

No. 622,505.

Patented Apr. 4, 1899.

J. H. MALVEN.
RAILWAY TIE PLATE.

(Application filed May 24, 1898.)

(No Model.)

FIG. 1.

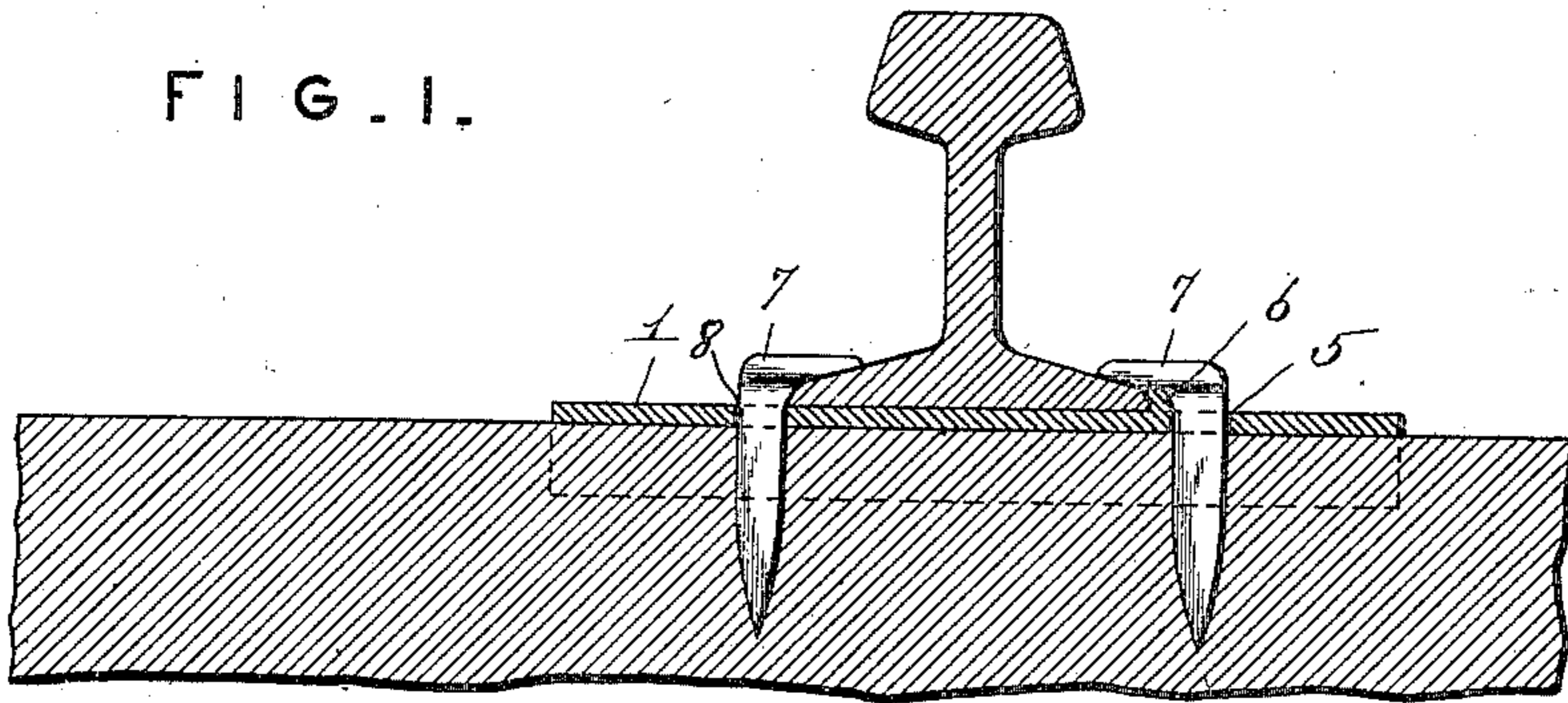


FIG. 2.

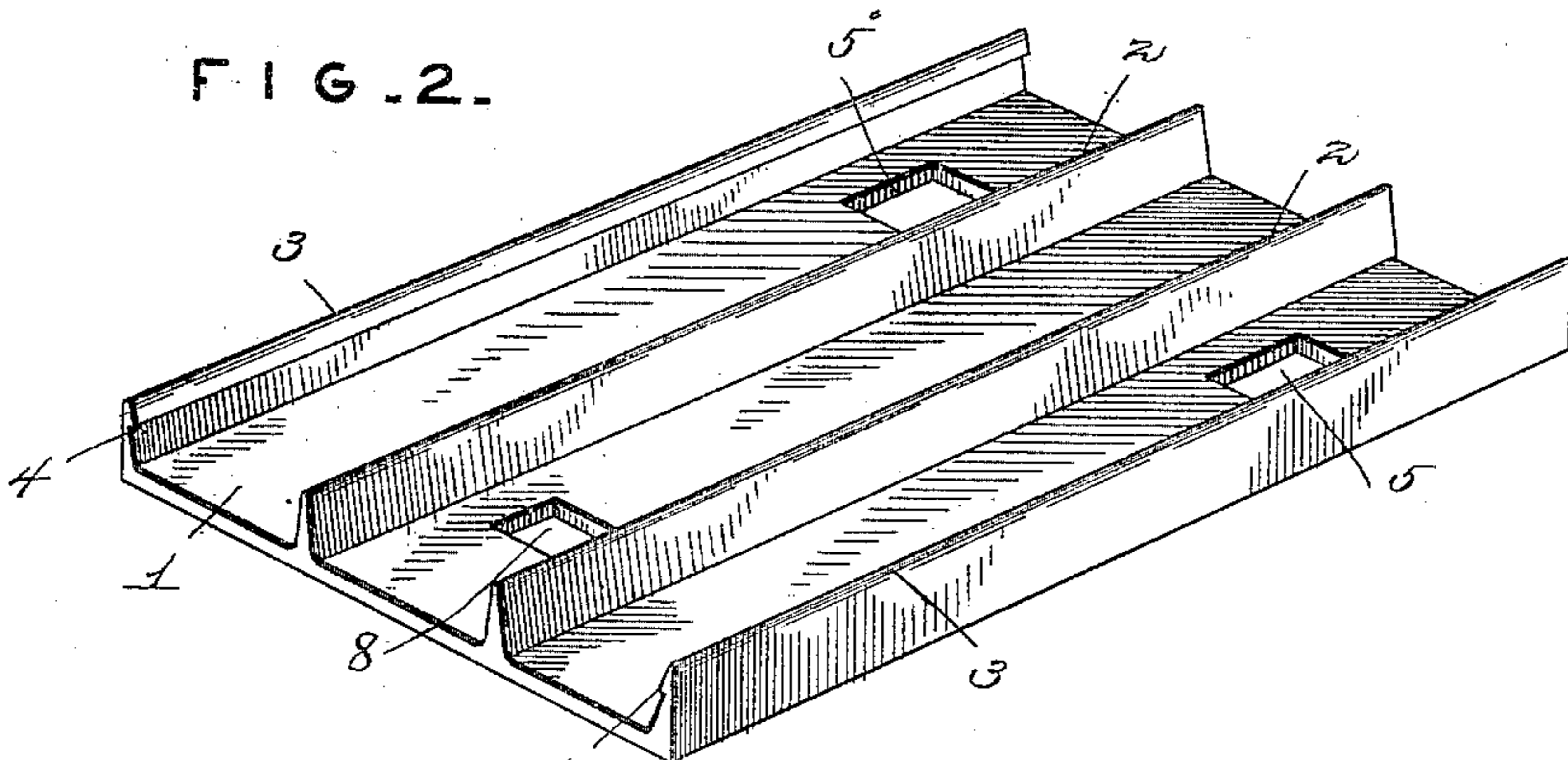
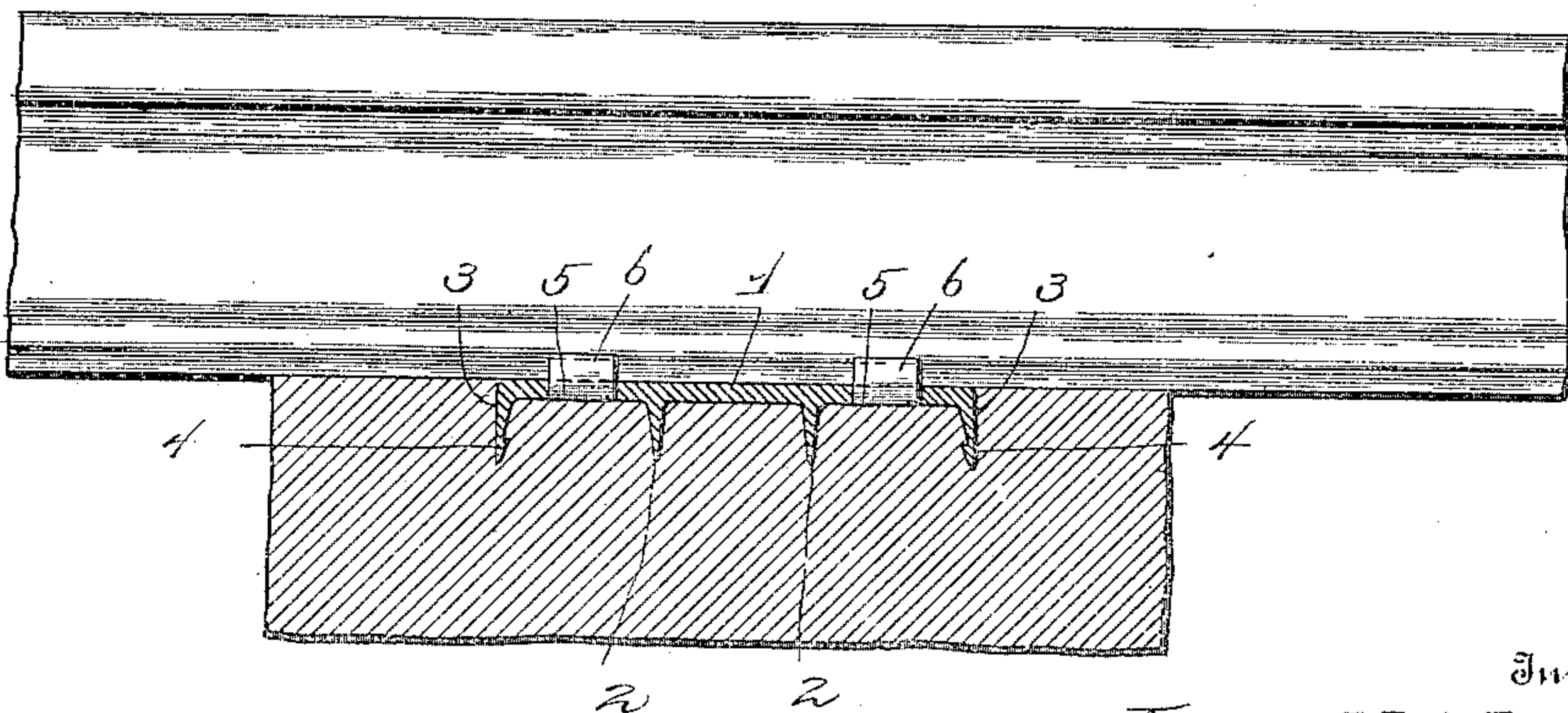


FIG. 3.



Witnesses

Harry L. Amer.
R. Mabel Bartholow.

Inventor

James H. Malven.

by V. D. Stockbridge,
his Attorney.

UNITED STATES PATENT OFFICE.

JAMES H. MALVEN, OF DIVIDE, COLORADO, ASSIGNOR OF ONE-HALF TO WILLIAM H. BURNSIDE, OF SAME PLACE, AND HORACE R. MERRY, OF MAGOG, CANADA.

RAILWAY-TIE PLATE.

SPECIFICATION forming part of Letters Patent No. 622,505, dated April 4, 1899.

Application filed May 24, 1898. Serial No. 681,553. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. MALVEN, a citizen of the United States, residing at Divide, in the county of El Paso and State of Colorado, have invented certain new and useful Improvements in Railway-Tie Plates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to tie-plates, the object of the same being to provide upon a plate of this character means whereby buckling of the same under heavy pressure is prevented, means whereby the plate will be held at all times in close contact with the tie, and means for preventing the access of water to the securing-spike and to the parts of the plate which penetrate the tie.

The invention consists of a plate having a plurality of longitudinally-extending ribs upon its under side, the outer of which are formed with shouldered or hooked lower ends and spike-openings formed by striking up the material of which the plate is made, forming flanges which abut against the base of the rail and prevent the cutting or wear of the spike adjacent to its head through lateral movement of the rail.

The invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 represents a longitudinal sectional view of a tie with a plate applied thereto constructed according to my invention and with the rail secured in place upon the top of said plate. Fig. 2 is a perspective view of the plate detached, looking at the under side thereof. Fig. 3 is a vertical transverse section.

Like reference-numerals indicate like parts in the different views.

The plate 1 is formed upon its under side with a plurality of longitudinally-extending parallel ribs 2 3, the same serving to strengthen and brace the plate and prevent buckling thereof under heavy pressure. The inner ribs 2 are tapering from their upper ends downwardly and the outer ribs 3 are formed with shoulders 4 upon their inner sur-

faces, forming what may be termed "hooked" lower ends thereon. Upon one side of the plate 1 spike-openings 5 5 are located, the same being formed by striking up the material of which the plate is made and creating upwardly-extending flanges 6 6, against which the side edge of the base of the rail is adapted to bear. When the spikes 7 are applied, it will be observed that between the side edges thereof and the edges of the base of the rail the flanges 6 will be located, the same serving to prevent the wear or cutting of the spikes by the lateral movement of said rail. Upon the opposite side of the plate 1 a similar spike-opening 8 is formed.

In applying my improved plate to the tie the same is driven thereinto at the proper point, the ribs 2 3 extending longitudinally of the grain of the wood of which the tie is made. By applying in this manner the fiber is not cut and the length of life of the tie is not in the least degree shortened. When in place, the hooked lower ends of the outer ribs 3 will engage the material of the tie and hold the plate 1 in close contact with the upper surface thereof. In case the spikes which retain the rails in place should become loose it will not affect the relative positions of the tie and the plate, and consequently rattling of these parts one upon the other is avoided. In order to remove the plate, it is necessary to apply considerable power to the under side of the top thereof in order to pry the same from its seat.

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

1. A railway-tie plate having a plurality of ribs upon the under side thereof provided with hooks upon their lower ends, the hook on one of said ribs extending in an opposite direction to the hook on the other of said ribs, and one of the sides of said ribs lying at right angles to the body of the plate.

2. A metallic railway-tie plate having a plurality of longitudinally-extending, parallel ribs on the under side thereof and at right angles thereto, the outer of which are provided

with shoulders upon their inner surfaces forming hooks which extend in opposite directions from the ribs on which they are respectively formed.

- 5 3. A metallic railway-tie plate having longitudinally-extending ribs upon the under side thereof, spike-openings extending there-through, and flanges struck up at the inner

ends of said openings adapted to separate the spike from the rail. 10

In testimony whereof I affix my signature in presence of two witnesses.

JAMES H. MALVEN.

Witnesses:

W. H. BURNSIDE,

J. C. CARROLL.