

No. 839,593.

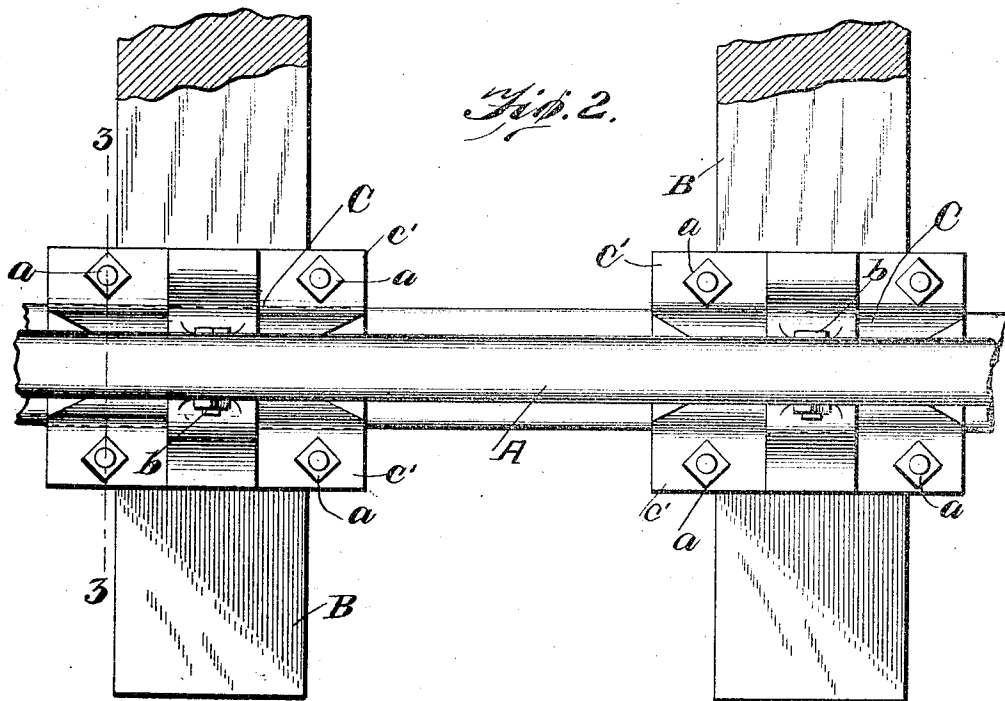
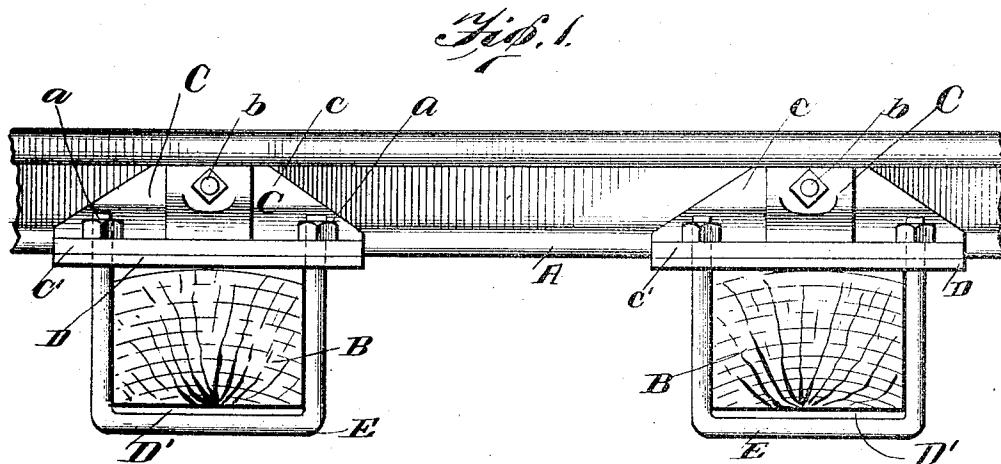
PATENTED DEC. 25, 1906.

W. M. JENKINS.

RAIL BRACE.

APPLICATION FILED MAR. 31, 1906.

2 SHEETS—SHEET 1.



WITNESSES
W. C. Wilson.
Edw. W. Byers

INVENTOR
William M. Jenkins.
BY *Munn & Co.*
ATTORNEYS

No. 839,593.

PATENTED DEC. 25, 1906

W. M. JENKINS.

RAIL BRACE.

APPLICATION FILED MAR. 31, 1906.

2 SHEETS—SHEET 2

Fig. 3.

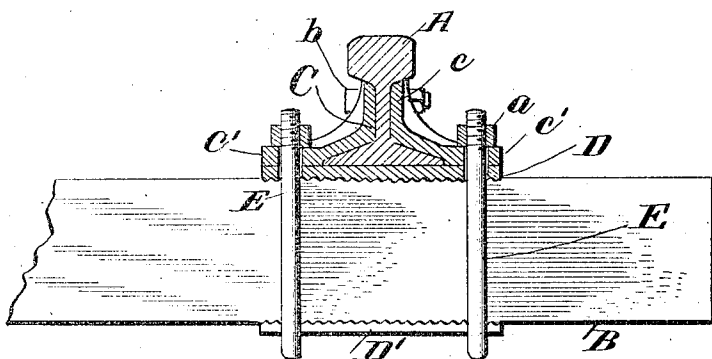
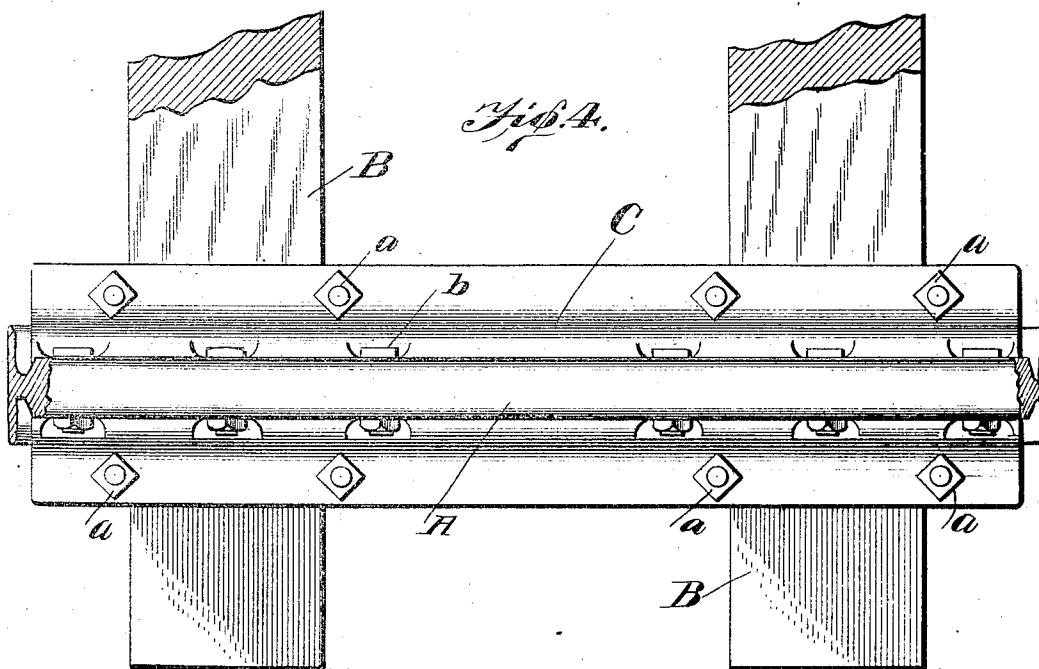


Fig. 4.



WITNESSES

W. C. Wilson
Edward W. Byers

INVENTOR

William M. Jenkins.

BY *Munn & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM M. JENKINS, OF GUTHRIE, OKLAHOMA TERRITORY.

RAIL-BRACE.

No. 839,593.

Specification of Letters Patent.

Patented Dec. 25, 1906.

Application filed March 31, 1906. Serial No. 309,072.

To all whom it may concern:

Be it known that I, WILLIAM M. JENKINS, a citizen of the United States, residing at Guthrie, in the county of Logan, Oklahoma Territory, have invented a new and useful Improvement in Rail-Braces, of which the following is a specification.

My invention is in the nature of an improved brace for securely fastening railroad-rails to the cross-ties. It relates to that form of brace which has an anchorage underneath the tie; and it consists in the novel construction and arrangement of parts, which I will now proceed to describe with reference to the drawings, in which—

Figure 1 is a view looking sidewise to the rail and endwise to the cross-ties, showing my improved brace in position. Fig. 2 is a plan view; Fig. 3, a cross-section on line 3 3 of Fig. 2, and Fig. 4 is a plan view of a slight modification.

In the drawings, A represents the rail, and B the cross-tie. C represents angle-plates, whose upright wings *c* fit against the side of the web of the rail and beneath its head or tread surface and are bolted together through the rail by horizontal bolts *b* and whose horizontal wings *c'* lie horizontally above the tie and are recessed on the under side next to the rail to receive the base-flange of the rail.

Underneath the base of the rail and the lower wings of the angle-plates is disposed a bearing-plate D, whose side next to the wood of the tie is corrugated, as seen in Fig. 3, and whose side next to the rail and the angle-plate is flat. A similar plate D' is arranged beneath the tie, and its face next to the tie is corrugated, while its lower face is flat or plain.

E designates U-shaped metal stirrups each made in one piece, with their bent portions extending around beneath the tie and whose upwardly-projecting ends extend up on each side of the tie and protrude through corresponding holes in the bearing-plate D and the horizontal wings *c'* of the angle-plates. The upper ends of these stirrups are screw-threaded and receive nuts *a*, which when tightly screwed down bind together the tie, the two plates D and D', and the rail. By tightly turning down the nuts the corrugations of the plates D D' are slightly buried in the wood of the tie, so as to prevent all lateral slipping or spreading of the rails on the ties, and these plates also form a water-tight inclosure for the top and bottom of the tie beneath the rail, which prevents the rotting

of the ties beneath the rails and also distributes the bearing of the superincumbent weight of the passing trains. With these corrugated bearing-plates it will be seen that all spikes driven into the ties are dispensed with, and thus is avoided one prolific cause of the decay of the ties from the loosening of the spikes and the entrance of water around the loosened spikes.

By making the stirrups of a single piece bent U-shaped to inclose the tie all the tightening-nuts are brought to the upper surface of the road-bed, where they are easily accessible and under constant inspection.

The angle-plates are made with a thickened or reinforced middle portion at the external angle between the wings *c* and *c'*, so as to impart greater strength and a stronger bracing effect.

The rail-brace may be constructed as short chairs, one for each connection between a tie and the rail, as seen in Fig. 2, or they may be made long enough to extend past two or more ties, as seen in Fig. 4, as would be desirable at points where the ends of two rails abut or in any case where additional strength is required or desirable.

Among the further advantages of my invention I would state that each tie is firmly anchored at each end to the two rails, so that the rail is immovable against strains in all directions. There is a great saving in spikes, and as the ties are not pierced at any point their longevity is greatly increased, with a corresponding economy of track maintenance. The stability of the track also increases the safety of travel and avoids much loss of life and property. When the stirrups are tightly drawn up and set, the wood of the tie has sufficient elasticity to yield slightly, and thus maintains a tension at the rail-joints which deadens sound and avoids all initial looseness.

Another advantage of my brace is that it will allow the height of the rail to be increased without danger of the rail turning. In increasing the height of the rail the strength is increased by the use of a small amount of additional material in proportion. This brace, looping, as it does, around the tie and having an immovable anchorage beneath the tie, makes it impossible for the rail to turn or spread even though the rail be greatly increased in height.

I would further call attention to the fact that by means of the two angle-plates bolted through the rail and the two U-shaped stir-

10 rups surrounding the tie at right angles and
entirely outside the same, one on each side of
the rail and bolted to the angle-plates, each
stirrup draws and braces against the other
5 through the angle-plates, holding the rail in
perfect balance, and wherever this brace is
used at one end of a cross-tie it is used also at
the other end, and the two braces at the two
ends, together with the tie itself, form an in-
15 tegral brace operating reciprocally to hold
both rails in position against strains in all
directions.

I claim—

1. A railway-brace comprising angle-plates
15 bolted through the web of the rail and two
U-shaped stirrups surrounding the tie at
right angles and entirely outside of the same,
one on each side of the rail, each bolted to its
angle-plate and each drawing and bracing
20 against the other through the angle-plates
and holding the rail in perfect balance.

2. A railway-brace comprising angle-plates
bolted through the web of the rail and two
U-shaped stirrups surrounding the tie at
25 right angles and entirely outside of the same,

one on each side of the rail, each bolted to its
angle-plate and each drawing and bracing
against the other through the angle-plates
and holding the rail in perfect balance, and
a bearing-plate between the tie and the rail. 30

3. A rail-brace comprising two angle-plates
each having a perforated upright wing fitting
the side of the web of the rail and a horizontal
wing extending over the top of the tie,
one or more bolts passing through the up- 35
right wings and rail, two U-shaped stirrups
inclosing the tie and having screw-threaded
ends extending up through the horizontal
wings of the angle-plates and provided with
nuts, and two bearing-plates arranged, one 40
above and the other below the tie and
clamped together thereagainst by the stir-
rups, said bearing-plates having their faces
adjacent to the tie corrugated to engage the
tie and prevent spreading of the rails thereon 45
without the use of spikes.

WILLIAM M. JENKINS.

Witnesses:

DELLA W. JENKINS,
LENA KONGABEL.