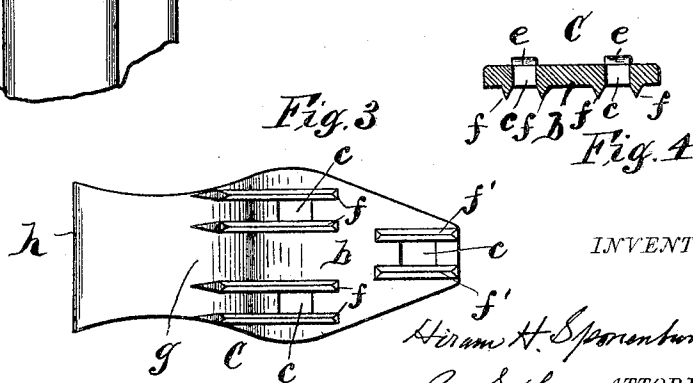
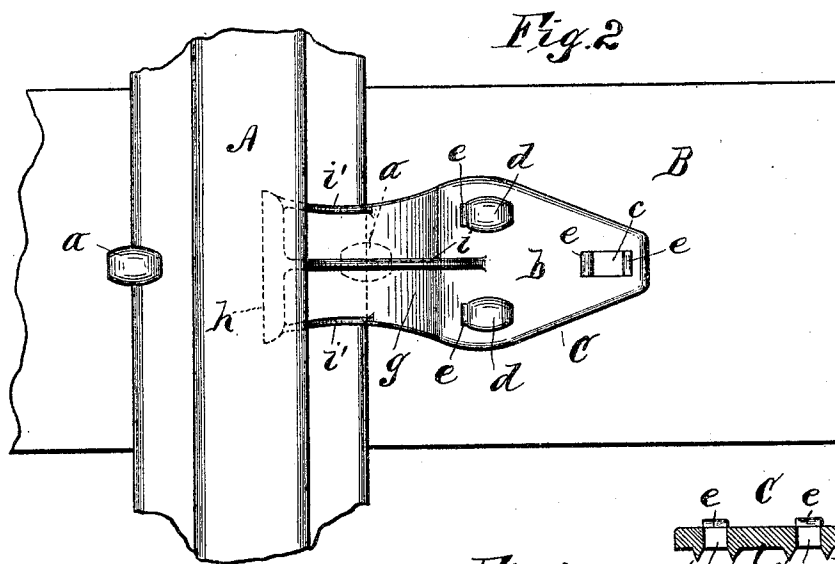
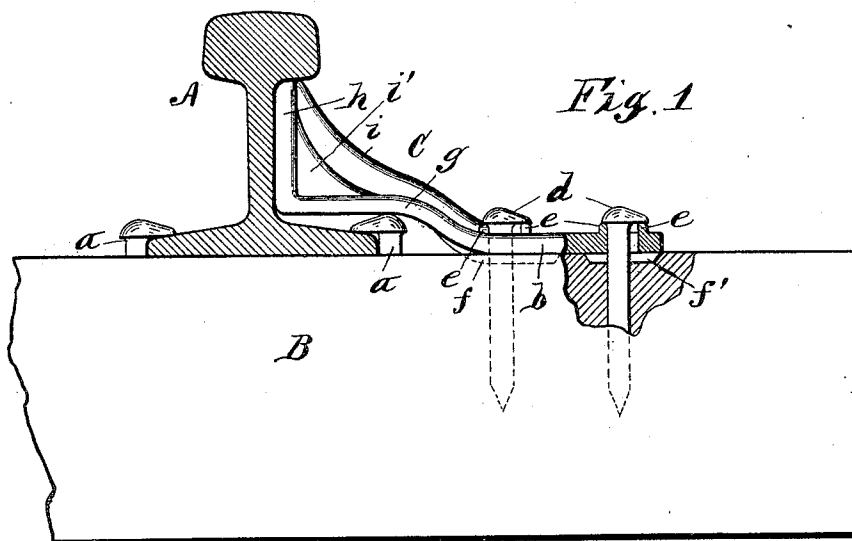


No. 803,251.

PATENTED OCT. 31, 1905.

H. H. SPONENBURG.
RAILWAY RAIL BRACE.
APPLICATION FILED MAY 4, 1905.



WITNESSES:

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RAILWAY-RAIL BRACE.

No. 803,251.

Specification of Letters Patent.

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Application filed May 4, 1905. Serial No. 258,813.

To all whom it may concern:

Be it known that I, HIRAM H. SPONENBURG, of Wadsworth, in the county of Lake, in the State of Illinois, have invented new and useful Improvements in Railway-Rail Braces, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the style of brace which is secured to the cross-tie of a railway and in position to abut against the outer side of the track-rail for the purpose of resisting the outward strain exerted on said rail by trains traveling thereon.

Various devices have heretofore been resorted to to brace the rail, as aforesaid; but said devices have been crude in form and have failed to produce the desired effect in a satisfactory and reliable manner.

The object of this invention is to provide a rail-brace which shall be simple in construction and rigid, efficient, and durable in its operation; and to that end the invention consists in the novel construction of the rail-brace, as hereinafter described, and set forth in the claims.

In the accompanying drawings, Figure 1 shows a side view of my improved brace applied to a rail and cross-tie. Fig. 2 is a plan view of the same. Fig. 3 is a detached plan view of the rail-brace, and Fig. 4 is a transverse section taken through the base portion of said brace.

Similar letters of reference indicate corresponding parts.

A denotes the track-rail of well-known type and which is supported on the cross-tie B and fastened thereto by means of the usual spikes *a a*.

C represents my improved rail-brace, which is composed of a single casting of any suitable metal. This brace comprises a base portion *b*, which is of the form of a plate which is elongated with respect to the tie and is placed flatwise thereupon and is curved upward at its inner end above the rail-flange. Said base is provided with a series of apertures *c c c* for the reception of spikes *d d*, by which the brace is securely fastened to said tie. These apertures are preferably of rectangular shape, so as to permit the spikes to yield, and thus obviate binding of the spikes in the apertures and resultant breaking of the same when they are required to be withdrawn from the tie for any purpose. The upper face of this base is pref-

erably formed with lugs *e e*, disposed at the end edges of the apertures and upon which the heads of the spikes *d d* bear when firmly driven into the tie, as clearly shown in Figs. 1 and 2 of the drawings. These lugs serve to elevate the spike-head slightly from the base, so as to permit the well-known claw-bar to be readily inserted under the heads for withdrawing the spikes. The lower face of this base is provided with longitudinal ribs *f f f'*, disposed in pairs at the side edges of the aforesaid apertures *c c*. These ribs are wedge shape in cross-section and become embedded in the cross-tie during the operation of driving the spikes and effectually assist the spikes in sustaining the brace in its position.

It will be seen that my improved brace can be readily applied to the rail and cross-tie without interference from the rail-spikes. Said brace also comprises a bridge *g*, extending from the inner end of the aforesaid base *b* and which rises a sufficient distance above the plane of the base to accommodate the rail-spikes *a a*, and, furthermore, comprises a wall or breast *h*, projecting from the inner end of the bridge and abutting against the stem of the rail A and bearing on the under side of the rail-head, as clearly shown in Fig. 1.

I prefer to form the base with a central longitudinal web *i*, extending from the top of the wall *h* along the top of the bridge *g* and part way the length of the base *b*, and also provide said brace with additional webs *i' i'* at the sides thereof and disposed between the bridge and wall. Said webs *i' i' i'* serve to strengthen the brace to effectually resist the strain thereon, more particularly at the junction of the wall and bridge and at the junction of the latter and base. The aforesaid ribs *f f* I prefer to extend part way along the lower face of the bridge and taper longitudinally thereat, which ribs serve to further strengthen the brace at the junction of the base and bridge, as shown in Figs. 1 and 2 of the drawings.

What I claim is—

1. The improved railway-rail brace formed of one piece of metal and comprising a base-plate formed with apertures for the reception of spikes for securing the same to the cross-tie and provided on its upper face with lugs disposed at opposite edges of the apertures upon which lugs the heads of said spikes bear, a bridge extending from said base-plate over the rail-flange, and a wall or breast projecting

from the said bridge and abutting against the side of the rail and provided with webs on its outer face extending along the bridge as set forth.

- 5 2. The improved railway-rail brace formed of one piece of metal and comprising a base-plate rigidly secured to the cross-tie and curved upward at its inner end above the rail-flange, a bridge extending from said base-
10 plate over the rail-flange, a wall projecting from said bridge and abutting against the stem and head of the rail, a central web extending from the back of the wall along the bridge and part way the length of the base-
15 plate, and additional webs disposed at the sides of the brace between the wall and bridge as set forth.

3. The improved railway-rail brace formed of one piece of metal and comprising a base-plate provided with apertures for the recep- 20
tion of spikes for securing the same to the cross-tie, a bridge extending from the base-plate over the rail-flange, and a wall project-
ing from the bridge and abutting against the side of the rail, the lower face of the base- 25
plate being provided with transversely-tapered longitudinal ribs embedded in the cross-tie and terminating at the inner ends slightly beyond the junction of the said base-plate and bridge as set forth.

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Witnesses:

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