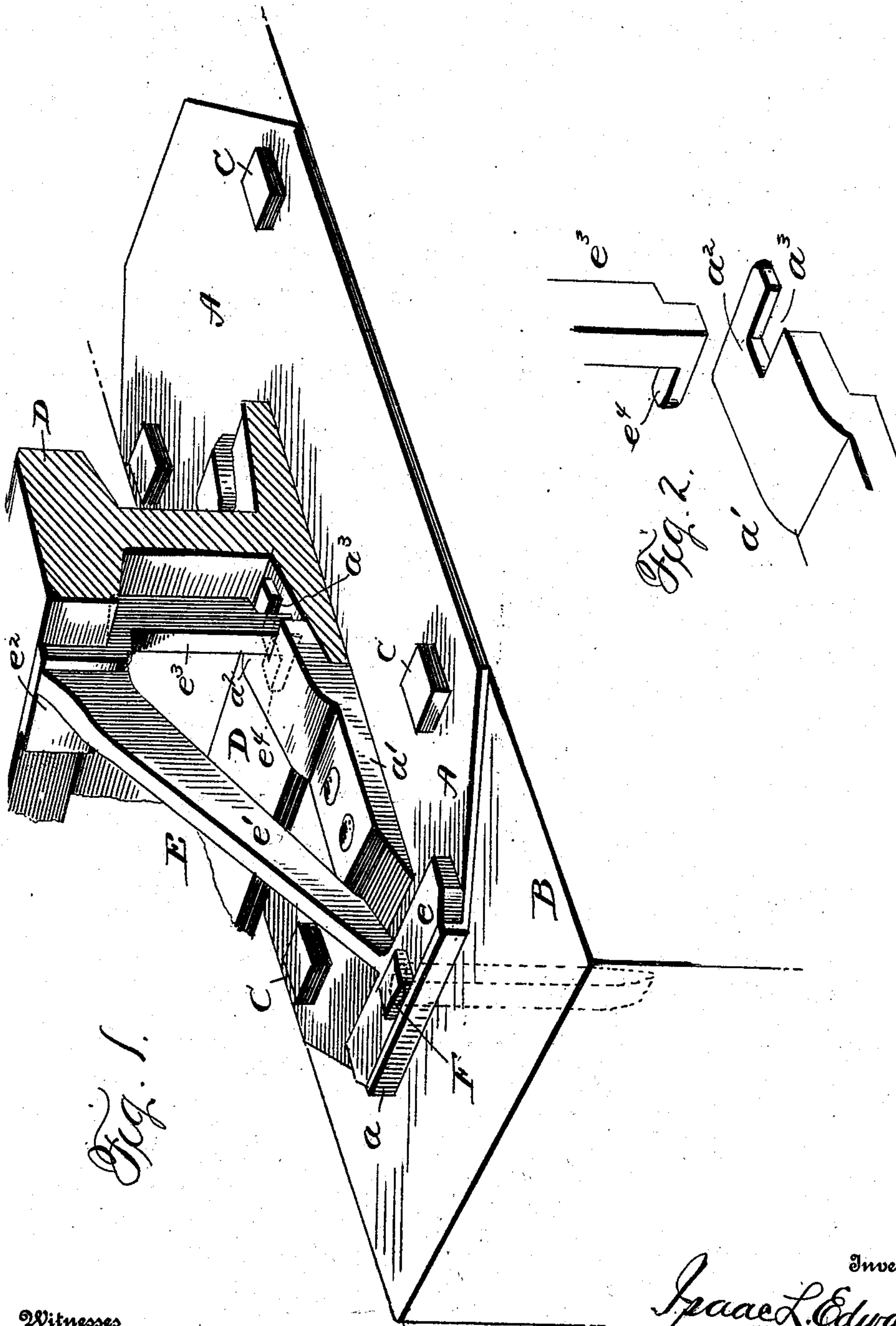


I. L. EDWARDS.  
 COMBINED TIE PLATE AND BRACE.  
 APPLICATION FILED JULY 8, 1908.

920,842.

Patented May 4, 1909.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## COMBINED TIE-PLATE AND BRACE.

No. 920,842.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed July 8, 1908. Serial No. 442,550.

*To all whom it may concern:*

Be it known that I, ISAAC L. EDWARDS, of Aurora, in the county of Kane and in the State of Illinois, have invented a certain new and useful Improvement in a Combined Tie-Plate and Brace, and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a combined tie plate and rail brace embodying my invention, and Fig. 2 is a detail view in perspective of a portion of the brace leg and the block engaged thereby.

The object of my invention has been to provide a combined tie-plate and brace for railroads, which shall effectively prevent spreading or turning over of the rails, and to such ends, my invention consists in the combined tie-plate and brace hereinafter specified.

In carrying my invention into practice I provide a tie plate A that is adapted to be secured to the tie B, as by spikes C, the said tie plate having on its end toward the outer side of the rail an up-turned lip *a*. Upon the tie plate and in line with the said lip is secured a block *a'*, that is adapted to fit over the base of the rail D, when the latter is in position, the said block being secured to the base plate in any desired manner, as by rivets. A brace E is interposed between the rail and the lip *a*, the said brace having a foot *e* that is adapted to rest against the lip *a*, and having a shank *e'* extending from the said foot toward the rail, where it is provided with a shoe *e<sup>2</sup>* that is adapted to fit against the side and under surface of the tread of the rail. The brace is, also, provided with a leg *e<sup>3</sup>* that extends down against the web of the rail. The leg *e<sup>3</sup>* is provided with a lip *e<sup>4</sup>* at its lower end, which lip is adapted to fit under an over-hanging portion *a<sup>2</sup>* of the block *a'*, the said block having a laterally extending notch or slot *a<sup>3</sup>* into which the leg is adapted to be received.

In the operation of my device, the tie plate and block *a'*, are adapted for use without the brace wherever it is desired to support the rail upon a tie plate, and to provide means for preventing movement of the rails away from each other. This tie plate and block are sufficient for straight portions of the track. Where, however, it is desired to brace the rail to prevent its turning over, as

upon a curve, the brace E is interposed between the tread of the rail and the lip *a*. This can be done without disturbing the rail or the tie plate, by placing the brace against the rail and driving it along parallel to the rail until the foot *e* has reached its position against the lip *a* and the leg *e<sup>3</sup>* has passed into the notch or slot *a<sup>3</sup>*. In this position the lip *e<sup>4</sup>* will have been engaged under the over-hanging portion *a<sup>2</sup>* of the block *a'* so as to be securely held down. The brace is then secured in position by driving a spike F through the foot *e* and the tie plate. I preferably make the shoe *e<sup>2</sup>* of such width on the side of the brace opposite to the notch or slot *a<sup>3</sup>* as to prevent the brace from swinging in a direction to allow the leg *e<sup>3</sup>* to pass out of the slot, or notch *a<sup>3</sup>*, and this is a precaution in addition to the bearing of the foot *e'* against the lip *a*. I thus effectively prevent movement of the brace to an inoperative position, although it is secured in place by the driving of but a single spike. The rail being engaged both by the tread and the base is effectively prevented from tipping, such as occurs during spreading of the rails. The brace being tied down by the fastening between its leg and the block *a'* cannot swing upward about the foot *e* as a pivot, and it, therefore, more effectively prevents the outward tipping of the tread of the rail.

It is obvious that changes can be made in the above illustrated construction, which will be within the scope of my invention.

Having thus described my invention, what I claim is:

1. A combined tie plate and brace, consisting of a tie plate, having an up-turned lip, a block secured to the said tie plate, and having a portion adapted to over-lie the flange of the rail, and a brace having a foot adapted to rest against said lip, and a shoe adapted to rest against the side and under-surface of the tread of the rail, said brace also having a leg, and means for connecting said leg and said block.

2. A combined tie plate and brace, consisting of a tie plate, having an up-turned lip, a block secured to the said tie plate, and having a portion adapted to over-lie the flange of the rail, and a brace having a foot adapted to rest against said lip, and shoe adapted to rest against the side and under-surface of the tread of the rail, said brace also having a leg, and means for connecting said leg and said



block, said means consisting of a slot in said block and a lip formed on said leg, and adapted to engage the under portion of said block adjacent to said slot.

5 3. A combined tie plate and brace, consisting of a tie plate, having an up-turned lip, a block secured to the said tie plate, and having a portion adapted to over-lie the flange of the rail, and a brace having a foot adapted to rest against said lip, and shoe adapted to rest against the side and under-surface of the tread of the rail, said brace also having a leg, and means for connecting said leg and said block, said means consisting of a slot formed in said block, and opening in the direction of the length of the rail, and a lip formed on the lower end of said leg, and adapted to engage the under-surface of said block adjacent to said slot.

10 4. A combined tie plate and brace, consisting of a tie plate, having an up-turned lip, a block secured to the said tie plate, and having a portion adapted to over-lie the

flange of the rail, a brace having a foot adapted to rest against said lip, and a shoe adapted to rest against the side and under-surface of the tread of the rail, said brace also having a leg, and means for connecting said leg and said block, said means consisting of a slot formed in said block and opening in the direction of the length of the rail, and a lip formed on the lower end of said leg and adapted to engage the under-surface of said block adjacent to said slot, said shoe extending along the rail in a direction away from said slot, a sufficient distance past the inner end of said slot to prevent said brace from swinging on said foot, so that said leg can escape from said slot.

In testimony that I claim the foregoing I have hereunto set my hand.

ISAAC L. EDWARDS.

Witnesses:

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JOSEPHINE L. LAWLOR.