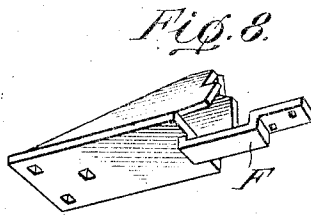
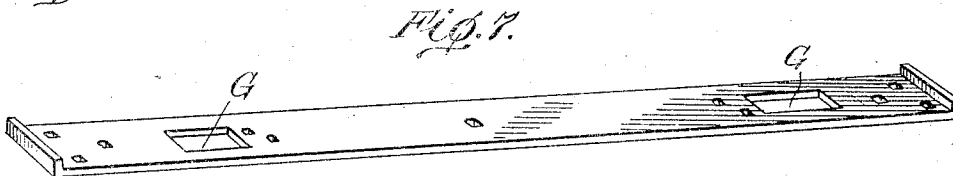
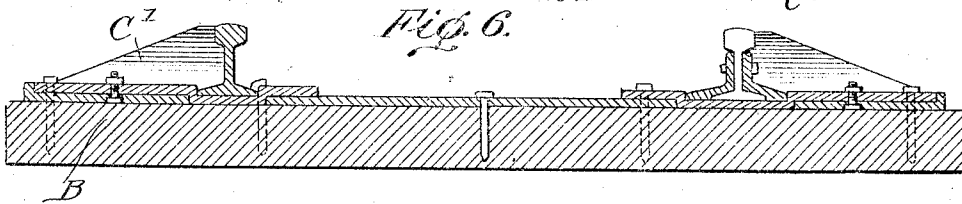
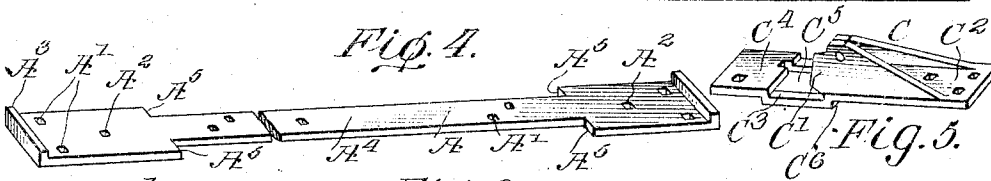
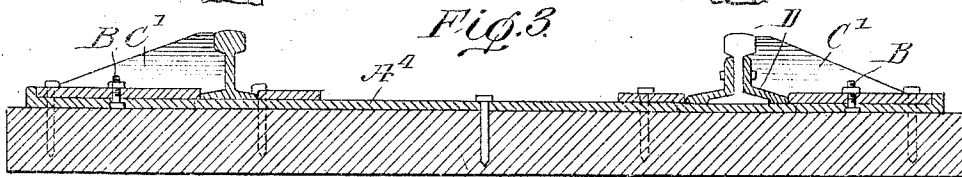
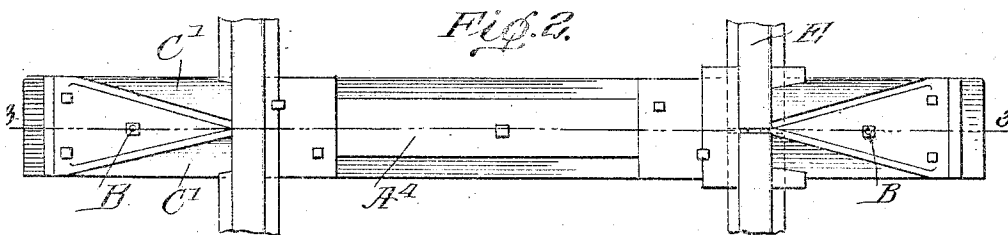
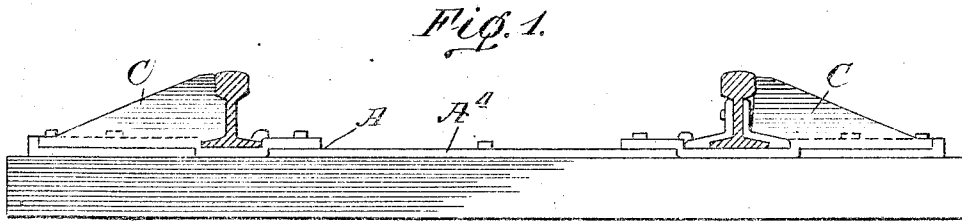


J. B. R. COUNTS.
TIE PLATE AND BRACE.
APPLICATION FILED AUG. 19, 1910.

988,174.

Patented Mar. 28, 1911.



WITNESSES:

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TIE-PLATE AND BRACE.

988,174.

Specification of Letters Patent. Patented Mar. 28, 1911.

Application filed August 19, 1910. Serial No. 577,917.

To all whom it may concern:

Be it known that I, JOHN B. R. COUNTS, a citizen of the United States, and a resident of Westminster, in the county of Carroll and State of Maryland, have invented certain new and useful Improvements in Tie-Plates and Braces, of which the following is a specification.

This invention is an improvement in railroad tracks and particularly in the tie plates and braces for the railroad rails, and the invention consists in certain novel constructions and combinations of parts as will be hereinafter described and claimed.

In the drawing. Figure 1 is a cross sectional view of a railroad track, the tie and parts thereon, except the rails, being in elevation. Fig. 2 is a top plan view of a tie provided with my improvements, the rails being partly broken away. Fig. 3 is a longitudinal section on about line 3—3 of Fig. 2. Fig. 4 is a detail perspective view, partly broken away, of the tie plate shown in Figs. 1, 2 and 3. Fig. 5 is a detail perspective view of the rail brace shown in Figs. 1, 2 and 3. Fig. 6 is a longitudinal section showing a somewhat different construction within the broad principles of the invention. Fig. 7 is a detail perspective view of the tie plate shown in Fig. 6. Fig. 8 is a detail perspective view of the rail brace shown in Fig. 6, all of which will be described.

By my invention, I seek to provide means for preventing the railroad rails from spreading and to so construct such means that the heavier the weight or the greater the force exerted on the rails, the more closely will the braces fit between the said rails and their supports or props, thus preventing the braces from slipping.

The invention also renders practicable the use of much softer wood for ties than is now practicable, as well as smaller ties and the life of the ties will be much increased as the spikes will rarely if ever have to be removed. The railroad track equipped with the improvements will also be economical to keep in repair.

As shown in Figs. 1 to 5, the tie plate A has suitable holes A' by which it may be spiked to the tie and is also provided with

a bolt hole at A² for the passage of bolts B for securing the rail braces in position.

At their outer ends the tie plates are provided with inwardly facing shoulders A³ which form bearings against which the rail braces abut at their outer ends so that the tie plates operate to securely brace and support the brace in position and to prevent any outward movement thereof such as might result in the spreading of the rails. The middle portion A⁴ of the tie plate A is reduced in width and inwardly facing shoulders A⁵ are formed at the juncture of the intermediate portion and the wider end portions of the tie plate as best shown in Fig. 4.

The rail braces C are of a special construction and are alike except that the braces designed to fit against the rails at the joint as shown at the right in Figs. 1, 2 and 3 have the inner edges of their wings C' adapted to conform to the hollow of the rail and to the fish plates D while the braces C at the left in Figs. 1, 2 and 3 have their wings C' conformed at their inner edges to the hollow of the rails.

As shown, the rail brace C, see Fig. 5, has a base plate C² provided with spike and bolt holes and on this base plate are provided the wings C', which wings unite at their base with the base plate near the side edges thereof and incline inwardly toward their upper edges and also slope upwardly on their upper edges so that the inner upper edges of the wings C' converge and preferably meet or abut so that each wing C' of the brace helps support the other wing as will be understood from Figs. 1, 2, 3 and 5 of the drawing. The base plate C² of the brace has a depressed or downwardly offset portion C³ which underlies the rails E and an extension C⁴ of the base plate C² is provided at the inner edge of the downwardly offset portion C³, as shown in Fig. 5. The downwardly depressed portion C³ has a central opening C⁵ which receives the relatively narrow or reduced portion A⁴ of the tie plate and the outer end of the depressed portion C³ forms shoulders C⁶ to abut against the inwardly facing shoulders A⁵ of the tie plate when the parts are assembled as shown in Figs. 1, 2 and 3 of the draw-

ings. By this construction, the brace plate when bolted and spiked to place as shown in Figs. 1, 2 and 3 forms a strong, rigid brace for the rail and the said brace plate is supported against the inwardly facing shoulder A³ at its outer end and also against the inwardly facing shoulders A⁵ by the engagement of the shoulders C⁶ therewith as will be understood from Figs. 1 to 5 of the drawing.

The construction illustrated in Figs. 6, 7 and 8 is similar to that shown in Figs. 1 to 5 inclusive, except that instead of slotting the downwardly depressed portion of the rail brace shown in Fig. 5, the rail brace, see Fig. 8, has its downwardly depressed portion F adapted to fit within a recess G in the tie plate and the tie plate is recessed at G to receive the depressed portion of the rail brace instead of having its intermediate portion reduced or relatively narrowed as shown in Figs. 1 to 4 inclusive. In both constructions, the depressed portion of the rail brace underlies the rail and means are provided for securing said rail brace on opposite sides of the rail to the tie plate and the brace is shouldered to engage corresponding shoulders on the tie plate both at the outer end of the brace and at a point adjacent to the intermediate bearing of the rail upon the brace.

The upwardly inclining wings C' converging toward their upper inner ends, may simply abut as shown in Fig. 2 or they may be riveted together if desired, as shown in Fig. 5.

Manifestly it will not be necessary in ordinary cases to use the improvements on all the ties but they may be used at such intervals as is found desirable or necessary in the practical use of the invention.

The invention is simple, easily applied and the different parts can be formed of steel, iron or other suitable metal as will be understood by those skilled in the art.

I claim:

1. The combination, substantially as herein described, of a tie plate provided at its outer end with inwardly facing shoulders, a rail brace having a base plate provided with downwardly offset or depressed portion adapted to underlie a rail and lying in a plane with the tie plate and also provided with an extension at the inner end of said depressed portion and overlying the tie plate, the depressed portion forming at its outer end a shoulder abutting against a corresponding shoulder on the tie plate and the outer end of the brace plate abutting the inwardly facing end shoulder of the tie plate, the said brace being provided on its upper side with upwardly projecting brace wings inclining inwardly and converging toward their upper inner ends and adapted at their

said inner ends to form a bearing to resist outward movement of a rail, substantially as and for the purposes set forth.

2. The combination of a tie plate and a rail brace thereon and having means adapted to resist outward movement of the rail, the said rail brace having a depressed portion to underlie a rail, substantially as set forth.

3. A rail brace having upwardly projecting wings inclining and converging toward their inner edges and adapted at such edges to resist outward movement of a rail, substantially as set forth.

4. A rail brace having means for resisting outward movement of a rail and provided with a depressed portion to underlie a rail with a base plate connected with said depressed portion and having portions at the inner and outer ends of said depressed portion to overlie a tie plate, substantially as set forth.

5. A rail brace having a base plate provided with an intermediate depressed portion to underlie a rail and a tie plate to underlie said base plate and adapted to cooperate with the depressed portion of the brace, substantially as set forth.

6. The combination of a tie plate and a rail brace having a depressed portion to underlie a rail, one of said parts having an opening for the passage of the other, whereby the depressed portion of the brace may lie, when the parts are fitted together, in the same plane with the tie plate, substantially as set forth.

7. The combination of a tie plate and a rail brace having a base plate resting upon the tie plate and provided with a depressed portion in position to underlie a rail and lying in the same plane with the tie plate, substantially as set forth.

8. The combination of a tie plate having an inwardly facing shoulder at its outer end, a rail brace having a depressed portion to underlie a rail and abutting at its outer end the inwardly facing end shoulder of the tie plate, abutting shoulders being provided on the tie plate and brace at the outer edge of the depressed portion of the brace, substantially as set forth.

9. A rail brace comprising a base plate having a depressed portion to underlie a rail and rail bracing wings on said base plate and converging toward their upper inner ends, substantially as set forth.

10. The combination of a tie plate and a rail brace resting thereon and having a portion depressed into the plane of the tie plate, the said tie plate and depressed portion, having, one an opening for the reception of the other whereby the depressed portion may lie in the plane of the tie plate, substantially as set forth.

11. The combination substantially as here-

in described, of a tie plate, a rail, a rail brace
having a depressed portion underlying the
rail, means for securing said rail brace on
opposite sides of the rail to the tie plate, the
5 brace being shouldered to engage corre-
sponding shoulders on the tie plate, both
at the outer end of the brace and at a point

adjacent to the intermediate bearing of the
rail upon the brace, substantially as set
forth.

JOHN B. R. COUNTS.

Witnesses:-

JOHN SWORT,
EDWARD W. CASE.
