No. 881,237. PATENTED MAR. 10, 1908.

G. L. HALL.

RAIL BRACE.

APPLICATION FILED FEB. 27, 1907.

2 SHEETS—SHEET 1.

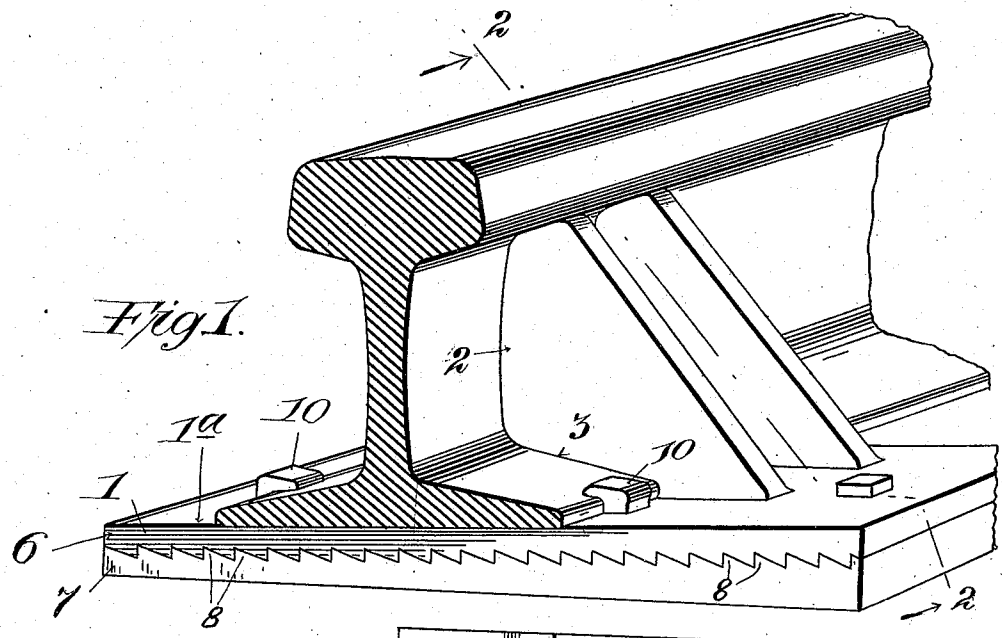

Fig. 1.

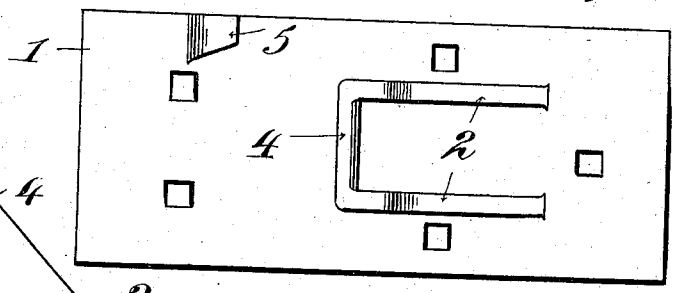

Fig. 3.

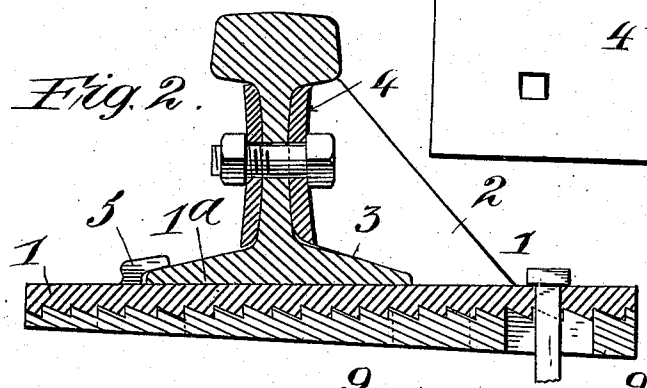

Fig. 2.

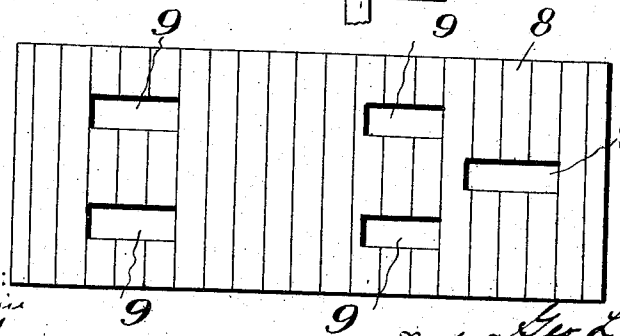

Fig. 4.

Witnesses:
C. W. Benjamin
E. H. Kaufmann

Inventor
Geo. L. Hall
By his Attorneys
Davis & Davis

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2 SHEETS—SHEET 2.

Fig. 5.

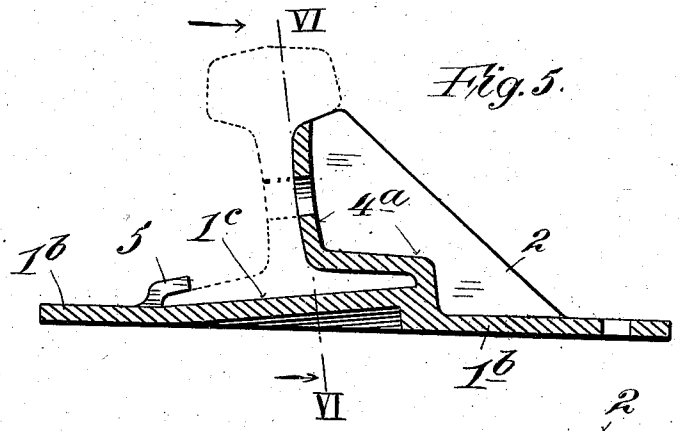


Fig. 6.

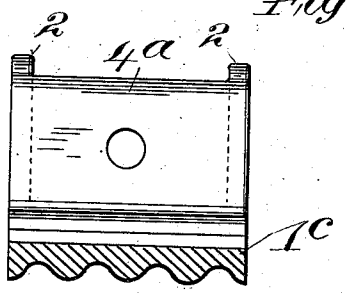


Fig. 7.

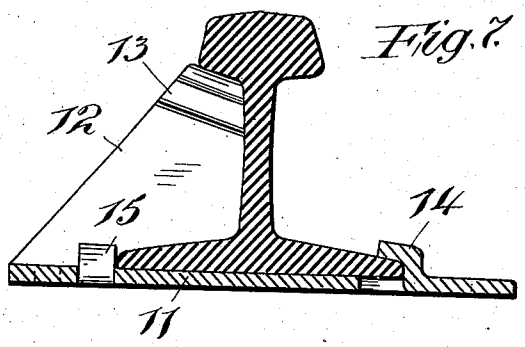
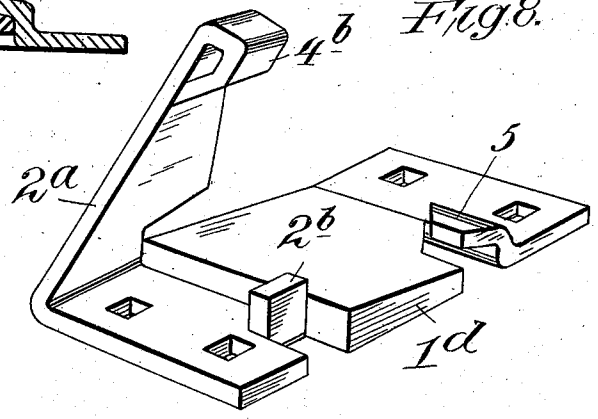


Fig. 8.



Witnesses:
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E. A. Kaufmann

Inventor
Geo. L. Hall
By his Attorneys
Davis & Davis

UNITED STATES PATENT OFFICE.

GEORGE L. HALL, OF NEW YORK, N. Y., ASSIGNOR TO THE NATIONAL RAILWAY MATERIALS COMPANY, OF NEW YORK, N. Y.

RAIL-BRACE.

No. 881,237. Specification of Letters Patent. Patented March 10, 1908.

Application filed February 27, 1907. Serial No. 359,584.

To all whom it may concern:

Be it known that I, GEORGE L. HALL, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Rail-Braces, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a perspective view of the brace; Fig. 2 a longitudinal vertical sectional view thereof; Fig. 3 a plan view; Fig. 4 a plan view of the lower section of the base; Fig. 5 a detail vertical sectional view of a slightly different form of the brace; Fig. 6 a vertical sectional view on the line VI—VI of Fig. 5; Fig. 7 a vertical sectional view showing another form of the brace; and Fig. 8 a detail perspective view of a modified form of the brace.

This invention relates to rail braces consisting of a base plate adapted to fit under the rail and to be secured to the tie, and an upstanding rail brace arm adapted to support the head of the rail and to brace the entire rail against lateral movement in one direction on the base plate.

One of the many objects of the invention is to provide the base plate with an upstanding rail brace arm and with a co-acting stop lug to engage the base of the rail and prevent lateral movement thereof.

Another object of the invention is to provide such a rail brace with a rail support inclining upwardly toward the rail brace arm, whereby the rail will be supported in a slightly inclined position transversely.

A further object of the invention is to provide means whereby the angle of the inclined rail support may be varied.

Referring to the various parts by numerals, 1 designates the base or rail supporting plate provided with the rail brace arm 2, which extends upwardly and inwardly. The upper edge of this brace is adapted to fit under the head of the rail, and the inner face thereof is adapted to bear against the web of the rail. The lower part of the brace is undercut, as at 3, to adapt it to fit over and engage the base of the rail. The rail brace arm is provided with the transversely extending part 4 which strengthens it and gives it a broad bearing under the head of the rail and on the web thereof. The upper surface of the base inclines upwardly to the brace arm as shown at 1^a, so that a rail resting thereon will be inclined transversely, the inclination being away from the brace arm. On the base 1 and extending toward the brace arm is a rail-engaging clip 5 which is adapted to engage the rail base on the opposite side thereof from the brace arm 2. This rail clip is preferably arranged near one transverse edge of the base.

I may form the base in one piece as shown in Figs. 5, 6, 7 and 8, and have several patterns, each pattern having a different angle for the upper surface of the base; but I prefer to form it in two parts or sections, as shown in Fig. 1, the upper section 6 fitting over the lower section 7 and being laterally adjustable thereon to vary the height of the upper surface of the base. As shown in this view the lower member of the base is formed wedge-shape, its upper surface inclining upwardly toward the brace arm, said upper surface being provided with ratchet like transverse ribs 8. The lower surface of the upper member of the base is provided with corresponding notches to receive said ribs, said ribs being so inclined as to take up the outward thrust on the rail. The lower member of the base is slotted as at 9 in Fig. 4, to permit of the lateral adjustment of said lower member, the securing devices 10 passing down through said slots.

In Figs. 5 and 6 the base 1^b is shown as formed in one piece; and it is corrugated directly under the inclined rail support 1^c. The purpose of this is to secure sufficient strength in the plate while at the same time saving considerable metal. In these views the lateral extending part 4^a of the brace arm is carried down to the base plate, so that said part not only bears against the web of the rail, but also against the base thereof.

In Fig. 8 the base plate 1^d is shown as provided with a brace arm 2^a at one of its side edges, the laterally extending part 4^b being arranged in the form of a head at the top of said brace arm, said head being adapted to fit against the web of the rail and under the head thereof. The base plate 1^d is formed at the opposite side edge from the brace arm 2^a with an upward extending stop 2^b which is adapted to engage the edge of the base of the rail on the same side thereof as the brace arm.

In Fig. 7 the upper surface of the base plate 11 is shown as horizontal so that the rail will be supported in an upright position with no

lateral inclination. In this form of the brace the base is provided with the brace arm 12 having the lateral extending part 13. The base plate is also formed with a rail clip 14 and a stop lug 15, all of which are constructed substantially as the corresponding parts in the other forms of the brace shown.

From the foregoing it will be seen that I provide a rail brace of simple construction which, when in position under the rail, will be so attached thereto that lateral displacement with respect to the rail will be practically impossible. It will also be seen that, by means of the adjustable base or rail support, these braces are especially well adapted for use on curves where the elevation and the inward inclination of the rail is gradually increased to the middle of the curve from the ends thereof. By means of my improved rail brace or support this gradual elevation of the rail and gradual increasing of its inward inclination may be readily secured.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A rail brace comprising a base adapted to support the rail and provided with an upwardly and inwardly extending brace arm adapted to engage the rail, said base being formed of two parts, and means whereby said two parts of the base may be adjusted on each other to vary the height of the upper surface of the base.

2. A rail support comprising a base plate formed of an upper member and a lower member, and means whereby the members may be adjusted on each other to vary the height of the upper surface of the upper member.

3. A rail brace comprising a base adapted to support the rail and provided with an upwardly and inwardly extending brace arm adapted to engage the rail, said base being formed of two parts which are adapted to fit together on a substantially diagonal line, whereby said parts may be adjusted on each other to vary the height of the upper surface of the base.

4. A rail brace comprising a base adapted to support the rail and provided with an upwardly and inwardly extending brace arm adapted to engage the rail, said base being formed of two parts which are adjustable on each other to vary the height of the upper surface of the base, said upper surface inclining upwardly toward the brace arm, whereby the rail will be supported in a transversely inclined position.

5. A rail brace comprising a base plate adapted to support the rail and provided with an upwardly and inwardly extending brace arm adapted to fit under the head of the rail and to engage the web thereof, the lower edge of said brace arm being cut out to adapt it to fit over the upper surface of the base of the rail, a rail clip connected to the base plate and adapted to fit the rail base on the opposite side thereof from the brace arm and diagonally across the base plate from said arm, and a stop lug adapted to engage the rail on the same side thereof as the brace arm and at a point transversely opposite the clip.

6. A rail brace comprising a base adapted to support the rail and provided with an upwardly and inwardly extending brace arm adapted to engage the rail, the upper surface of said base inclining upwardly toward the brace arm whereby the rail will be supported in an inclined position, and means for varying the height of the upper surface of the base.

7. A rail brace comprising a base plate adapted to support the rail and formed of of two members adjustable on each other to vary the height of the upper surface of the base plate, said members being formed with interlocking parts to hold them in their adjusted positions, and an upwardly and inwardly extending brace arm connected to the upper member and adapted to engage the rail.

8. A rail brace comprising a base plate adapted to support the rail and formed of two members adjustable on each other to vary the height of the upper surface of the base plate, said members being formed with interlocking parts to hold them in their adjusted positions and the lower member being wedge shape, and an upwardly and inwardly extending brace arm connected to the upper member and adapted to engage the rail.

9. A rail brace comprising a base plate provided with an upwardly and inwardly extending brace arm adapted to engage the rail, the upper surface of said base plate inclining upwardly toward the brace arm, a rail clip connected to the base plate and adapted to engage the rail base on the opposite side thereof from the brace arm, said clip being near the lower edge of the inclined portion of the base.

In testimony whereof I hereunto affix my signature in the presence of two witnesses this 26th day of February, 1907.

GEORGE L. HALL.

Witnesses:
WM. R. DAVIS,
E. H. KAUFMANN.