No. 746,082. PATENTED DEC. 8, 1903.

L. A. HOERR.

TIE PLATE.

APPLICATION FILED SEPT. 30, 1903.

NO MODEL.

Fig. 1.

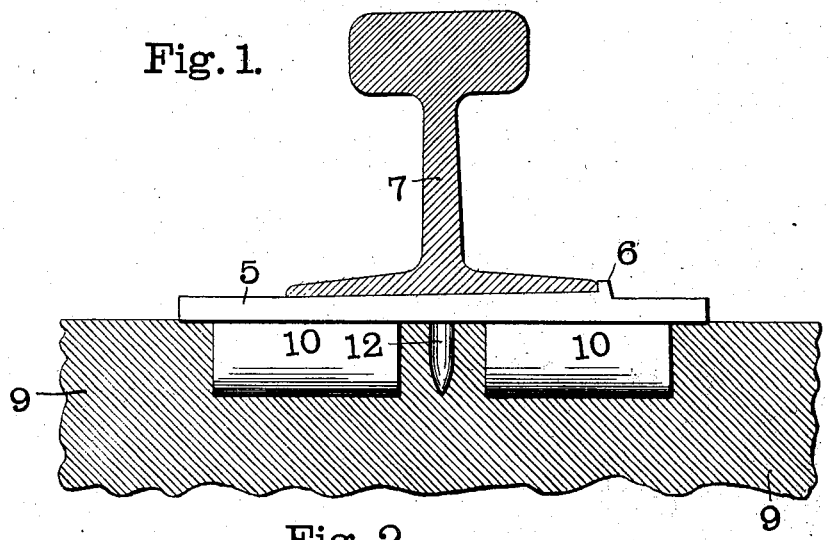


Fig. 2.

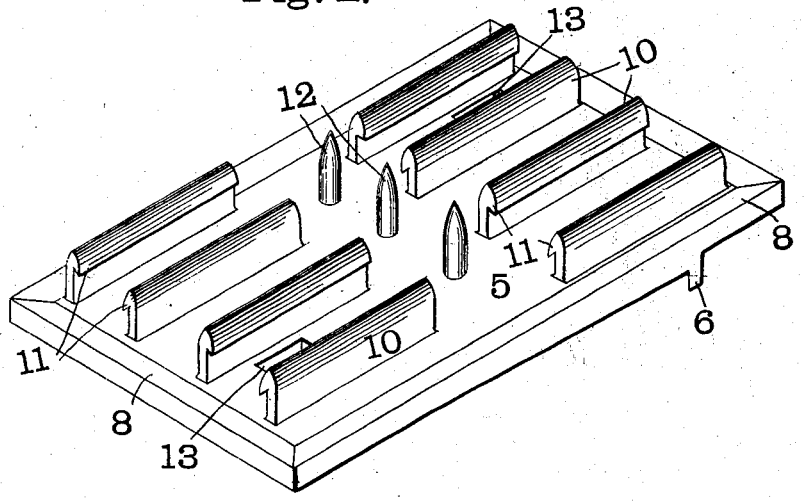
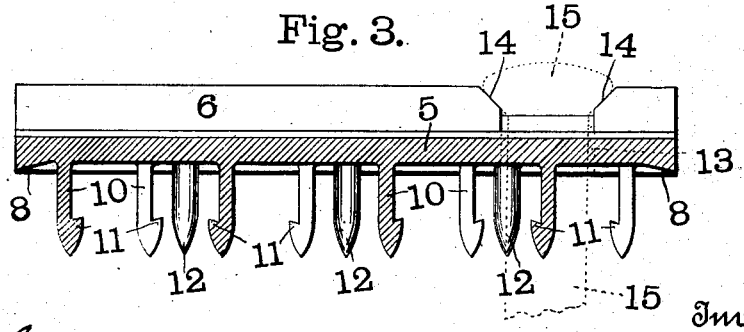


Fig. 3.



Witnesses

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No. 746,082. Patented December 8, 1903.

UNITED STATES PATENT OFFICE.

LOUIS A. HOERR, OF ST. LOUIS, MISSOURI.

TIE-PLATE.

SPECIFICATION forming part of Letters Patent No. 746,082, dated December 8, 1903.

Application filed September 30, 1903. Serial No. 175,164. (No model.)

To all whom it may concern:

Be it known that I, LOUIS A. HOERR, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented a certain new and useful Tie-Plate, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The object of my invention is to provide a tie-plate which will be held firmly to the tie and which will prevent the entrance of water between the tie and the plate, thus serving to protect both the tie and plate and also to so construct the plate that it will effectively resist all tendency to move either in the direction of the length of the tie or vertically.

My invention consists in part in a railway-tie plate having a continuous flange at or adjacent to the margin thereof and one or more downward projections carried by said plate near said flange and adapted to enter the tie and hold the flange in contact therewith.

My invention also consists in certain other novel features, all of which are described in the following specification and pointed out in the claims affixed hereto.

In the accompanying drawings, which illustrate one form of tie-plate made in accordance with my invention, Figure 1 is a sectional view showing the plate in position in the tie and the rail in position upon the plate. Fig. 2 is an isometric projection of the lower side of the plate, and Fig. 3 is an enlarged cross-section.

Like marks of reference refer to similar parts in the several views of the drawings.

5 is a tie-plate, which is preferably rectangular in form. The plate 5 has formed on its upper face a shoulder 6, against which the rail 7 abuts. The plate may be made slightly inclined from the shoulder 6 for a distance equal to the width of the bottom of the rail, so as to hold the rail at the proper angle in rounding curves. The lower face of the plate 5 is provided at or near its edge with a continuous flange 8, which is adapted to make a water-tight joint with the tie 9. In order to hold this flange 8 firmly in contact with the face of the tie 9, so as to form the water-tight joint, I provide on the lower face of the plate 5 two sets of ribs 10, one arranged at each end of the plate. The ribs 10 extend longitudinally of the plate, so as to lie in the direction of the grain of the tie 9. These ribs 10 are arranged in pairs and are provided with hooks 11 on their opposite faces. These ribs 10 in place of being made cuneiform or wedge shape in cross-section between the plate and the hook, as has been the case in all previous hooked ribs of which I am aware, are made non-cuneiform between these points, so as to have no tendency to force the plate up out of the tie, and the sides of the ribs are preferably made substantially parallel between these points, as shown in the drawings. The two sets of ribs 10 are arranged out of alinement, as best shown in Fig. 3. The two sets are separated some distance, and between the sets are spurs. These spurs 12 are arranged out of alinement with both sets of ribs.

The plate 5 is provided with the usual spike-holes 13, one of which is formed adjacent to and divides the shoulder 6, as is shown in Fig. 3. The shoulder 6 at this point is provided with inclined faces 14. This construction provides a bearing for the head of the spike 15, so as to prevent shearing of the spike by the body of the plate, and at the same time allows the spike-head to be driven down firmly against the base of the rail, so as to overcome any tendency of the rail to slip under the spike.

Owing to the hooks 11 being opposed to each other in each pair of ribs, each hook tends to force the wood over the opposing hook, and thus the plate is held firmly to the tie, causing the flange 8 to make a water-tight joint therewith, and thus prevent injury both to the tie and plate by the entry of water between the tie and plate. The arrangement of the ribs out of alinement, as well as the arrangement of the spurs 12, enables the plate to effectively resist all tendency to move either in the direction of the length of the tie or vertically.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A railway-tie plate having a continuous flange at or adjacent to the margin thereof, and one or more downward projections carried

by said plate within said flange and adapted to enter the tie and hold said flange in contact therewith.

2. A railway-tie plate having a continuous flange at or adjacent to the margin thereof, and one or more hooked downward projections carried by said plate within said flange and adapted to enter the tie and hold said flange in contact therewith.

3. A railway-tie plate having on its under side a pair of substantially parallel longitudinal ribs, said ribs being provided with hooks on their opposite faces.

4. A railway-tie plate having on its under side two separated sets of longitudinal ribs, and spurs situated between said sets of ribs.

5. A railway-tie plate having on its under side two sets of separated longitudinal ribs arranged out of alinement with each other.

6. A railway-tie plate having on its under side two sets of separated longitudinal ribs arranged out of alinement with each other, and spurs situated between said sets of ribs.

7. A railway-tie plate having on its under side two sets of separated longitudinal ribs arranged out of alinement with each other, and spurs situated between said sets of ribs and out of alinement therewith.

8. A railway-tie plate having a continuous flange at or near its margin, and having on its under side two separated sets of longitudinal hooked ribs.

9. A railway-tie plate having a continuous flange at or near its margin, and having on its under side two separated sets of longitudinal hooked ribs arranged out of alinement with each other.

10. A railway-tie plate having a continuous flange at or near its margin, and having on its under face two separated sets of longitudinal ribs, the ribs of each set being arranged in pairs with hooks on their opposing faces.

11. A railway-tie plate having on its under side a longitudinal rib provided with a hook, said rib being non-cuneate in cross-section from the plate to the hook.

12. A railway-tie plate having on its under side a longitudinal rib provided with a hook, the sides of the rib being substantially parallel from the plate to the hook.

In testimony whereof I have hereunto set my hand and affixed my seal in the presence of the two subscribing witnesses.

LOUIS A. HOERR. [L. S.]

Witnesses:
W. A. ALEXANDER,
JAMES H. BRYSON.