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PATENTED DEC. 29, 1903.

W. F. BOSSERT.
RAILWAY BRACE AND CHAIR.
APPLICATION FILED MAY 11, 1903.

NO MODEL.

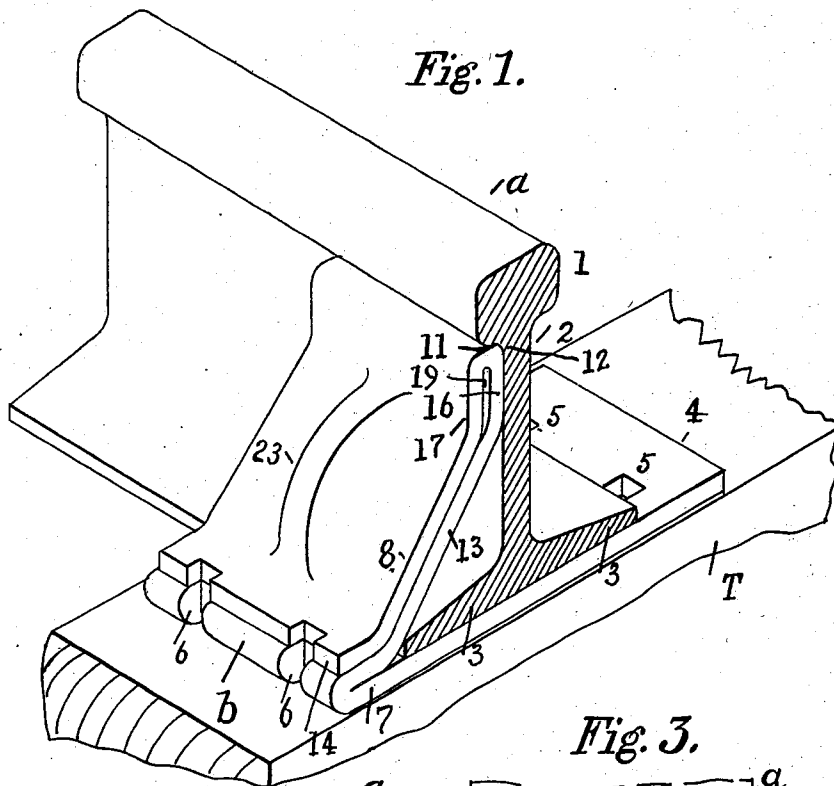


Fig. 2.

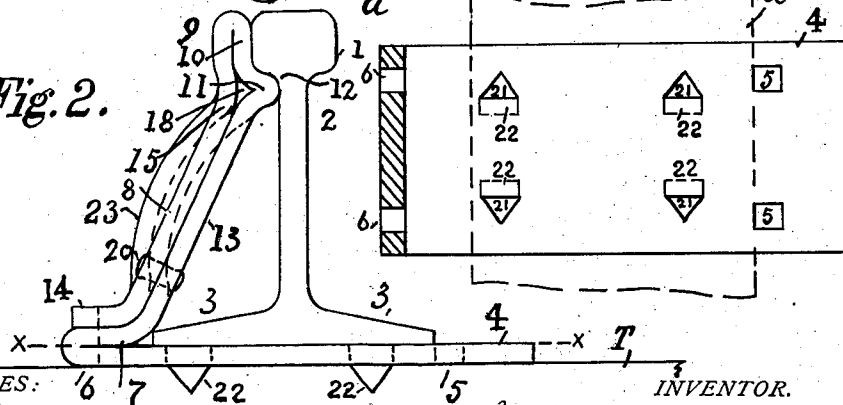
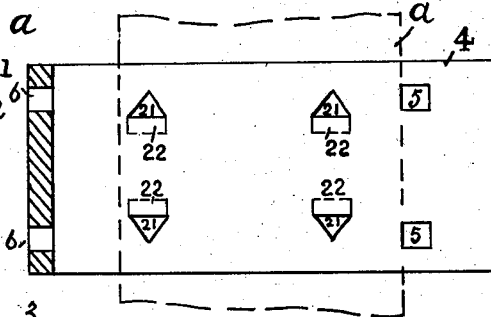


Fig. 3.



WITNESSES:

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RAILWAY BRACE AND CHAIR.

SPECIFICATION forming part of Letters Patent No. 747,930, dated December 29, 1903.

Application filed May 11, 1903. Serial No. 156,532. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. BOSSERT, residing at Utica, in the county of Oneida and State of New York, have invented certain Improvements in Railway Braces and Chairs, of which the following is a specification.

The present invention relates to means employed to support railway-rails in position upon the ties on the road-bed. In straight runs of track the rails are fastened to the ties by means of bolts or spikes, which, with the chairs at the ends of the rails, form a sufficient support; but upon curves, where the wheels of the train are forced over upon the outer rail with great force and thrust, more protection is demanded to hold the rail firm and stable.

My invention provides means whereby upon curves the rails are not only secured to the ties, but are provided with a strong and sufficient brace to withstand the thrust of the train when passing rapidly over the rails; and it consists of a plate passing under the rail from the inner to the outer side, provided with slots on the inner side for the reception of bolts or spikes near the inner edge of the rail, and upon the outer side returning upon the plate to the outer edge of the rail and then extending upward as a strut in an inclined direction to the rail-tread in a manner to lock therewith and support the same. Notches are cut in the outer edge of the doubled portion of the base for the reception of bolts or spikes. The combined chair and brace is made in one piece of rolled metal about four inches wide and is bent by machinery into the desired shape, and the spike holes and notches are made by a templet, so that each piece is like all the others, all of which I will now proceed to describe, and point out in the appended claims.

In the drawings which form a part of and illustrate the invention, Figure 1 is a perspective view of a combined railway brace and chair, and Fig. 2 is a modification of the same.

Referring to Fig. 1, *a* represents a short section of rail to which is applied the brace and chair *b*. The chair and brace *b* is made from a piece of iron or steel cut off from a long bar rolled to the proper width and thickness, the piece cut off being of the exact length required to form a base-plate 4, adapted to ex-

tend from the side of the rail and provided with bolt-holes 5 5, through which the bolts or spikes extend into the tie in a manner well understood. The piece also extends beyond the opposite side of the rail-foot, where it is bent over and returned upon itself a short distance, as 7, to the rail-foot, when it bends upward as a strut 13 toward the upper part of the rail-web at an angle of preferably about sixty degrees with the base 4 and extends along the web as a straight portion 16 until it reaches its juncture with the under side of the tread 12, at which point 11 it is turned over, as 17, parallel with the part 16 and separated therefrom by an open space 19 and extends downward until it meets the strut 13, in contact with which it continues along its contour, and its end 14 terminates at about the bent-over end of 7. Portions 6 6 are cut out from the end 14 and also from the rounded end of 7 for the reception of bolts or spikes. It will be seen that the base of the rail fits into the angle formed by the plate 4 and the strut 13 and that the convex surface 12 fits well over the shoulder 11, and when the bolts or spikes are in the orifices 5 the rail is locked to the chair and brace, and any thrust upon the rail by the wheels of a train is met and resisted by the brace. In Fig. 2 the construction is much the same as in the previous figure, except that the strut 13 extends to the concave 12, where it is bent into a shoulder 11, and then continues upward along the face of the tread and near its top is bent over and continues downward, as previously described. In this case an open space 18 is left between the shoulder 11 and the part 15 of the strut 8, the material at this point constituting an angle or thicker place, which tends to strengthen the brace as a whole.

Rivets or bolts 20 may be and preferably are arranged in holes in the struts 8 and 13 to bind them together and help resist stress upon them. One or more ribs 23 may be formed upon the struts by forcing the central part outward, as indicated, to further strengthen the same. I form sharp projections 22 in the base portion 4 by forcing parts thereof downward, shown as made three-cornered, in order that when the chair is placed upon a tie T they may be forced thereinto and

hold the chair from slipping from its place. It will be seen that the projections are one side of the line of the bolt-holes 5 and 6 in order that the tie may not be split, as it would be by four holes in line with one another in the same, and the points of the projections are made to cut their longest score in the direction of the fiber of the tie instead of across the grain in order not to weaken it.

10 I claim as my invention—

1. A railway brace and chair, consisting of a strip of iron or steel having a plate to extend under the rail from one side to the other, bent inward toward the plate and inclined upward to the upper part of the rail to form an inner strut, and returning upon itself to form an outer strut in contact with the said inner strut throughout its length.

2. A railway brace and chair, consisting of a strip of metal having a plate to extend under the rail from side to side, bent inward toward the plate and inclined upward to the upper part of the rail to form an inner strut, and returning upon itself to form an outer strut in contact with the said inner strut throughout its length, the upper doubled or looped portion conforming to the contour of the upper part of the web and of the rail-tread, and forming a shoulder at the junction of the tread and web.

3. A railway brace and chair, consisting of a strip of metal having a plate to extend under the rail from one side to the other, bent inward toward the plate and inclined upward to the upper part of the rail to form an inner strut, and returning upon itself to form an outer strut in contact with the said inner strut throughout its length, with openings and slits for the reception of bolts or spikes.

4. A railway brace and chair, consisting of a strip of metal having a plate to extend under the rail from side to side, bent inward toward the plate and inclined upward to the upper part of the rail to form an inner strut, and returning upon itself to form an outer strut in contact with the said inner strut, the inner side of the upper doubled or looped portion conforming to the contour of the upper part of the web and rail-tread and forming a shoulder at the junction of the tread and web, while the outer side thereof is separated from the inner part opposite said junction,

with openings and slots for the reception of bolts or spikes.

5. A railway brace and chair, consisting of a strip of metal having a plate to extend under the rail from side to side, bent inward toward the plate and inclined upward to the upper part of the rail to form an inner strut, and returning upon itself to form an outer strut in contact with the said inner strut, and bolts or rivets connecting the two struts together, with openings and slots for the reception of bolts or spikes, as set forth.

6. A railway brace and chair, consisting of a strip of metal having a plate to extend under the rail from one side to the other, provided with projections on its under side bent inward toward the plate and inclined upward to the upper part of the rail to form an inner strut, and returning upon itself to form an outer strut in contact with the said inner strut throughout its length with openings and slits for the reception of bolts or spikes.

7. A railway brace and chair, consisting of a strip of metal having a plate to extend under the rail from one side to the other, provided with projections on its under side, bent inward toward the plate and inclined upward to the upper part of the rail to form an inner strut, and returning upon itself to form an outer strut in contact with the said inner strut, with openings and slots for the reception of bolts or spikes, the said projections not being in the same line with the openings and slots.

8. A railway brace and chair, consisting of a strip of metal having a plate to extend under the rail from one side to the other, bent inward toward the plate and inclined upward to the upper part of the rail to form an inner strut, and returning upon itself to form an outer strut in contact with the inner strut, the said outer strut provided with an outward-extending rib, with openings and slits for the reception of bolts or spikes.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 25th day of March, 1903.

WILLIAM F. BOSSERT.

Witnesses:

FREDERICK T. FOXENBERGER,
WILLIAM GRAY.