No. 791,134. PATENTED MAY 30, 1905.

W. F. BOSSERT.

BRACE FOR SUPPORTING RAILWAY RAILS.

APPLICATION FILED JAN. 11, 1904.

Fig. 1.

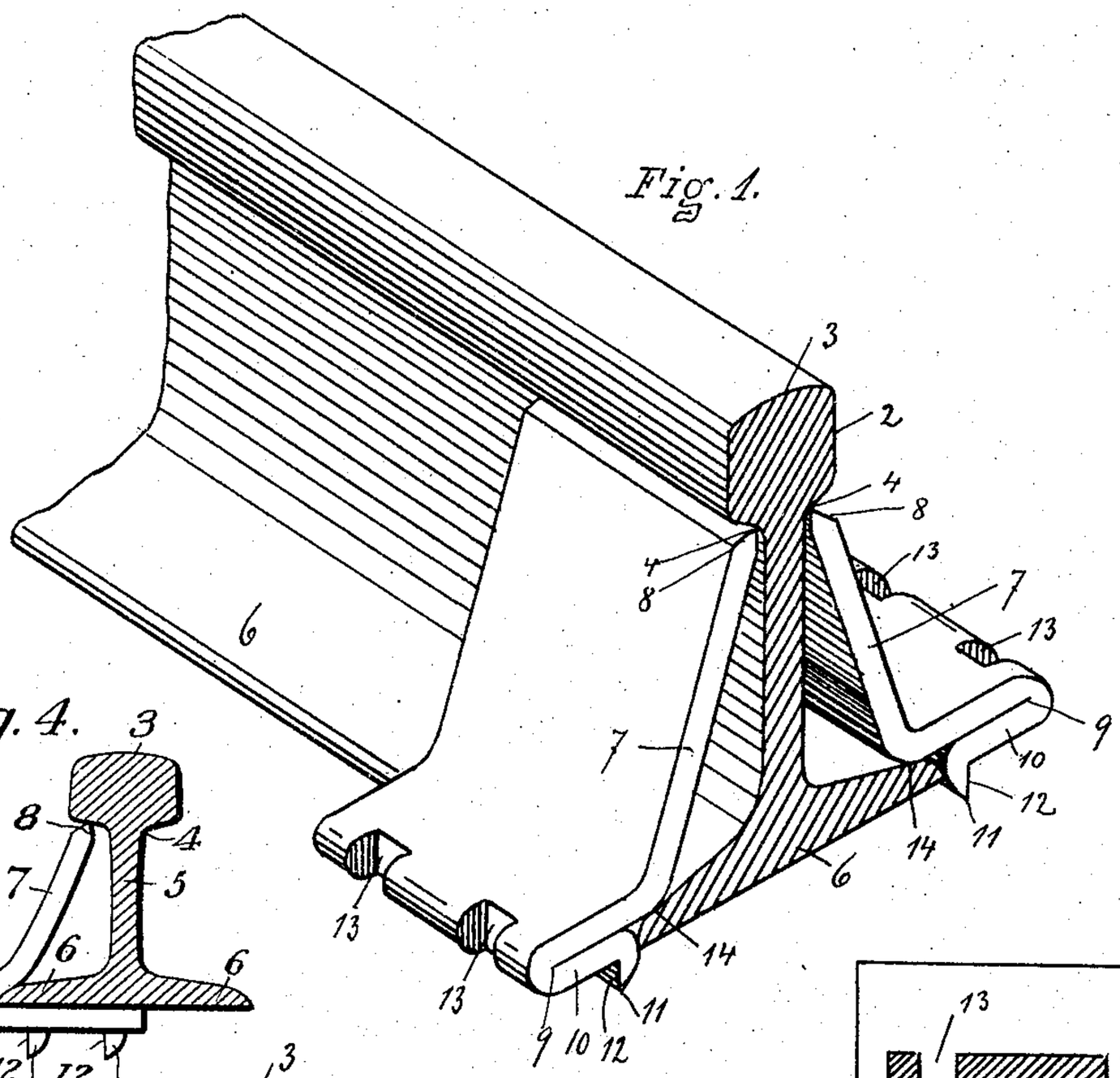


Fig. 4.

Fig. 2.

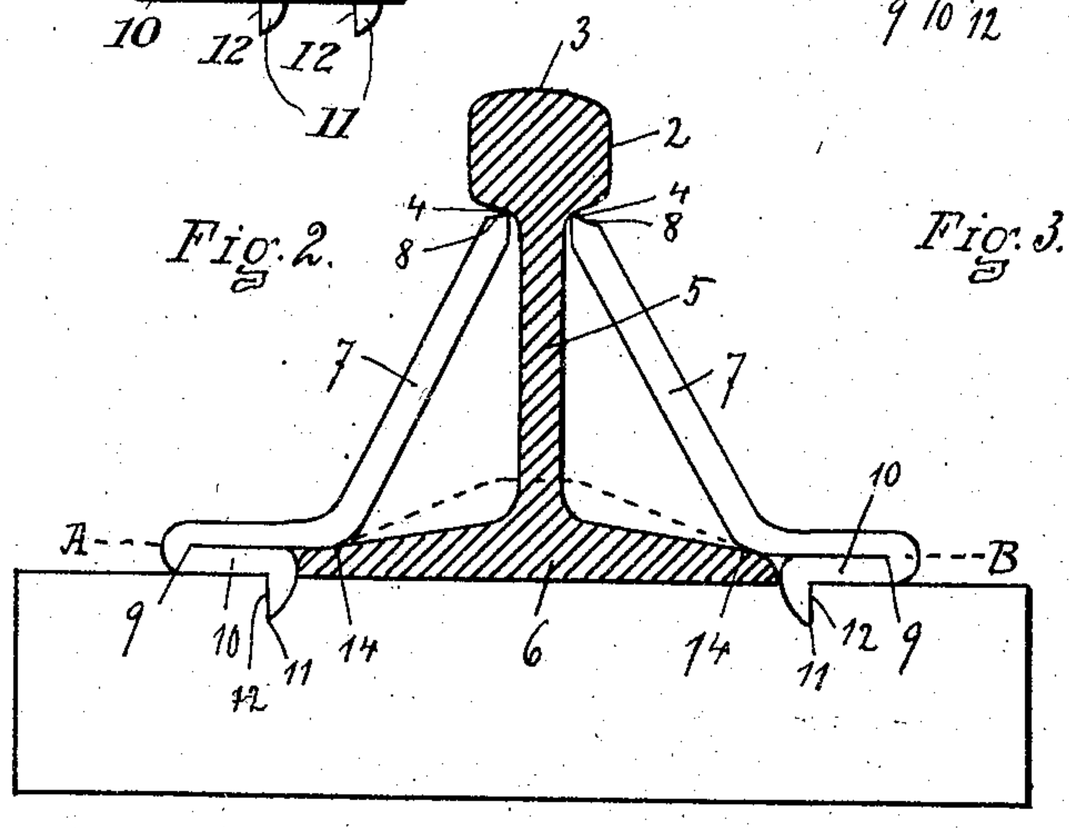
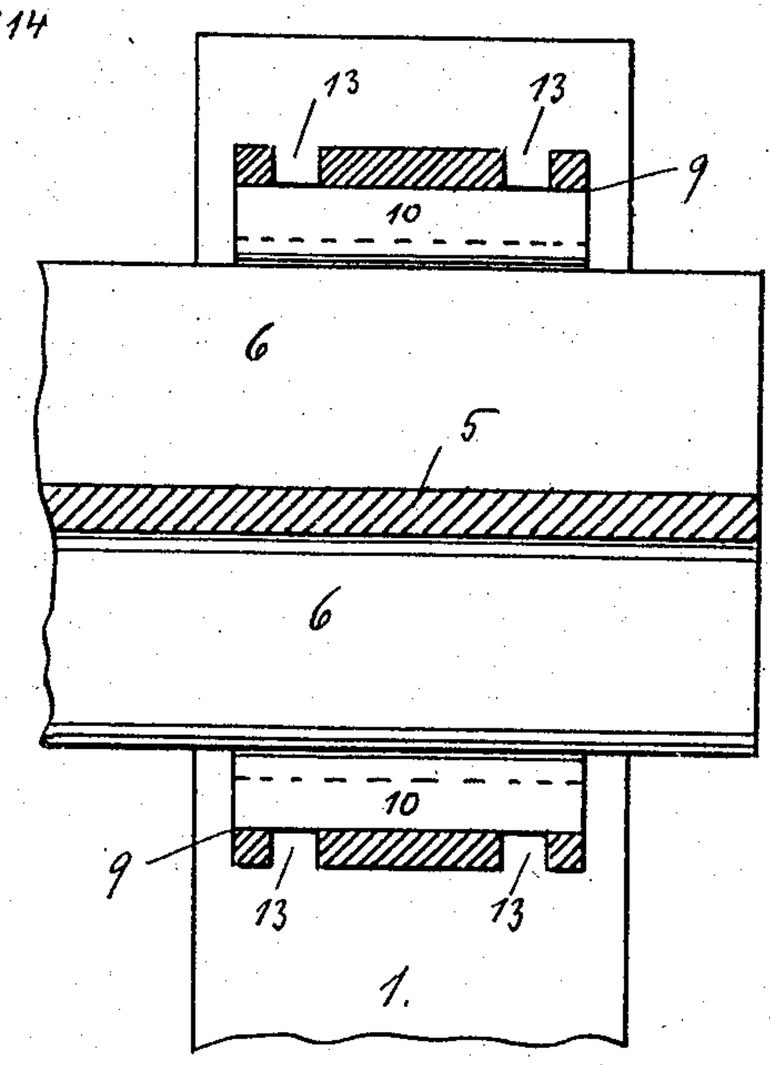


Fig. 3.



WITNESSES.
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No. 791,134. Patented May 30, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM F. BOSSERT, OF UTICA, NEW YORK.

BRACE FOR SUPPORTING RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 791,134, dated May 30, 1905.

Application filed January 11, 1904. Serial No. 188,461.

To all whom it may concern:

Be it known that I, WILLIAM F. BOSSERT, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Braces for Supporting Railway-Rails, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to a brace for supporting a railway-rail against lateral pressure; and it consists of the mechanism hereinafter pointed out and claimed.

My invention provides means intended for resisting lateral pressure on curves in railway-rails. The brace which is illustrated in the drawings is one of the means provided for this purpose. The lateral thrust upon the rails of a rail-bed by the movement of trains, particularly on curves, is such that means are found necessary to support the rail against such pressure. In this instance I employ a brace, or braces, the upper end of which impinges against the under side of the tread of the rail and is deflected at an angle from the vertical web of the rail and made to bear on the tie outside of the flanges on the rail and is so constructed as to engage and exert a pressure upon the outer flanges, thereby holding the rail in its position on the tie. It is provided with means for engaging the tie at or near the lateral edge or edges of the rail and also with means for inserting a spike at the extreme lateral edges of the brace or braces, and in this instance the means employed consist in having a horizontal reverse curve in the brace with the inner end of the reverse curve deflected down, forming a fin which is inserted in the tie, and, if desired, the flange or return curve may extend under the horizontal face of the flange to prevent shaking or side movement of the rail and brace.

In the drawings which illustrate my improved brace, Figure 1 is a perspective view of the rail and brace. Fig. 2 is an end view of Fig. 1. Fig. 3 is a sectional view of Fig. 2 on the line A B. Fig. 4 is a cross-section showing one form of the railway-brace.

In the drawings similar numerals of reference refer to corresponding parts in the several views.

Having described my invention with reference to the drawings, I will proceed to describe the same more in detail.

1 is the ordinary wood tie.

2 represents the ordinary railway-rail.

3 is the tread of the rail formed with lower shoulders 4 4 of the rail.

5 represents the vertical web of the rail.

6 represents the lateral flanges of the rail, which are constructed with the usual horizontal surface, forming a seat for the rail on the ties.

7 is the lateral brace or braces constructed at the upper ends 8 to engage the lower shoulder 4 of the tread of the rail and are deflected outward, as illustrated in the drawings, with a return curve 9. The lower portion 10 of the return curve is provided with a downwardly-projecting fin 11, which may be made serrated in the direction of the length of the fin, which is embedded in or made to engage the tie, and is provided with a vertical face 12 for furnishing the maximum amount of side resistance to the rail. The return curve of the brace in this instance is provided with grooves 13 for receiving the upper portion of an ordinary rail-spike for securing the brace or braces to the tie. In this instance I provide a curve 14 in the brace, which impinges against the upper outer flange or flanges of the rail for exerting pressure thereon for maintaining the rail in contact with the tie. If desired, the horizontal return curve 10 in the brace may be extended inwardly under the horizontal flange of the rail and may be provided with a series of downwardly-projecting fins 11 with vertical faces 12, which will be found serviceable when the curve is sharp and the corresponding lateral pressure is great. The several series of fins may be formed by cutting and turning the fins downward in the metal forming the horizontal return curve 10 of the brace and be provided in sufficient numbers to at all times resist the pressure.

My combined brace and tie-plate may be

modified and changed in detail of construction without departing from the spirit of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. A railway-rail brace, consisting of a strip of iron or steel the upper end of which is constructed to engage the under shoulder of the tread of the rail, having at its lower outer end a curve returning upon itself, the lower horizontal return curve being provided with one or more downwardly-projecting fins having substantially a vertical wall or face on the outer edge of the fin for engaging the tie, and mechanism for securing the brace to the tie, substantially as set forth.

2. A railway-rail brace, consisting of a strip of iron or steel the upper end constructed to engage the under shoulder of the rail-tread, the brace curved in its lower portion to conform to the upper and lateral edges of the base or flange for engaging and exerting a pressure thereon and having at its lower outer end a curve returning upon itself and having one or more downwardly-projecting fins having substantially vertical outer wall on the fin, and mechanism for securing the brace to the tie, substantially as set forth.

3. A railway-brace comprising a rigid member constructed to engage at one edge the under part of the tread of the rail and having a bearing on the edge of the base of the rail and being curved outwardly therefrom returning on the tie, the returned end having downward projections to engage the tie, the said projections having the outer edge substantially vertical, substantially as shown.

4. A railway-brace comprising a plate adapted at one edge to fit beneath the rail-tread and at the other edge to rest upon the rail-supporting structure and provided near the latter edge with downwardly-projecting fins with substantially vertical outer faces, the plate being curved between the edges to bear on the rail-base, substantially as described.

5. A railway-brace comprising a plate adapted at one edge to fit beneath the rail-tread and at the other edge to rest upon the rail-supporting structure and provided near the latter edge with downwardly-projecting fins with substantially vertical outer faces, the plate being curved between the edges to bear on the rail-base, in combination with means for securing the plate to the rail-supporting means, substantially as described.

6. A railway-brace adapted to engage at one edge the tread of the rail and at the other edge the rail-supporting structure and intermediate of said points to bear upon the base of the rail, the lower edge returning upon itself and extending beneath the rail and provided with downwardly-projecting fins to engage the rail-tie, the said fins having substantially vertical outward faces, substantially as shown.

7. A railway-brace adapted to engage at one edge the tread of the rail and at the other edge the rail-supporting structure and provided at the latter edge with a returning member adapted to rest between the base of the rail and the tie, the said returning member being provided with fins with outer edges substantially vertical to engage the tie, substantially as shown.

8. A railway-brace adapted to engage at one edge the tread of the rail and at the other edge the rail-supporting structure adjacent to the base of the rail, the latter edge having a returning member adapted to pass beneath the base of the rail and having downwardly-extended outwardly-faced fins for engaging the tie, substantially as shown.

9. A railway-brace conforming at one edge to support the rail and at the other edge to fit beneath the rail-tread and curved between said edges to bear against the edge of the rail-base and provided adjacent to its lower edge with downwardly-projecting fins having substantially vertical outer faces, substantially as shown.

10. A railway-brace constructed to engage at one edge the rail-tread and at the other edge to pass beneath the rail-base, intermediate of said edges engaging the edge of the rail-base, in combination with means for resisting lateral pressure on the rail, the said means comprising outwardly-facing fins projecting downwardly from the brace into the tie with faces constructed to resist lateral pressure on the rail, substantially as shown.

11. A railway-brace constructed to engage at one end the tread of the rail and at the other end the edge of the rail-base, having a return curve bearing on the tie, substantially as shown.

12. A railway-brace constructed to engage with one edge the tread of the rail and with the other edge the edge of the rail-base, having therebetween a return curve the under face of the same having downwardly-projecting outwardly-facing fins, substantially as shown.

13. A railway-brace constructed to engage with one edge the flange of the rail and at the other edge to abut against the edge of the rail-base being curved intermediate of said edges to bear on the rail-base and on the rail-supporting structure and having downwardly-projecting outwardly-facing fins engaging the rail-supporting structure, substantially as shown.

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

WILLIAM F. BOSSERT.

Witnesses:
E. T. De Giorgi,
E. Everett Risley.