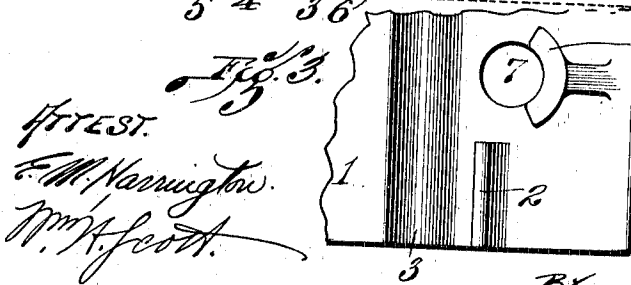
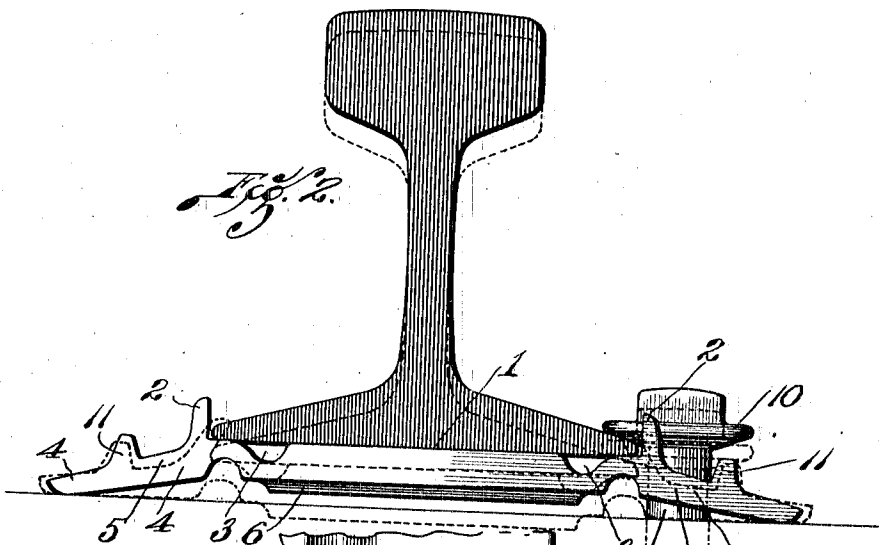
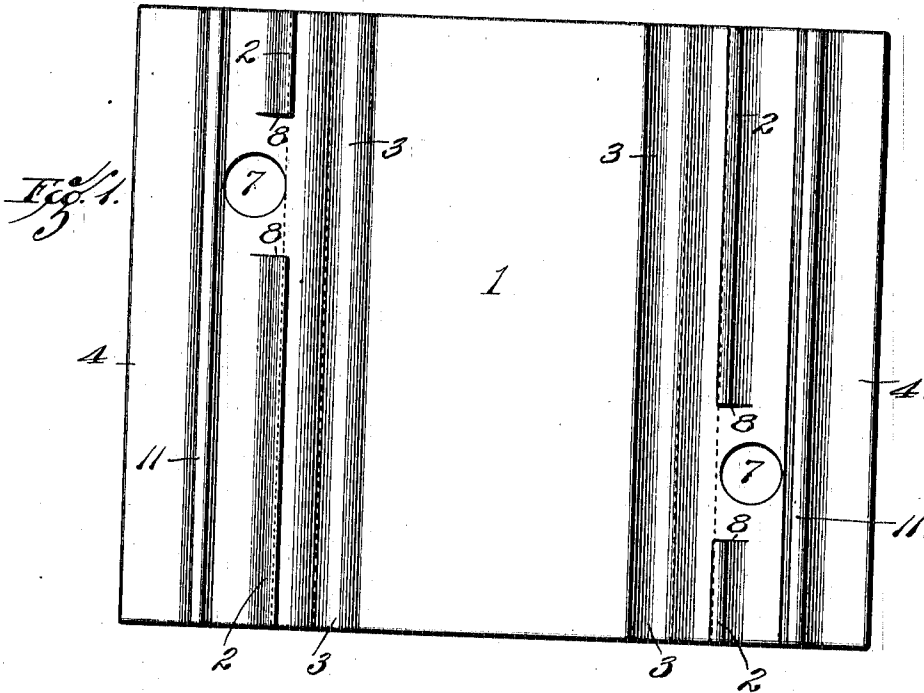


M. S. CLARKE.
TIE PLATE.
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TIE-PLATE.

1,059,439.

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To all whom it may concern:

Be it known that I, MARCUS S. CLARKE, a citizen of the United States, and resident of Houston, Harris county, Texas, have invented certain new and useful Improvements in Tie-Plates, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in tie plates, and the object of my invention is to construct a tie plate having on its upper face a pair of rail engaging flanges or members which normally stand in positions to receive the base of a rail and a part or parts on the underneath side of the plate whose extremity stands in a plane beneath the body of the plate to act as a fulcrum over the tie so that, when the plate is secured by spiking to the tie, the cross section of the plate is varied to cause said flanges to stand in positions overlapping the base of the rail, thereby securing the rail to the plate.

A further object of my invention is to construct the body portion of my improved tie plate with a weakened portion standing at an angle relative the plane of the body portion of my plate so that, when the plate is straightened out in the act of securing a rail to a tie, the plate will accommodate itself in length to the width of the rail.

With the above purposes in view my invention consists in certain novel features of construction and arrangement of parts as will be hereinafter more fully described, pointed out in the claims and illustrated by the accompanying drawings, in which—

Figure 1 is a plan view of my improved tie plate; Fig. 2 is an end elevation of my improved plate in its normal condition and in dotted lines illustrates the plate after it has been secured by spiking; and Fig. 3 is a fragmental plan of a modified form of spike backing.

Referring by numerals to the accompanying drawings: 1 designates the body portion of my improved tie plate which may be of any desired length, but of a width less than the base of the rail which it is designed to support.

2—2 designate rail engaging members extended lengthwise of the plate and spaced apart a distance equal to the width of the base of the rail. As shown these rail en-

gaging members normally stand vertically or at least in positions permitting the placing of the rail base therebetween. Between the body portion 1 and the rail engaging members there are depressions 3 in the upper face of the plate, and immediately adjacent the depressions 3 there are depressions in the lower face of the plate.

4—4 designate the outwardly and downwardly inclined tie engaging members which at their central portions 5 have increased thicknesses.

The body portion 1 is provided on its underneath face with ribs 6.

7 designates spike openings which are preferably located diagonally of the plate relative to each other, and in order to receive the heads of the spikes the rail engaging members 2 are cut away at 8.

9 designates a screw spike, the head 10 of which occupies the cut away portion 8 of the rail engaging member. The head is arranged to overlie the base of the rail.

11—11 designate longitudinal ribs located in planes outside of the rail engaging members, which ribs serve the function of "backing" the spikes when fully seated.

In Fig. 3 I illustrate a modified form of spike backing. In this modified form the spike backing does not extend the length of the plate.

As clearly shown in Fig. 2, the main body portion 1 of the tie plate normally stands in a plane above the tie and is supported upon the tie engaging members 4. When in this position the rail is placed upon the plate as shown by the full lines in Fig. 2. After the rail has been placed in position the spikes, such as 9, are inserted through the openings 7 and are driven or screwed into the tie. As the spikes are drawn into the tie the body portion 1 is drawn to the tie, the ribs 6 embedding therein to cooperate with the spikes to prevent skewing of the plate over the tie.

The plate, as a whole, bends only at the points 3 and 3^a for the reason that at these points there is the least metal to resist such bending.

When the spikes are fully seated the tie engaging members are drawn to positions paralleling the main body portion 1 of the plate, and, by reason of their being straightened out, the rail engaging members 2 will each be inclined inwardly, as shown by dot-

ted lines in Fig. 2, to secure the rail to the plate. The rail engaging members 2 and the tie engaging members 4 each preferably extends the length of the plate, but obviously there may be a number of the contacting rail and tie engaging members throughout the length of a single plate.

The design of plate shown is one which permits of the plates being rolled. However, the plates may be cast from malleable material or formed in any other manner.

I claim:

1. A tie plate constructed of a single piece of material having a rail supporting surface, integral and normally vertical flanges contiguous to the side margins of said rail supporting surface, integral and normally outwardly and downwardly inclined tie engaging members having their outer margins out of the plane of the body of the rail supporting surface, there being spike openings formed through said plate at or near the intersection of the tie engaging members and the body of the plate, and said plate having a weakened portion to permit it to automatically accommodate itself in width to a rail base.

2. A tie plate having a flat body portion provided with a rail bearing surface, outwardly and downwardly inclined marginal

extensions of said body portion which normally hold the body portion in a plane above a tie, normally vertical flanges carried by said extensions, there being spike openings through said extensions whereby when spikes are driven through said openings the body of the plate will be drawn to the tie and said marginal extensions will be straightened, thereby causing said normally vertical flanges to overlie the rail bearing surface in order to secure the base of a rail.

3. The improved tie plate having a rail-bearing surface, integral downwardly and outwardly inclined extensions leading from opposite margins of the rail-bearing surface, and rail-engaging flanges contiguous to the margins of said rail-bearing surface and arranged to be automatically moved in directions toward said rail-bearing surface when said downwardly and outwardly inclined extensions are moved, as in the drawing of the body of the plate beneath the rail-engaging surface to a tie.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

MARCUS S. CLARKE.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."