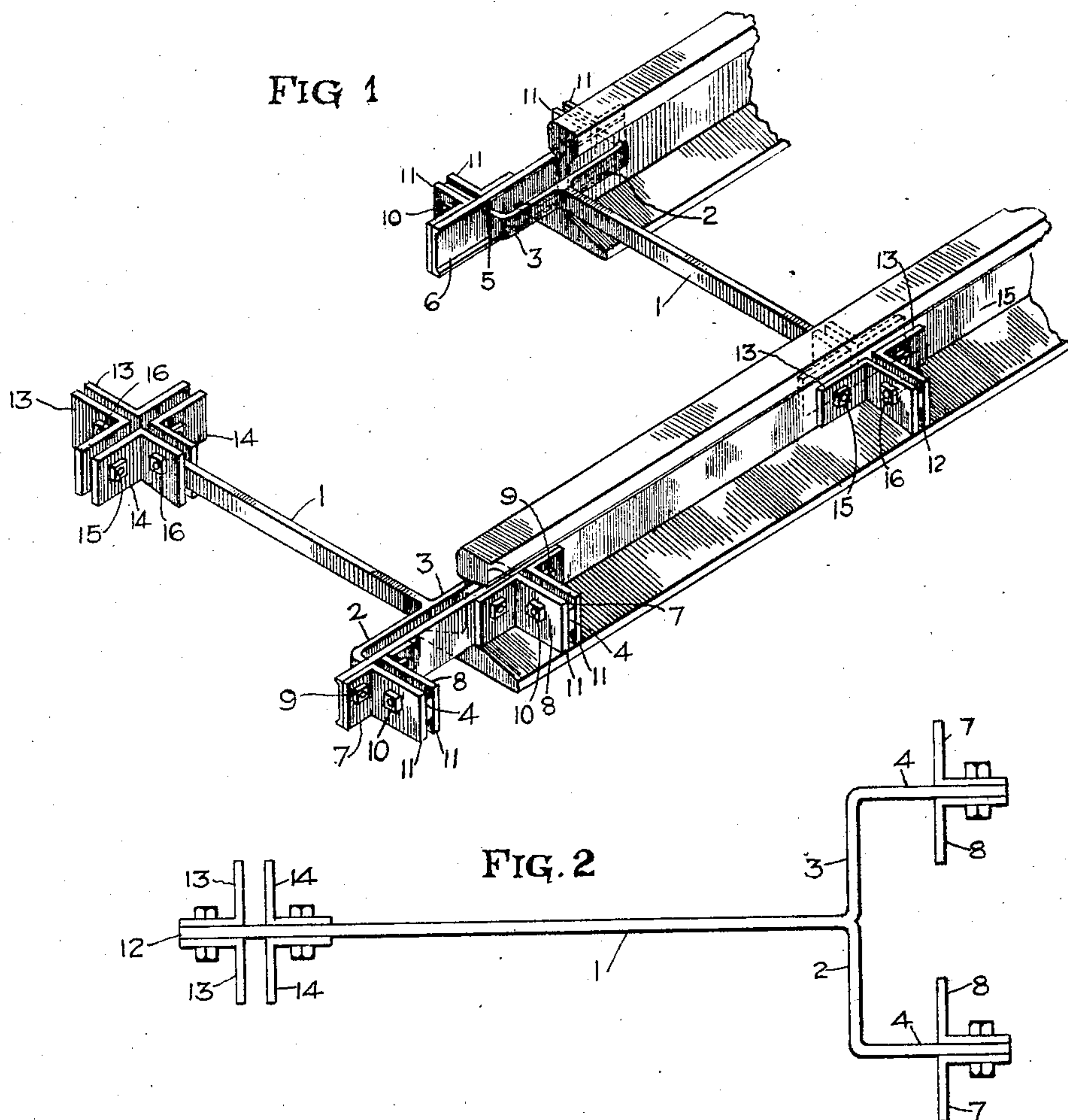


No. 861,845.

PATENTED JULY 30, 1907.

H. HEMPHILL.  
RAIL BRACE FOR RAILWAY RAILS.  
APPLICATION FILED MAY 18, 1907.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HARRY HEMPHILL, OF SARVER, PENNSYLVANIA.

## RAIL-BRACE FOR RAILWAY-RAILS.

No. 861,845.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed May 18, 1907. Serial No. 374,379.

*To all whom it may concern:*

Be it known that I, HARRY HEMPHILL, a citizen of the United States of America, residing at Sarver, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Braces for Railway-Rails, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to rail braces for railway rails, and its primary object is to provide simple but effective means for bracing the rails of a track transversely to prevent lateral yielding, or spreading of the rails.

A further object of the invention is to provide a brace for securing the rails of a track together, and bracing them both transversely and longitudinally, which also serves as a secure fastener for connecting the meeting ends of two rails.

The construction of the improvement will be fully described hereinafter, in connection with the accompanying drawing, which forms a part of this specification, and its novel features will be set forth in the appended claims.

In the drawing, Figure 1 is a view in perspective of a portion of a railway track with my improvement applied thereto, and Fig. 2 is a top plan view of one of the improved braces with some of the securing bolts shown in Fig. 1 omitted.

The reference numeral 1 designates a rigid metallic bar bifurcated at one end to provide oppositely projecting arms 2 and 3, and parallel arms 4.

The forks or parallel arms 4 of the bar extend through openings formed adjacent to the meeting ends of two sections of rail, and also through similar openings formed in a splice-bar 6 which overlaps the ends of the rails or the outer sides thereof. The ends of the splice bar 6 project beyond the outer sides of the parallel arms 4, and said arms are secured by angle plates 7 which overlap the ends of the splice bar and the projecting ends of the arms 4, and by angle plates 8 which overlap the splice bar between the arms 4, and also the inner sides of said arms. These two sets of angle plates are oppositely disposed as shown, and secured by bolts 9 extending through the angle plates, the splice bar and the webs of the rails, and bolts 10 which extend through the outwardly extending portions 11 of the angle plates and through the arms 4 on the outer side of the rails.

The straight end of the bar 1 extends through an opening formed in the opposite rail, and is secured by a pair of oppositely-disposed angle-plates 13 on the

outer side of the rail, and a similar pair of angle-plates 14 on the inner side of the rail, said plates being secured by bolts 15 extending through the parts of the plates lying parallel to the rail, and through the web of the rail, and also by bolts 16 which extend through the laterally projecting portions of the angle plates and through the bar 1.

As the two rails of a track are laid so as to "break joints" the joint between two sections of rail is always opposite a point between the ends of the opposite rail section, and hence one end of my improved brace is forked to provide a fastener, while the opposite end thereof is a continuation of the body of the brace.

As illustrated in Fig. 1, the improved braces are so disposed that the forked end of one brace connects with one side of the track, and the straight end of the next adjacent brace is secured to the same rail of the track, this alternate disposition of the braces materially adding to the strength of the track structure.

In the construction shown in Fig. 2, the bar 1, the oppositely extending arms 2 and 3, and the parallel outwardly projecting arms 4 are similar to the same elements in Fig. 1. I have however, in Fig. 2 omitted the bolt-holes in the longitudinally extending portions of the securing angle-plates 7 and 8, and the similar parts of the angle-plates 13 and 14, said parts of the several securing plates merely bearing frictionally against the webs of the rails.

If preferred the splice-bar 6 may also be dispensed with, and the parallel arms held in place by the longitudinally-disposed arms of the angle-plates 7 and 8 bearing directly against the webs of the rails.

It will be apparent that the improvement provides a firm and reliable transverse connection between the rails of a track, and effectively prevents spreading of the rails, at the same time affording effective means for connecting the meeting ends of the rail sections.

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

1. A rail-brace or fastener, comprising a metal bar bifurcated at one end to provide oppositely extending arms, and parallel outwardly-extending arms adapted to extend through openings in the web of a rail, the straight opposite end of said bar being also adapted to extend through an opening in the web of a rail, and angle plates for securing said bar in position.

2. A rail brace and fastener comprising a metal bar one end of which extends through an opening in the web of one rail of a track, while the opposite end of said bar is bifurcated to provide parallel arms adapted to extend through openings in the meeting ends of the sections of the other track rail, in combination with a splice-bar having open-

ings to receive said arms, and oppositely disposed angle-plates securing the ends of said bar.

3. The combination with a railway track, of a brace and fastener comprising a metal bar one end of which extends  
5 through an opening in the web of the rail at one side of the track, oppositely disposed angle-plates for securing said end of the bar to opposite sides of the rail through which it extends, the opposite end of said bar being bifurcated and extending through openings in the other rail of

the track and spanning the joint therein, and oppositely- 10 disposed angle-plates for securing the parallel arms of said bifurcated end of the bar.

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

HARRY HEMPHILL.

Witnesses:

J. B. CUNNINGHAM,

Mrs. J. B. CUNNINGHAM.