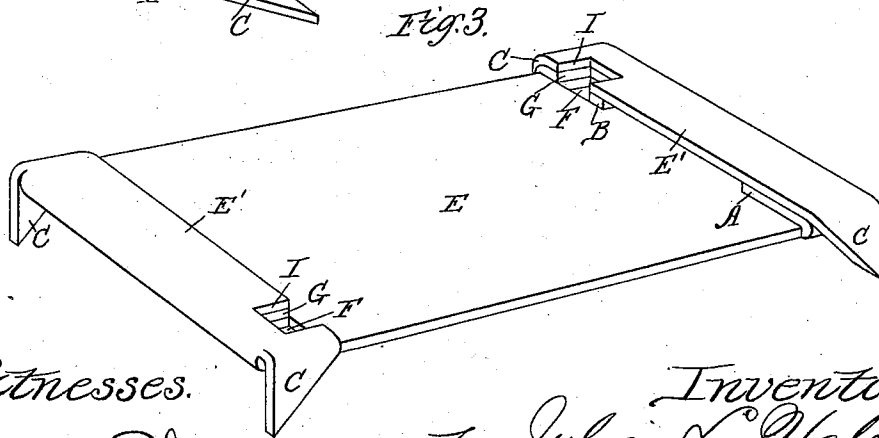
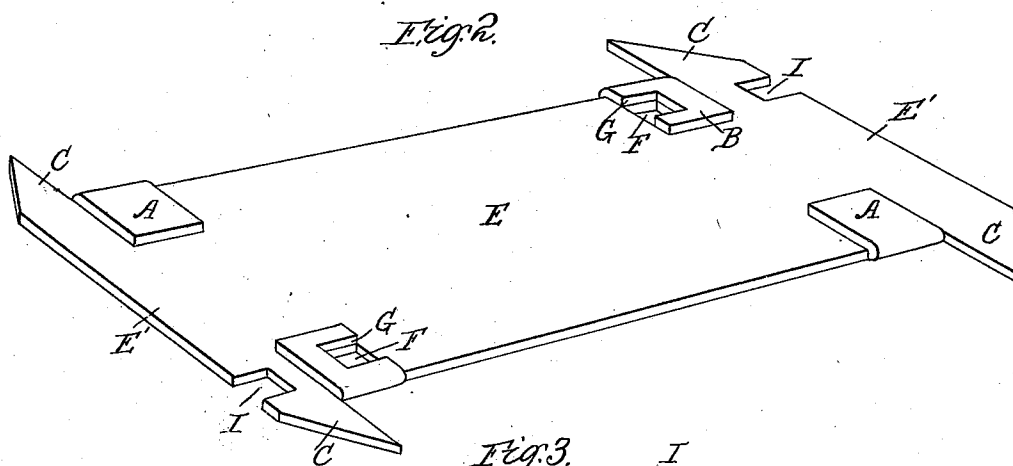
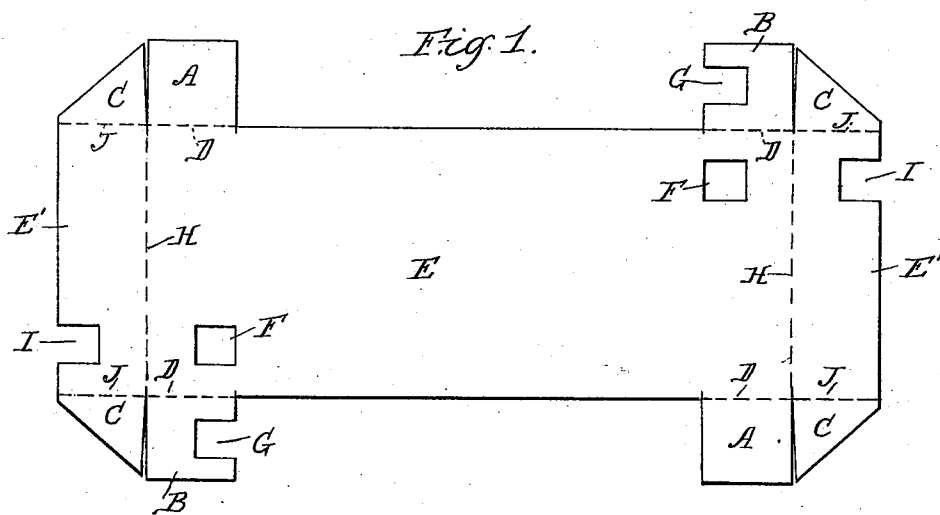


(No Model.)

J. L. YALE.
TIE PLATE.

No. 547,908.

Patented Oct. 15, 1895.



Witnesses.

Wm. M. Rheum.
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UNITED STATES PATENT OFFICE.

JULIAN L. YALE, OF CHICAGO, ILLINOIS.

TIE-PLATE.

SPECIFICATION forming part of Letters Patent No. 547,908, dated October 15, 1895.

Application filed July 1, 1895. Serial No. 554,550. (No model.)

To all whom it may concern:

Be it known that I, JULIAN L. YALE, 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 Tie-Plates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

10 This invention relates to improvements in that class of devices known as "tie-plates," used to prevent the wear and spreading of rails upon the cross-ties of railways, and has for its object to provide a tie-plate composed 15 wholly of sheet metal bent to suitable form, and possesses in the maximum degree durability, cheapness, and efficiency. These and such other objects as may hereinafter appear are attained by the devices illustrated in the 20 accompanying drawings, in which—

Figure 1 represents a plan view of the blank from which my tie-plate is formed. Fig. 2 represents a perspective view showing the tie-plate partially formed, and Fig. 3 represents 25 a perspective view of the completed tie-plate.

Similar letters of reference indicate the same parts in the several figures of the drawings.

30 The blank from which my tie-plate is formed is cut from a rectangular sheet of metal, and while in practice the cutting or slitting may be either simultaneously or successively done, as desired, the blank when completely formed will have near each end thereof the laterally- 35 disposed rectangular lips A and B and at each corner thereof the triangular lips C.

In the operation of forming the plate the lips A and B are first bent on the dotted lines D and folded down so as to rest upon the main 40 body E of the plate. The body E is provided with the square holes or perforations F near the diagonally-opposite corners thereof, and the lips B are provided with notches G, which register with the holes F when the lips are 45 folded over upon the body of the plate. This first operation is illustrated in Fig. 2 of the drawings. The next operation is to bend up and over the ends E' of the blank, carrying the lips C C on the dotted lines H until said 50 ends rest upon the lips A and B, each end being provided with a notch I, designed to register with the notches G and perforations F

when the ends are bent over to final position.

This operation and the third and final operation is illustrated in Fig. 3, the third operation consisting of bending the lips C C downward on the dotted lines J to a position at right angles to the body of the plate. This makes the complete tie-plate.

The lips A and B serve to elevate the bent- 60 over ends E' of the tie-plate above the base or body E of the tie-plate, so as to constitute a seat for the flange of the rail between the elevated ends of the tie-plate to prevent lateral movement of the rail with relation to the 65 tie-plate. The triangular lips C constitute prongs that are designed to be driven into the cross-tie to assist in maintaining the tie-plate against either longitudinal or lateral movement of the tie-plate upon the cross-ties, 70 and especially the tendency to creep, which permits spreading of the rails with reference to each other. The notches G and I, in conjunction with the holes F, afford a seat for the spikes, which when driven into position 75 serve the double purpose of fastening down the rail and holding the tie-plates in position.

A tie-plate constructed in accordance with my invention possesses simplicity, cheapness, and durability in the maximum degree, and 80 by reason of being bent in the peculiar manner shown out of a single piece of sheet metal and secured to the cross-ties in the manner described enables the use of very much thinner sheet metal than has been possible in rails 85 or bent sheet metal tie-plates as heretofore constructed, beside effecting considerable saving in the cost of manufacture, the labor of constructing the device, and the cost of transportation. Obviously I may here state that, 90 so far as relates to the broad idea of my invention, it is not essential that the lips A and B should be integral with the plate, but might be separate filling-blocks inserted in position after the plate is bent to form or during the 95 bending operation.

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

1. A blank for a tie plate consisting of sheet 100 metal and comprising the body portion E, the ends E', E', and the lips C, C, substantially as described.

2. A blank for a tie plate consisting of sheet

metal and comprising the body portion E, provided with perforations F, the ends E', E', provided with notches I, and the lips C, C, substantially as described.

5 3. A blank for a tie plate consisting of sheet metal and comprising the body portion E, the ends E', E', the lips A and B, and the lips C, C, substantially as described.

10 4. A blank for a tie plate consisting of sheet metal and comprising the body E, provided with the perforations F, the ends E' E', provided with the notches I, the lips A, the lips B provided with the notches G, and the lips C, substantially as described.

15 5. A tie plate consisting of sheet metal and comprising a body portion, integral overturned ends, prongs integral with said ends and extending at right angles to the body portion, and filling plates interposed between said
20 overturned ends and the body, substantially as described.

25 6. A tie plate consisting of sheet metal and comprising a body portion, integral overturned ends, prongs integral with the said ends and extending at right angles to the body portion, and overturned filling plates integral with the body and interposed between said overturned ends and the body, substantially as described.

7. A tie plate consisting of sheet metal and comprising a body portion provided with perforations near the ends thereof, integral overturned ends provided with notches adapted to register with said perforations, prongs integral with said ends and extending at right
35 angles to the body portion, and filling pieces interposed between said overturned ends and the body, and provided with notches registering with the notches and perforations in the ends and body, substantially as described. 40

8. A tie plate consisting of sheet metal and comprising a body portion provided with perforations near the ends thereof, integral overturned ends provided with notches adapted to register with said perforations, prongs integral with said ends and extending at right
45 angles to the body portion, and overturned filling plates integral with the body and interposed between said overturned ends and the body, said plates being provided with
50 notches adapted to register with the notches and perforations in the ends and body, substantially as described.

JULIAN L. YALE.

Witnesses:

M. E. SHIELDS,
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