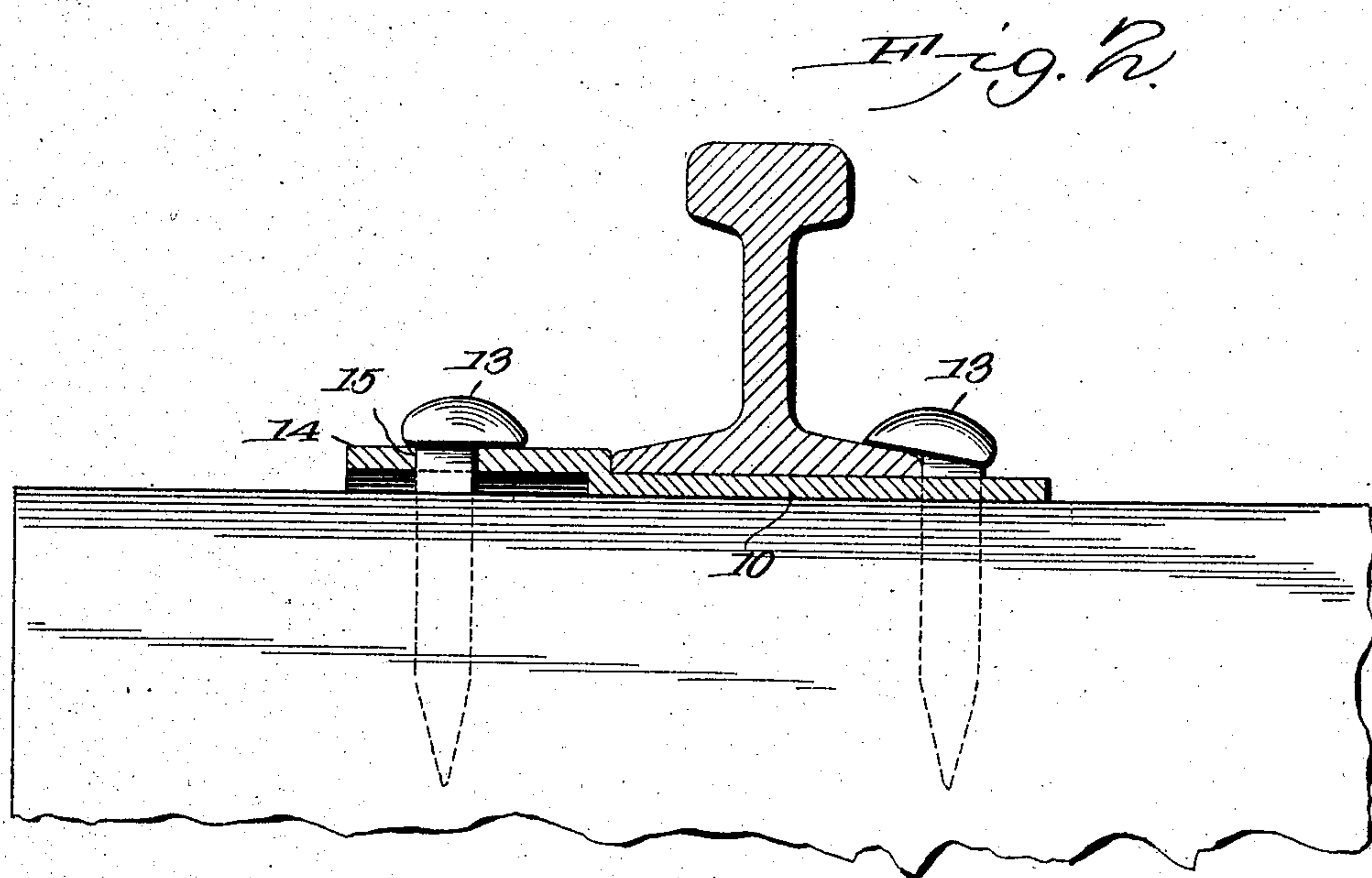
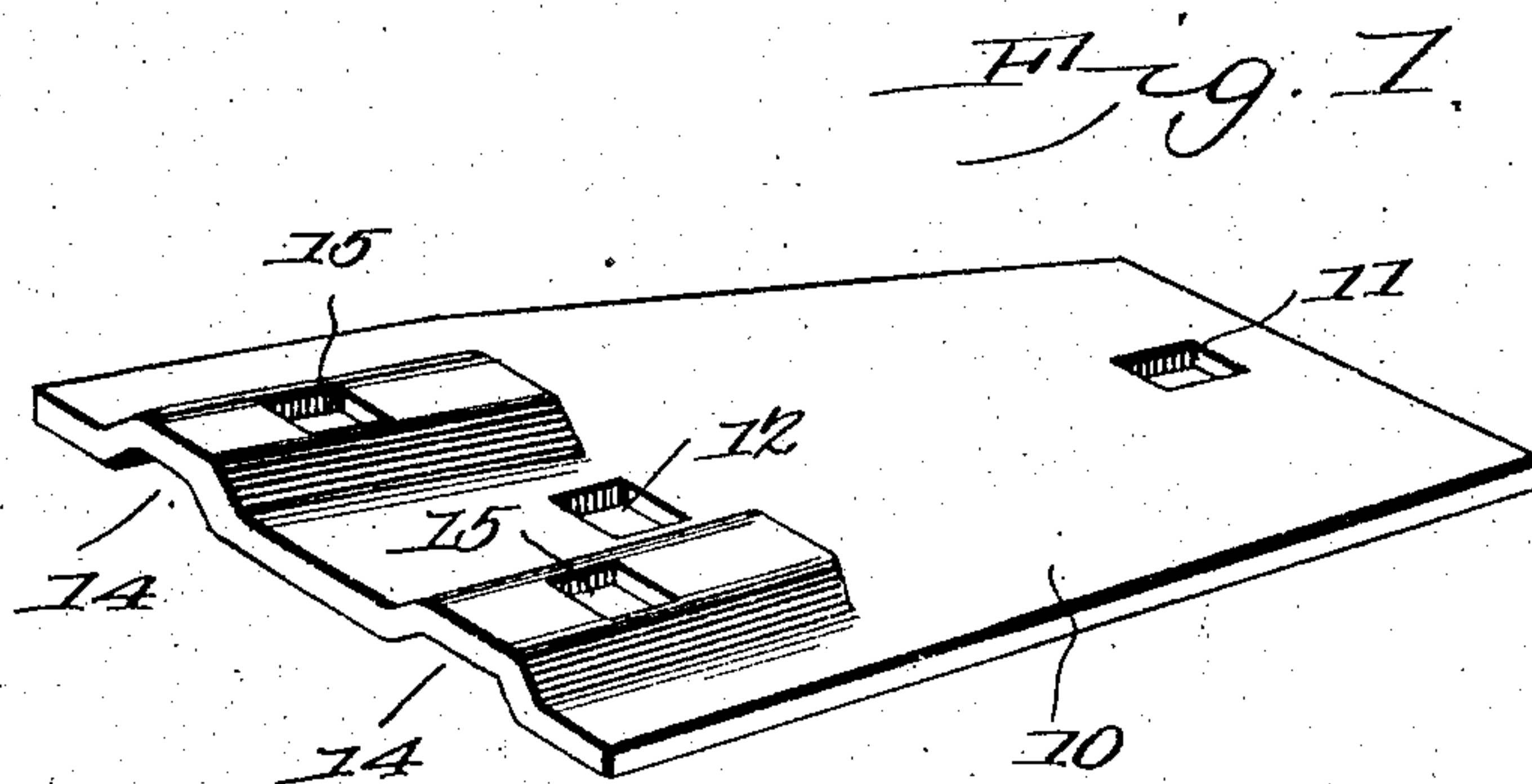


No. 781,218.

PATENTED JAN. 31, 1905.

W. E. MILLER.
RAIL TIE PLATE.
APPLICATION FILED APR. 29, 1904.



Witnesses:
E. H. Stewart
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UNITED STATES PATENT OFFICE.

WILLIAM ELIAS MILLER, OF DURANGO, COLORADO.

RAIL-TIE PLATE.

SPECIFICATION forming part of Letters Patent No. 781,218, dated January 31, 1905.

Application filed April 29, 1904. Serial No. 205,598.

To all whom it may concern:

Be it known that I, WILLIAM ELIAS MILLER, a citizen of the United States, residing at Durango, in the county of La Plata and State of Colorado, have invented a new and useful Rail-Tie Plate, of which the following is a specification.

This invention relates to wear and guard plates employed between railway-ties and the rails, and has for its object to present an improved device of this character combining all the advantages of an ordinary tie-plate to protect the tie and prevent undue and irregular wearing of the same, and, further, providing a lateral brace to effectually prevent spreading of the rails.

Another object of the invention is to produce a combined tie-plate and rail-brace which will be prevented from bucking or curling upward at the edges under the strains to which it is subjected and also prevented from cutting into the tie.

With these and other objects in view, which will appear as the nature of the invention is better understood, the same consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, there is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that the invention is not necessarily limited thereto, as various changes in the shape, proportions, and general assemblage of the parts may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages, and the right is therefore reserved of making all the changes and modifications which fairly fall within the scope of the invention and the claims made therefor.

In the drawings thus employed, Figure 1 is a perspective view of one of the combined tie-plates and rail-braces detached. Fig. 2 is a transverse section of the same, together with a rail in position thereon.

The improved device comprises a metal plate 10 of the usual size and thickness and

provided with spaced apertures 11 12 for receiving the holding-spikes 13, the apertures being so disposed that the holding-spikes bear against the tie-flanges of the rail from the opposite sides. Pressed upward from the body of the plate are a plurality of ribs 14, the ribs disposed transversely of the rails and bearing at their inner ends against the tie-flange of the same. Extending through the ribs 14 are spike-apertures 15. Any number of the ribs may be formed in the plate; but generally two will be employed, as shown.

The plate 10 and its bracing-ribs will be pressed from a single plate of iron or steel of sufficient thickness to withstand the strains to which it will be subjected.

By this simple arrangement of parts several very important advantages are gained, among others the following: A very effective combined rail-brace and tie-plate is formed combining in one all the advantages of both, together with the requisite rigidity, strength, and durability. It will be noted that by forming a certain number of the spike-apertures through the upwardly-curving and hollow ribs a certain degree of resiliency is imparted which causes the spikes to hold with an increased tenacity and effectually prevents the plate from working loose or curling up at the edges or cutting into the tie. The edges of the tie-plate will thus be firmly held in close contact with the tie and the plate flat upon the same, so that no interstices are formed between the tie and plate for moisture to enter, and no undue or irregular wearing of the ties occur.

It will be noted that the tie-plate is wider at its outer end than at its inner end—that is to say, the end under the outer edges of the rail is wider than that at the inside edge and provided with a greater number of the holding-spikes—for the reason that the outward strains are much greater, especially upon curves, and by increasing the width of the outer end of the plate and adding the bracing-ribs the efficiency and value of the device are very materially increased without material increase in the cost of its production.

Having thus described my invention, I claim—

1. As a new article of manufacture, a rail-

way tie-plate, comprising an approximately trapezoidal plate provided near one side with upward-projecting ribs extending longitudinally of the length of the plate, the ribs and
5 the plate being provided with spike-apertures.

2. As a new article, a railway tie-plate having a plurality of ribs pressed upward therefrom, and extending transversely of the rail for bearing at their inner ends against the tie-

flange of the same and provided with spike- 10 apertures through said ribs.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM ELIAS MILLER.

Witnesses:

JACOB G. WILLSON,
ADOLPH MILLER.