

A. MORRISON.
TIE PLATE FOR RAILWAYS.
APPLICATION FILED FEB. 27, 1909.

956,398.

Patented Apr. 26, 1910.

Fig.1.

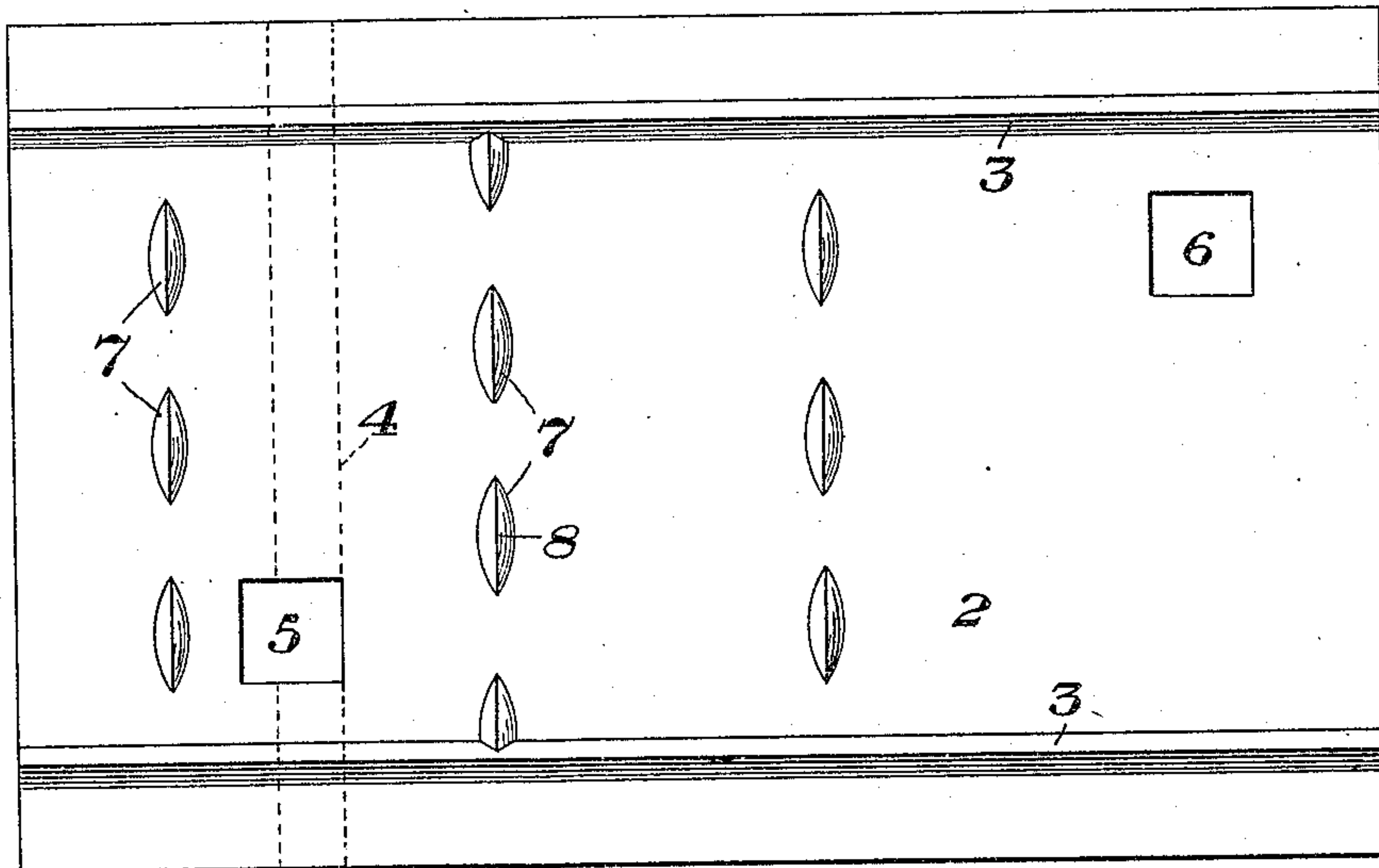


Fig.2.

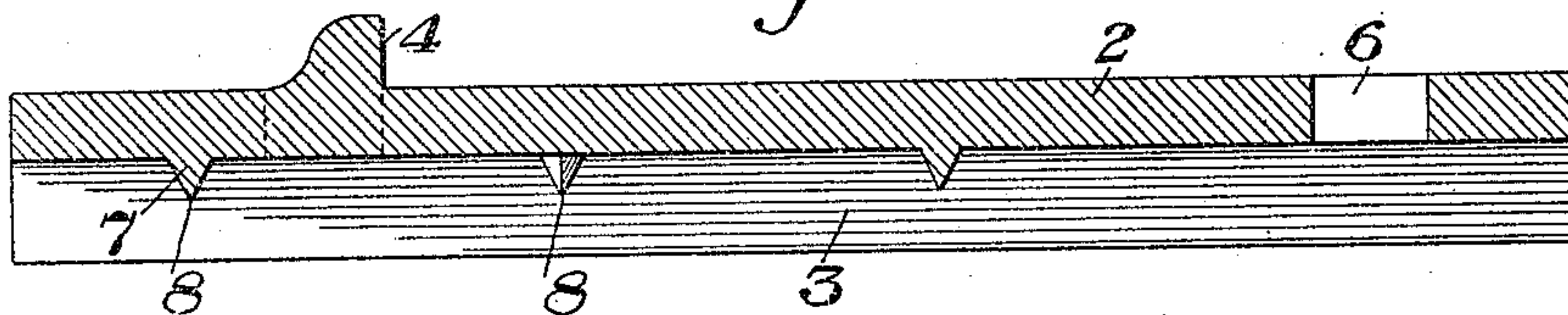


Fig.3.

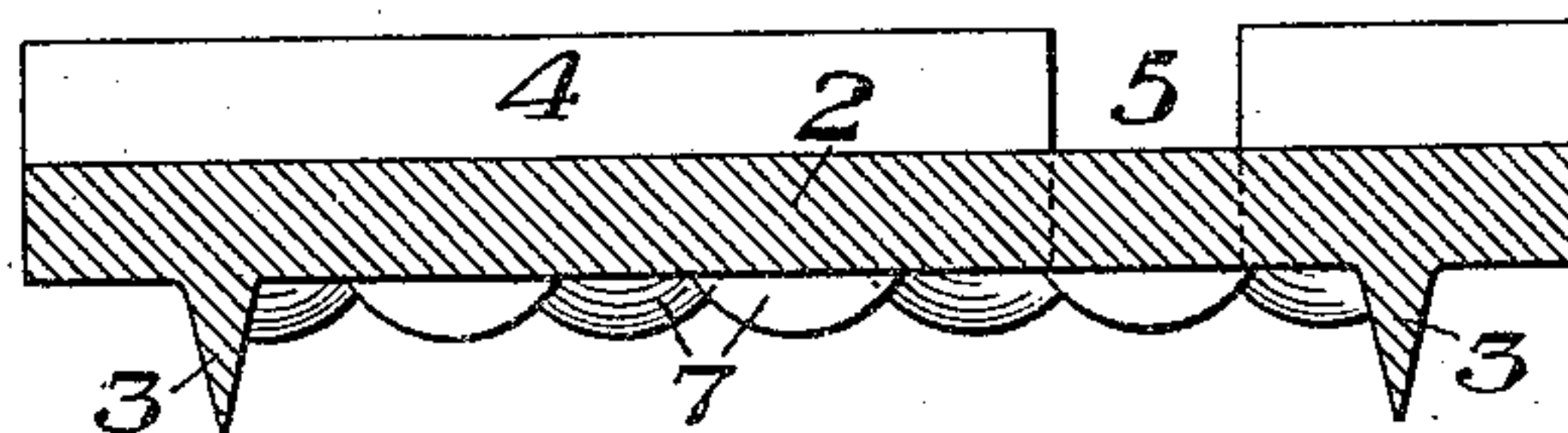
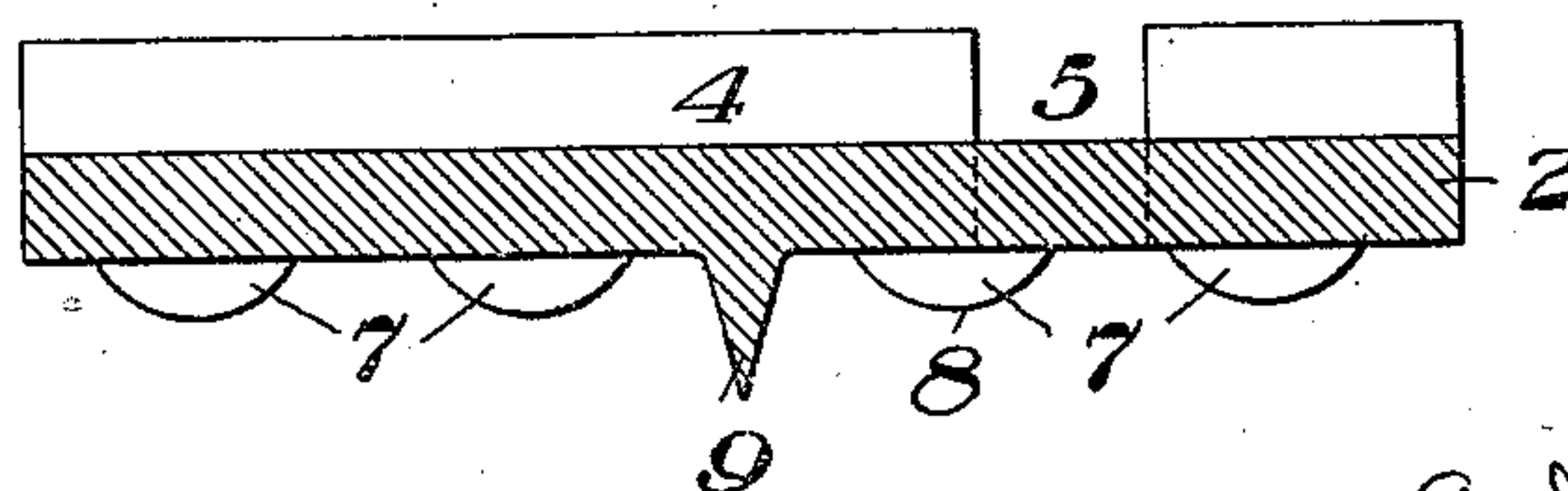


Fig.4.



WITNESSES

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UNITED STATES PATENT OFFICE.

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TIE-PLATE FOR RAILWAYS.

956,398.

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Application filed February 27, 1909. Serial No. 480,318.

To all whom it may concern:

Be it known that I, ANDREW MORRISON, a resident of Pittsburg, Allegheny county, Pennsylvania, have invented a new and useful Tie-Plate for Railways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a bottom plan view of one form of tie plate embodying my invention; Fig. 2 is a longitudinal section; Figs. 3 and 4 are transverse sections,—Fig. 4 showing a modification.

My invention relates to tie plates for railways, and more particularly to tie plates of that class in which the plate is provided with one or more deep longitudinal flanges on its under side, for the purpose of causing the plate to adhere to the tie, and the invention is designed to provide a tie plate of this character with improved means in connection with the longitudinal flange or flanges for giving the tie plate resistance against endwise movement on the tie.

A further object is to provide means of this kind which can be readily added to the plate during the rolling operation without additional labor or expense, and which will be of a character to efficiently secure the plate against endwise movement.

The precise nature of my invention will be best understood by reference to the accompanying drawings, which will now be described, it being premised, however, that various changes may be made therein by those skilled in this art without departing from the spirit and scope of my invention as defined in the appended claims.

In these drawings, the numeral 2 designates the tie plate, which is preferably a rolled plate, and which in the form shown in Figs. 1, 2 and 3 is provided on its lower face adjacent to each edge with a deep longitudinally extending adhesive flange 3. The plate is provided on its upper surface, near one end, with a transversely extending rail-bearing shoulder 4. 5 and 6 designate the usual spike holes formed in the plate. In accordance with my invention, I also provide the under side of the plate with one or more series of short transversely extending projections 7. These projections are of less depth than the depth of the flanges 3. They are preferably arranged in rows extending transversely of the plate between the adhe-

sion flanges 3, the projections of one transverse row or series being staggered with relation to those of the next adjacent row or series. In the form of the invention shown in Figs. 1, 2 and 3, I have shown three rows of these projections, there being one row at each side of the rail-bearing shoulder 4, and a third row near the central portion of the plate. I do not, however, limit myself to any definite number of these projections or to their arrangement in any definite number of rows, and it is not even essential that the projections shall be arranged in rows, since they may be disposed in various ways over the lower surface of the plate, a sufficient number being provided in any case to afford the desired resistance against endwise movement on the tie. These projections may be conveniently formed by milling recesses in the roll which forms the lower surface of the tie plate, and into which recesses the metal is forced in the rolling operation to form the projections. This is not only a convenient and simple manner of forming the projections, but it also gives them a form in which their greatest width is at the middle with a taper toward both ends, as shown in Fig. 1, with the continuous edge or point 8. This shape of the ribs is very effective for engagement with the tie.

In the form of my invention shown in Fig. 4, the plate is provided with a single centrally located longitudinally extending deep adhesive flange 9, and the transversely extending projections 7 are arranged at each side thereof. It will be understood that any suitable number of the longitudinally extending adhesive flanges may be employed, and that they may be disposed in any desired manner upon the under surface of the plate longitudinally thereof. I have found that the transverse projections are particularly effective when used in combination with the longitudinal adhesive flanges in the manner herein shown and described, for the reason that the flanges in penetrating the tie compress and confine the fibers of the tie between them, thus insuring the putting of the fibers in the best condition by increasing the density thereof to give the most effective lateral resistance.

What I claim is:—

1. A railway tie plate having at least one longitudinally extending adhesive flange upon its under side, and also having a plurality of transversely extending relatively

short projections of less depth than the adhesion flange; substantially as described.

2. A railway tie plate having a plurality of longitudinally extending deep adhesion
5 flanges upon its lower side, and also having a plurality of relatively short transversely extending resistance projections of less depth than the depth of the flanges; substantially as described.

10 3. A railway tie plate having at least one longitudinally extending adhesion flange on its under side, and also having a plurality of transversely extending relatively short resistance projections of less depth than the
15 depth of the flanges, said projections having sharp edges; substantially as described.

4. A railway tie having at least one longitudinally extending adhesion flange on its under side, and also having a plurality of
20 transversely extending relatively short resistance projections of less depth than the depth of the flanges, said projections being arranged in transverse rows or series; substantially as described.

25 5. A railway tie plate having at least one

longitudinally extending adhesion flange on its under side, and also having a plurality of transversely extending relatively short resistance projections of less depth than the
30 depth of the flanges, said projections being arranged in transverse rows or series, and the projections in one row or series being staggered with relation to those in the adjacent row or series; substantially as described.

35 6. A railway tie plate having at least one longitudinally extending deep adhesion flange on its lower face, and also having a plurality of relatively short transversely extending resistance projections, said projec-
40 tions each being relatively wide at its central portion and tapering at both ends; substantially as described.

In testimony whereof, I have hereunto set my hand.

ANDREW MORRISON.

Witnesses:

M. V. KIEBL,

H. M. CORWIN.