No. 815,248. PATENTED MAR. 13, 1906.

C. A. ALKINS.

RAIL BRACE.

APPLICATION FILED NOV. 18, 1905.

Fig. 1.

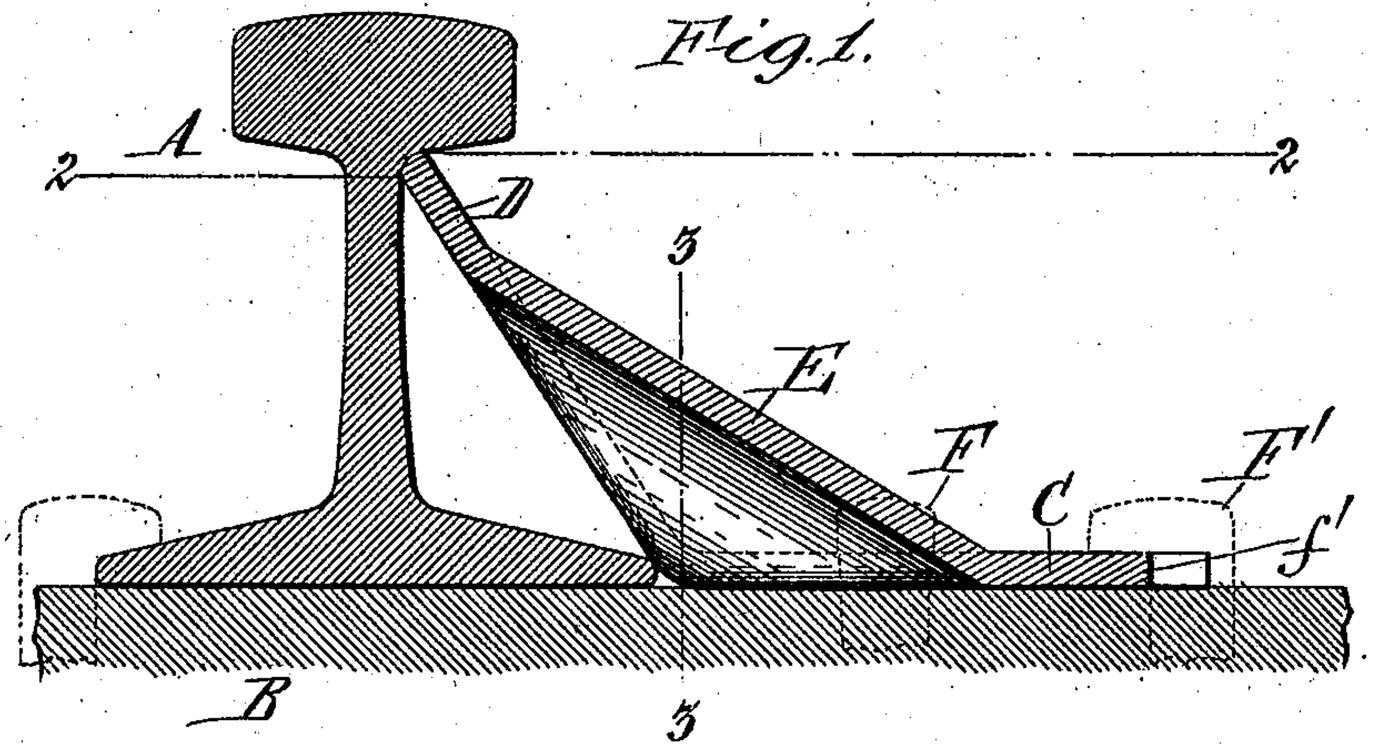


Fig. 2.

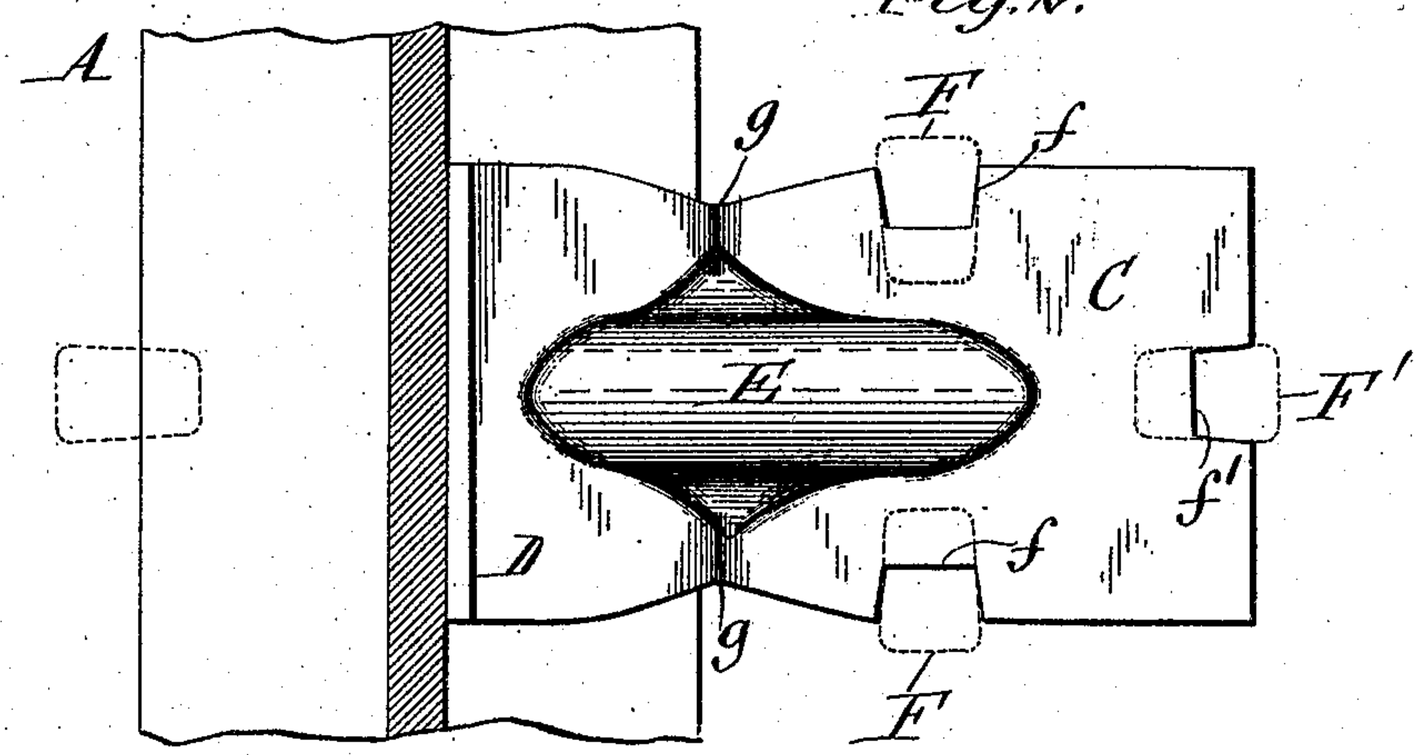
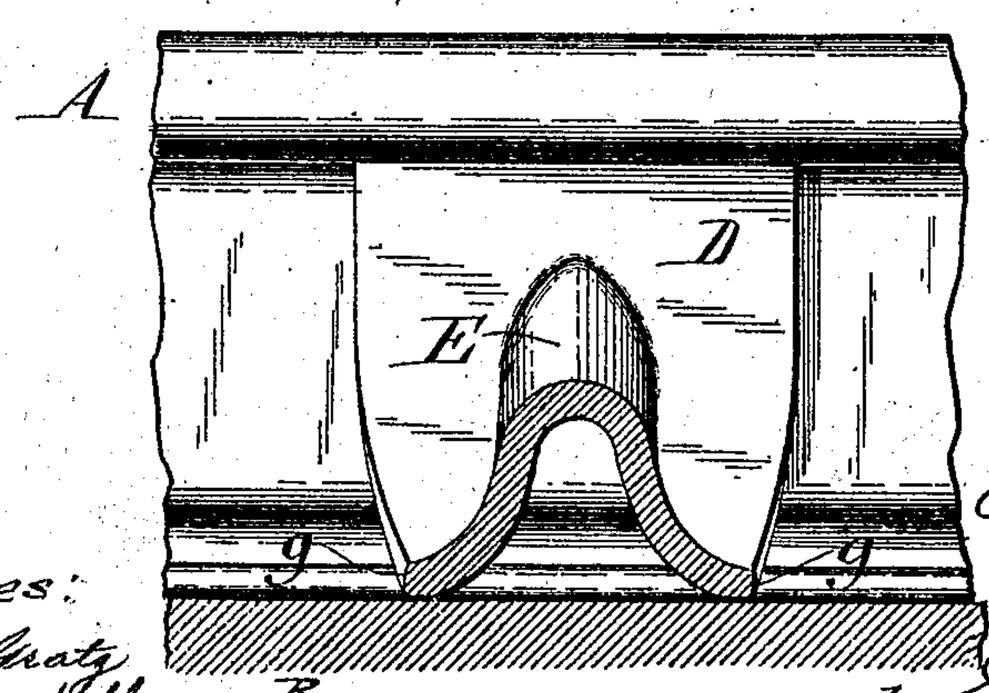


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES A. ALKINS, OF MEMPHIS, TENNESSEE, ASSIGNOR, BY MESNE ASSIGNMENTS, TO NIAGARA FORGED STEEL COMPANY, OF BUFFALO, NEW YORK, A CORPORATION OF NEW YORK.

RAIL-BRACE.

No. 815,248. Specification of Letters Patent. Patented March 13, 1906.

Application filed November 18, 1905. Serial No. 287,926.

To all whom it may concern:

Be it known that I, CHARLES A. ALKINS, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Improvement in Rail-Braces, of which the following is a specification.

The object of this invention is the production of a rail-brace of improved construction which for its weight holds the rail more reliably against turning and vertical movement than those heretofore in use and which can be manufactured expeditiously and at comparatively low cost out of flat-rolled steel plate by means of a steam-hammer or "bulldozer."

In the accompanying drawings, Figure 1 is a vertical cross-section showing my improved brace applied to the rail and tie. Fig. 2 is a horizontal section thereof in line 2 2, Fig. 1. Fig. 3 is a vertical longitudinal section in line 3 3, Fig. 1.

Similar letters of reference indicate corresponding parts in the several views.

A represents the rail, and B the tie supporting the same.

My improved brace comprises a horizontal base C, an inclined strut D, extending upwardly at an obtuse angle from the inner end of the base, and a stiffening-web E, connecting the upper sides of the base and strut and extending centrally across the corner between the same. These parts are so proportioned relatively to the rail with which they coöperate that the upper end of the stay bears against the corner between the under side of the rail-head and its web, the corner at the lower end of the strut and the inner end of the brace-base bears against the outer edge of the base of the rail, and the base of the brace rests flatly against the top of the tie. The brace is held in this position by means of spikes F F′, driven into the tie and arranged in recesses *f f′* in the side edges and the outer end edge of the base, as shown in Figs. 1 and 2.

The brace is formed out of flat-rolled sheet-steel by means of suitably-constructed dies mounted in a steam-hammer or bulldozer, which enables the same to be made cheaply and rapidly. The stiffening-web is hollow and arch-shaped in cross-section and is formed by striking up parts of the stock of the strut and base.

When in use, the head of the rail is supported by the strut, which extends from the under side of the same to the edge of the rail-base, and the strut is in turn sustained by the web, which extends from the strut inside of the outer edge of the rail-base to the base beyond the outer edge of the rail-base, thereby combining the bracing effect of the strut and web and distributing the same over a larger area than has been possible in rail-braces as heretofore constructed, whereby the rail is firmly supported against turning. Furthermore, a much stiffer construction is produced which effectually counteracts any tendency to move the rail vertically. The web is raised out of the stock of the strut and base to such an extent that the side edges of the corner between the strut and base are drawn inwardly and contract these parts of the strut-base, as shown at *g*, thereby reducing to a minimum the amount of stock in the corner of the brace, which is in an unfavorable position for sustaining the rail and obtaining the greatest area of metal in the position most favorable for sustaining the rail, while at the same time maintaining a wide bearing-surface for engagement with the rail-head and the tie.

I claim as my invention—

A rail-brace pressed out of metal plate so as to form an inclined strut which is adapted to bear at its upper edge against the under side of the rail-head and at its lower end against the outer edge of the rail-base, and a web which is arch-shaped in cross-section and connects the central parts of the strut and base of the brace, said web being raised out of the stock of the strut and base to such an extent that the side edges of the corner between the strut and base are drawn inwardly and contract these portions thereof, substantially as set forth.

Witness my hand this 27th day of October, 1905.

CHARLES A. ALKINS.

Witnesses:

J. T. SETTLE,

J. M. WEBER.