

W. H. TANNER.
RAILWAY TIE PLATE AND RAIL BRACE.
APPLICATION FILED JULY 31, 1908.

932,648.

Patented Aug. 31, 1909.

2 SHEETS—SHEET 1.

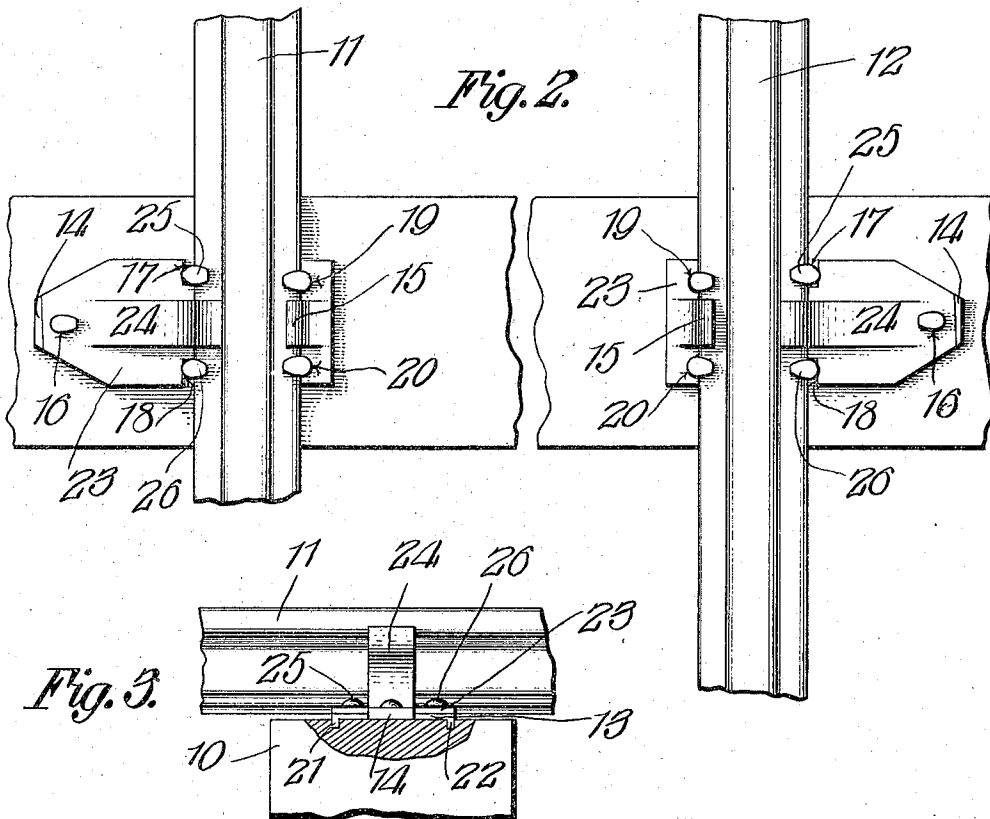
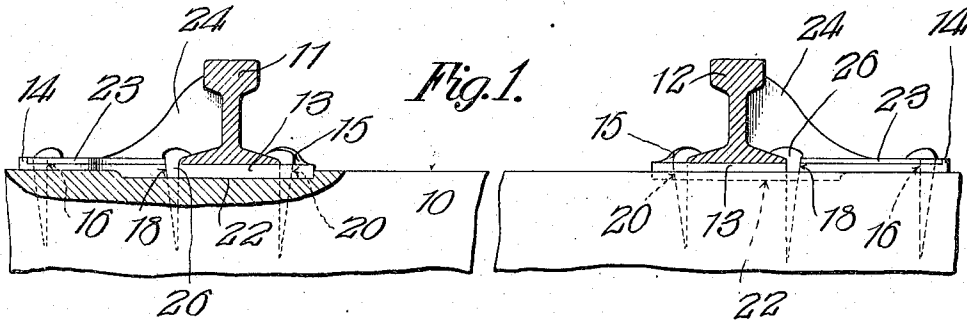
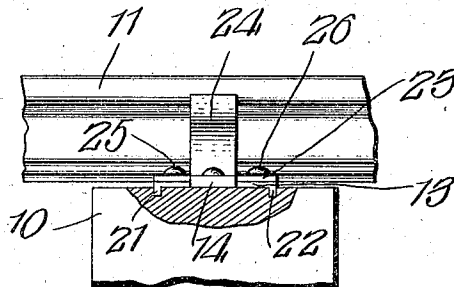


Fig. 3.



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Fig. 4.

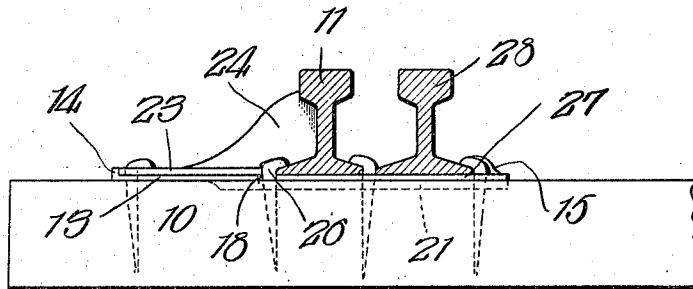


Fig. 6.

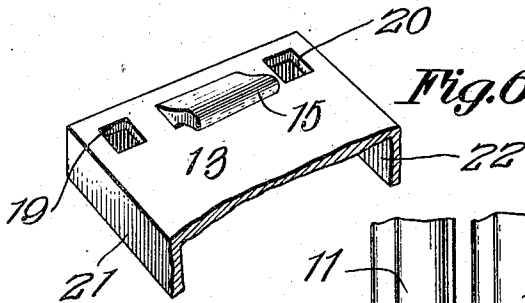
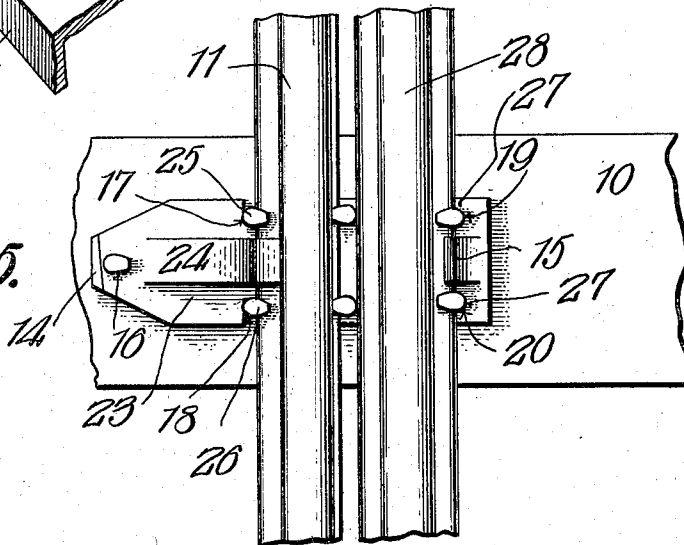


Fig. 5.



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UNITED STATES PATENT OFFICE.

WYANDER H. TANNER, OF MACON, GEORGIA.

RAILWAY TIE-PLATE AND RAIL-BRACE.

932,648.

Specification of Letters Patent. Patented Aug. 31, 1909.

Application filed July 31, 1908. Serial No. 446,323.

To all whom it may concern:

Be it known that I, WYANDER H. TANNER, a citizen of the United States, residing at Macon, in the county of Bibb, State of Georgia, have invented certain new and useful Improvements in Railway-Tie Plates and Rail-Braces; 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.

This invention relates to railway tie plates and rail braces, and has for one of its objects to simplify and improve the construction and increase the efficiency and utility of devices of this character.

Another object of the invention is to provide a device of this character having increased strength and durability without increased expense of manufacture or weight of material employed.

With these and other objects in view the invention consists in a plate bearing upon the tie and having spaced depending ribs extending beneath a portion of the plate and adapted to enter the tie upon which the plate bears and thus increase the stability of the device.

The invention further consists in a tie plate reduced at one end and with a brace member bearing upon the smaller end of the plate and extending over the tie flange and against the vertical web and likewise beneath the ball or head of the rail, and with means for securing the brace and the rail to the tie plate and likewise securing the tie plate to the tie.

The invention further consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims, and in the drawings illustrating the preferred embodiment of the invention, Figure 1 is a transverse section of a railway track including one of the ties and a pair of the main line rails with the improved rail plates and braces applied. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is an end view of one of the ties together with one of the tie plates and the brace members and a portion of one of the rails. Fig. 4 is a view similar to Fig. 1 showing the arrangement when the device is employed in connection with guard rails. Fig. 5 is a plan view of the parts shown in Fig. 4. Fig. 6 is a perspective view of a

portion of the tie plate at one end, illustrating the construction more fully.

In the drawings is shown a tie 10, and the line rails 11—12 of the usual form. Bearing upon the ties beneath each rail is a tie plate 13 reduced at one end and with a rib 14 at the reduced end and an overhanging lug 15 at the larger end. A spike aperture 16 is formed at the smaller end of the plate near the rib 14 while spike recesses 17—18 are formed in the sides of the plate intermediate its ends and with spike apertures 19—20 at each side of the overhanging lug 15. Depending from the sides of the plate 13 at its larger end are ribs 21—22, the ribs adapted to be embedded in the upper face of the tie 10 and thus firmly embed and support the tie plate upon the tie and prevent the lateral movement thereof under the severe strains to which devices of this character are subjected.

The rails 11—12 bear upon the tie plates 13 contiguous to the spike recesses 17—18 so that the outer edges of the tie flanges are located flush with the inner edges of the recesses whereby the heads of the holding spikes 25—26 which are driven through the recesses will bear over the tie flanges of the rail, while the opposite side of the tie flange bears beneath the overhanging lug 15.

The spike apertures 19—20 are so located that the spikes driven therethrough will engage over the adjacent portions of the tie flanges by their projecting heads in the ordinary manner. By this means the rails are firmly secured to the tie plates and the tie plates firmly secured to the ties by four spikes which coacting with the ribs 21—22 firmly embed the plate in position.

Bearing upon the reduced portions of the plates are brace members formed of base plates 23 with their outer ends bearing against the ribs 14 and with their inner ends bearing against the outer edges of the tie flanges of the rails 11—12, and with hollow webs 24 rising from the base 23 and bearing over the tie flanges and against the vertical webs and likewise beneath the balls or heads of the rails as shown, and thus firmly bracing the entire outer faces of the rails and likewise firmly supporting the balls or treads.

The bases 23 are provided with recesses in their sides conforming to the recesses 17—18 of the tie plate and through which the spikes 25—26 extend, the lateral and rearward pro-

jections of the heads of the spikes bearing over the bases 23 and assisting in holding them in position.

The inner face of the rib 14 is inclined to the transverse plane of the tie plate; and the contiguous end of the base 23 is correspondingly inclined, so that a wedge like action is produced between the end of the plate and the inclined face of the rib 14 to increase the grip between the plate 23 and the rail, as will be obvious.

When the parts are united and the holding spikes 25—26 driven into the tie through the registering recesses 17—18 and the corresponding recesses in the sides of the base plate 23 with the laterally extending heads of the spikes bearing over the base and likewise over the adjacent tie flange it will be obvious that the base plate and tie plate are firmly united to the tie and supported from lateral as well as vertical movement.

When the device is employed for rails at the point where guard rails are required the base plate is extended in length as represented at 27 with the guard rail 28 located along side of one of the main rails in the usual manner, a portion of the adjacent tie flange being cut off to bring the ball of the rail in the proper location relative to the main line rails, as shown.

The tie plate is generally of steel preferably pressed into the required shape and the brace member is likewise of pressed steel and of a strength adapted to withstand the severe strains to which devices of this character are subjected when in use.

What is claimed, is:—

1. In a device of the class described, a tie plate reduced at one end and with spaced tie penetrating ribs extending along the sides of the unreduced portion and with a rail flange engaging lug at the unreduced end and an upwardly extending transverse rib at the reduced end with the inner face of the rib inclined to the transverse plane of the plate,

said plate adapted to support the rail and provided with spike receiving recesses at its opposite edges next the rail, and a brace member comprising a base bearing upon the reduced portion of the plate and with one end inclined to correspond to the inclined face of the rib and adapted to engage by its other end against the tie flange of the rail and provided with recesses registering with the recess of the plate, and a brace web extending from the base and adapted to bear over the rail flange and against the vertical web and beneath the tread of the rail.

2. In a device of the class described, a tie plate reduced at one end and with spaced tie penetrating ribs extending along the sides of the unreduced portion and with a rail flange engaging lug at the unreduced end and an upwardly extending transverse rib at the reduced end with the inner face of the rib inclined to the transverse plane of the plate, said plate adapted to support the rail and provided with spike receiving recesses in its opposite sides and spike receiving apertures at the ends, a brace member comprising a base bearing upon the reduced portion of the plate and with one end inclined to correspond to the inclined face of the rib and adapted to engage by its other end against the rail flange and with recesses registering with the side recesses of the plate, a brace web extending from the base and adapted to bear over the rail flange and against the vertical web and beneath the tread of the rail, and holding devices operating through said apertures and likewise through said recesses and with laterally enlarged heads bearing over the brace member base.

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

WYANDER H. TANNER.

Witnesses:

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J. M. FOUNTAIN.