

**No. 709,348.**

**Patented Sept. 16, 1902.**

**V. E. McBEE.**  
**RAILROAD TIE PLATE.**  
(Application filed May 28, 1902.)

(No Model.)

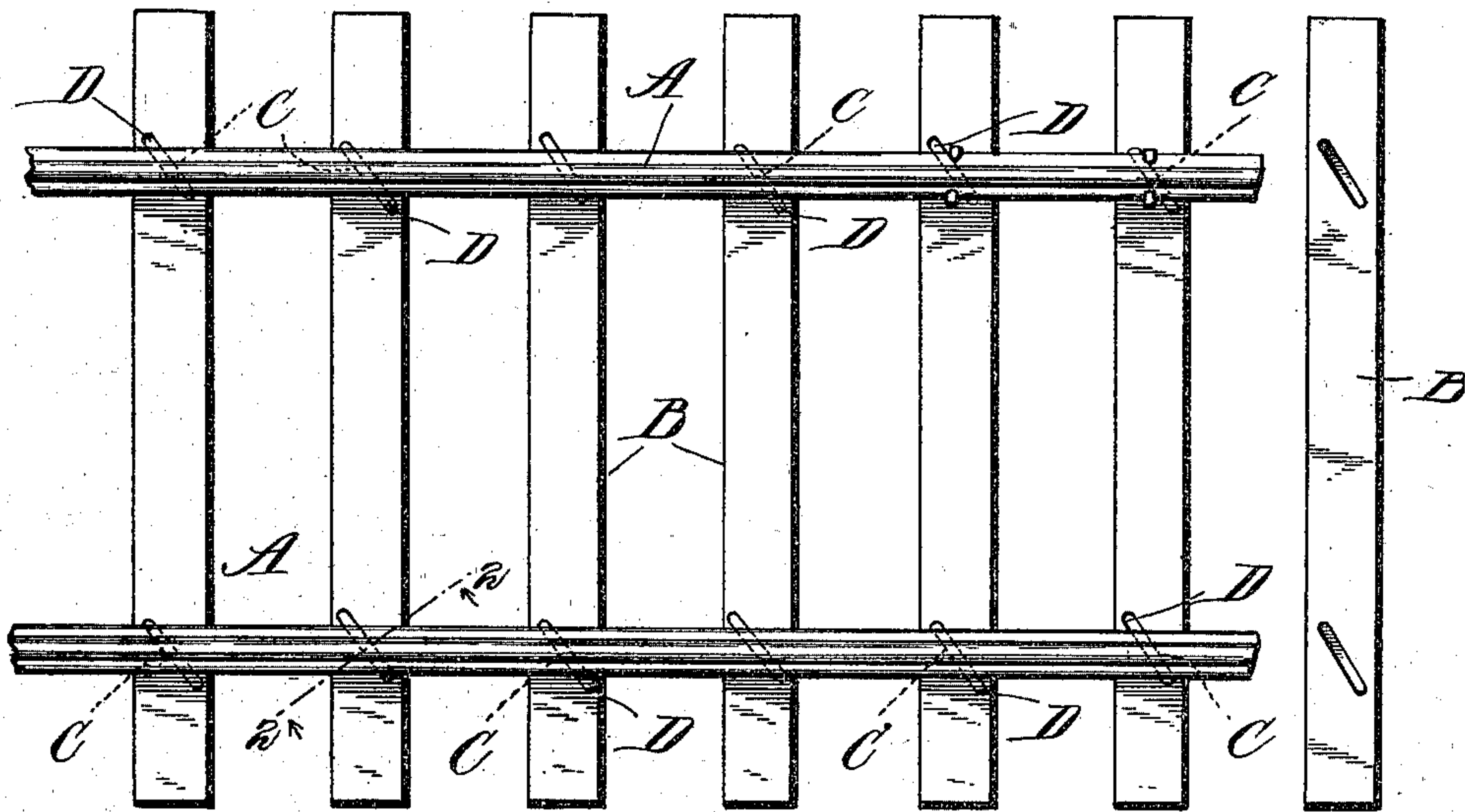
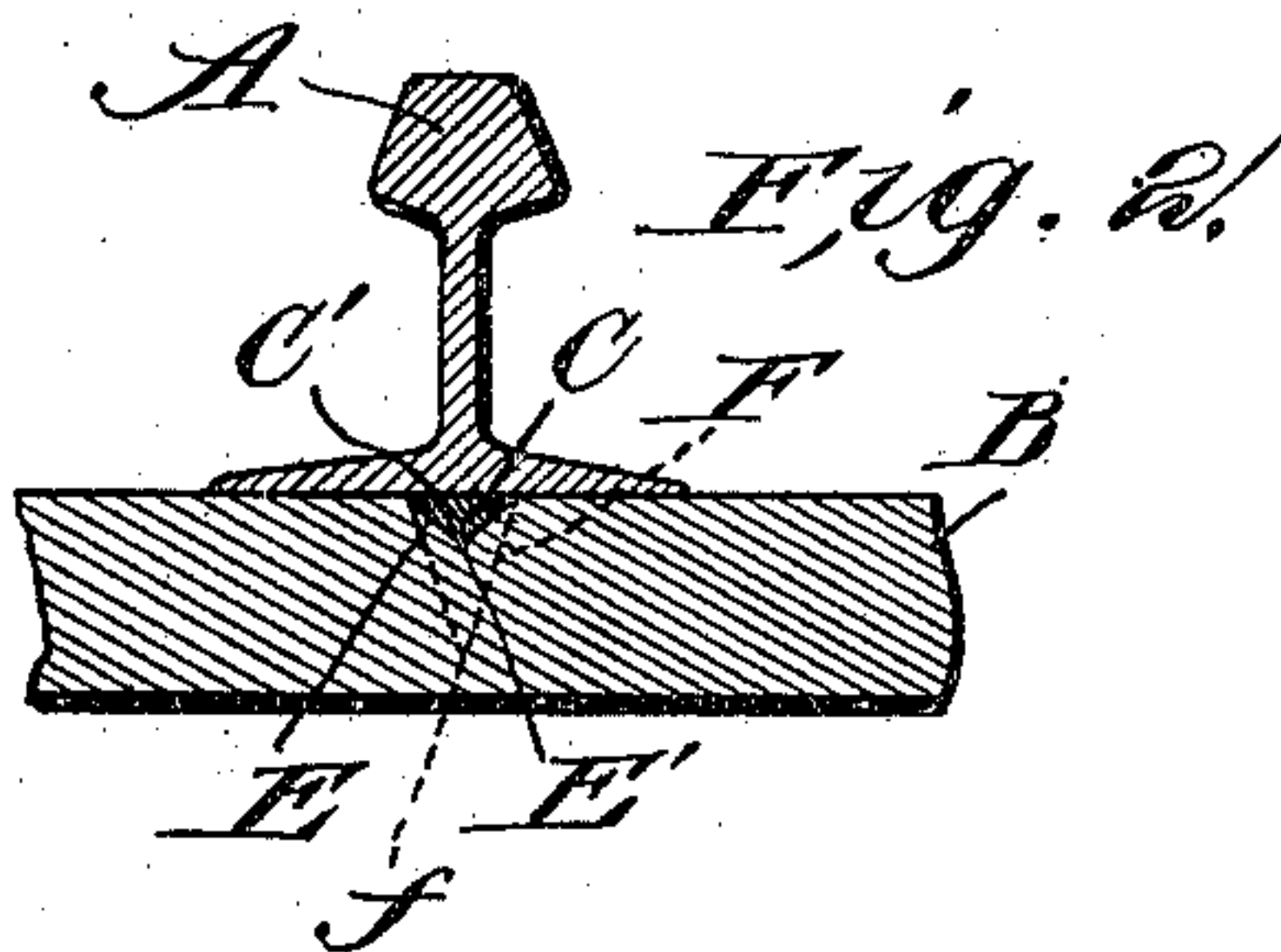
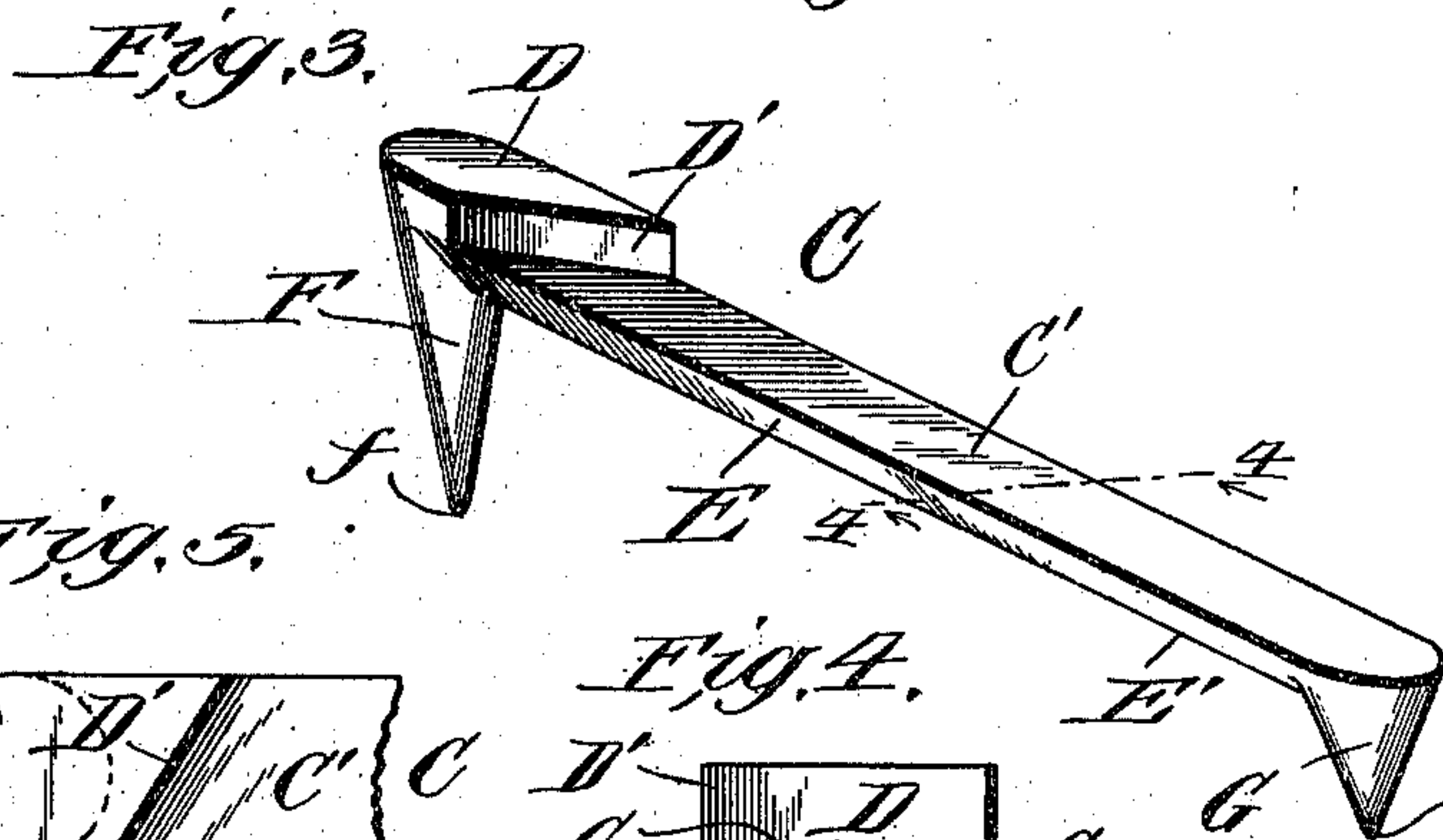
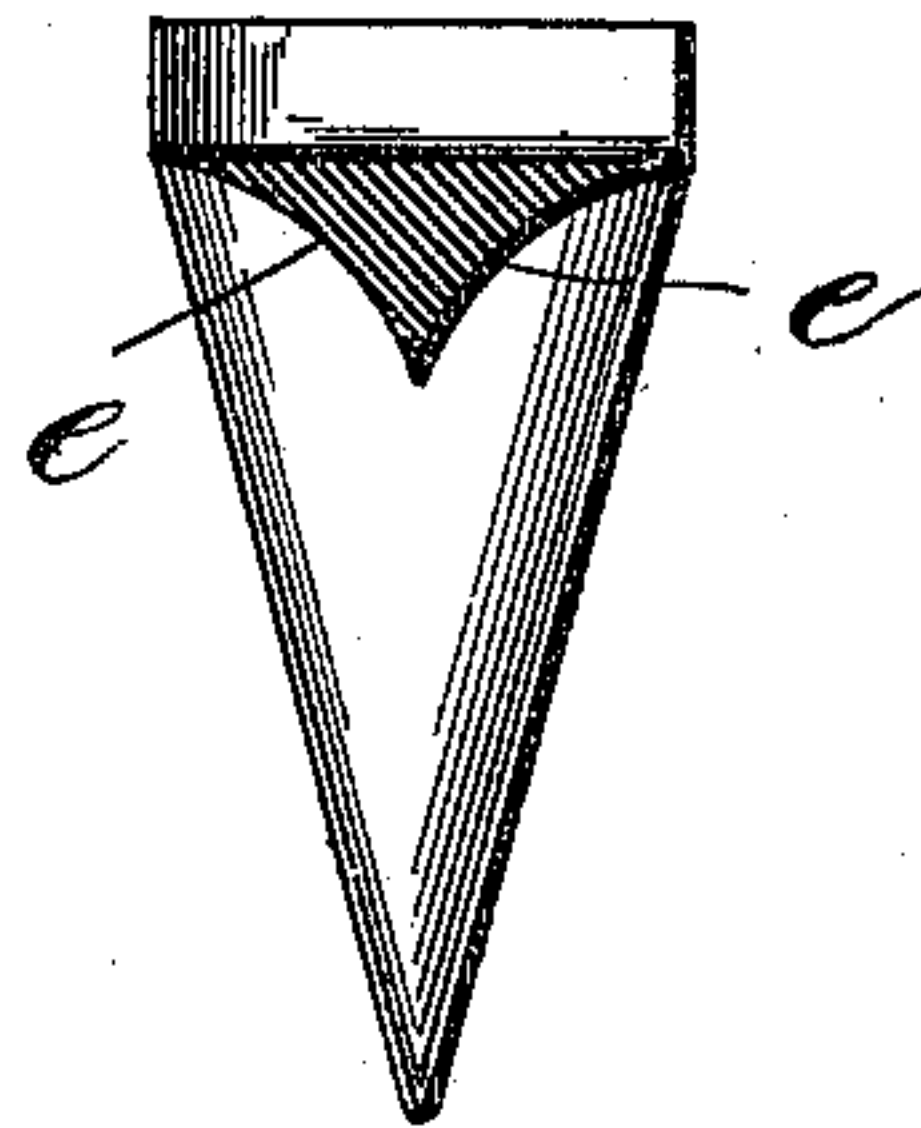


Fig. 1.



*Fig. 6.*



*Fig. 5.*

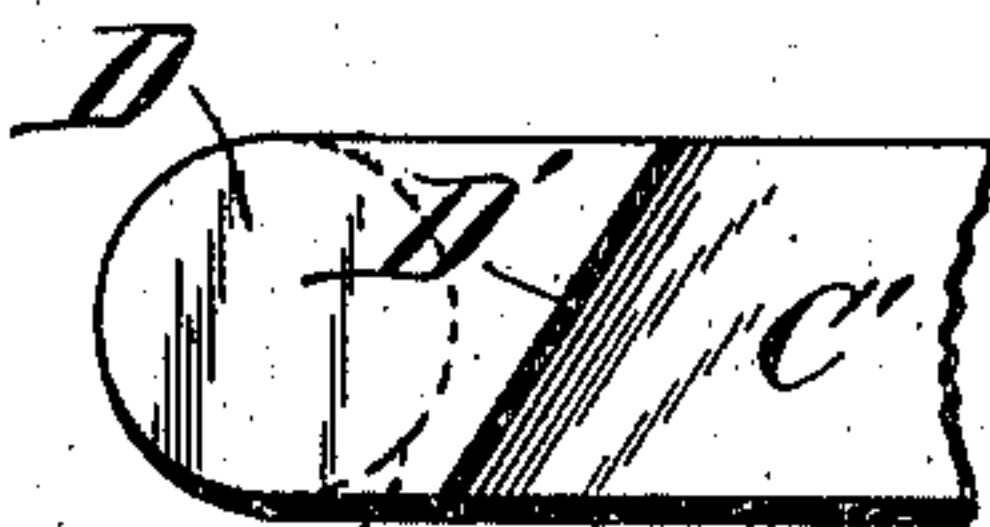
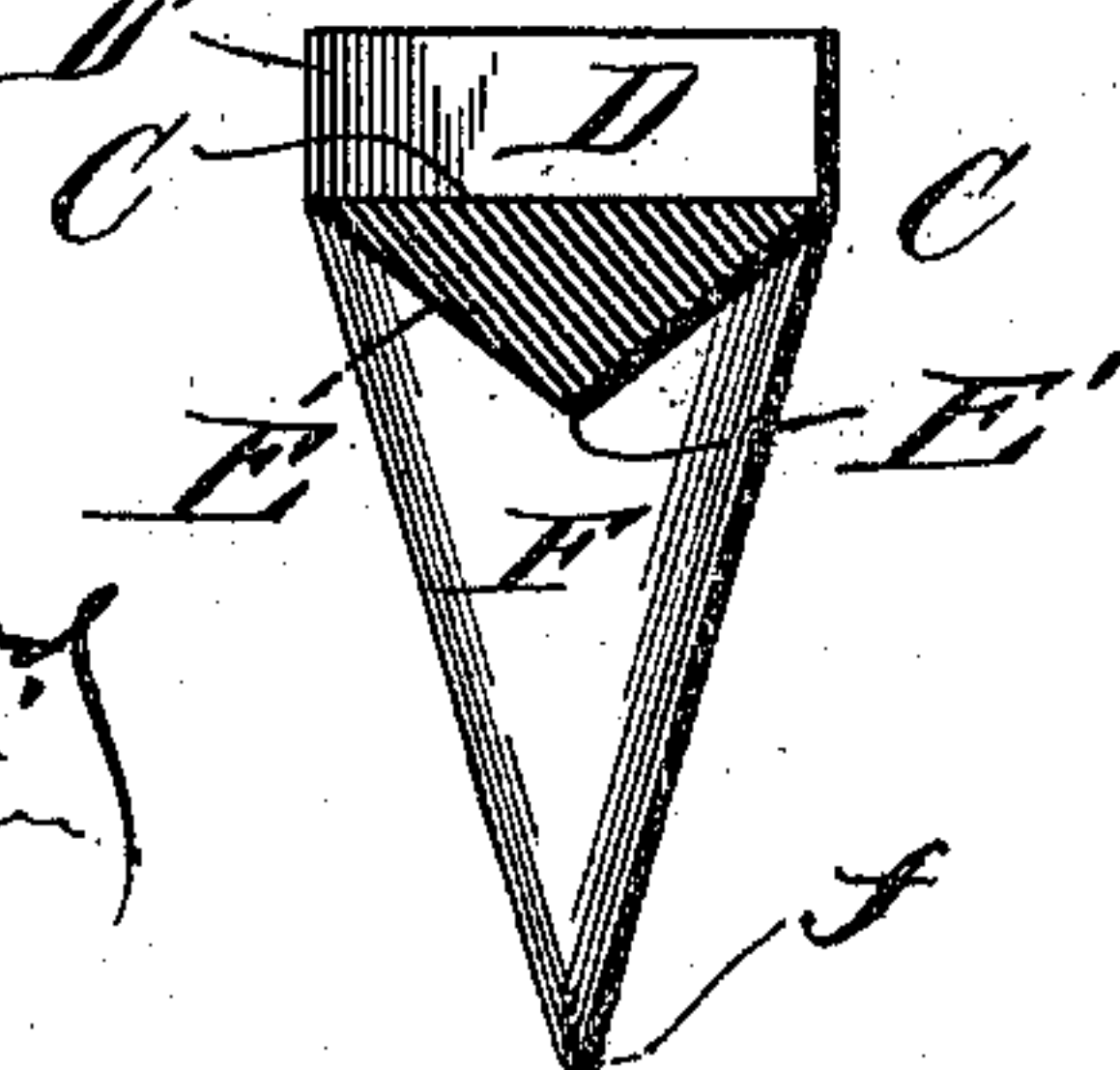


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## RAILROAD-TIE PLATE.

SPECIFICATION forming part of Letters Patent No. 709,348, dated September 16, 1902.

Application filed May 28, 1902. Serial No. 109,311. (No model.)

*To all whom it may concern:*

Be it known that I, VARDRY E. MCBEE, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have made certain new and useful Improvements in Railroad-Tie Plates, of which the following is a specification.

My invention is an improvement in railroad-tie plates, being in the nature of a device to support the ordinary railroad-rail upon the cross-tie; and the invention has for an object to provide a simple construction which will be self-retained on the tie, can be embedded therein, and will furnish a broad base for the rail, as desired; and the invention consists in certain novel construction and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a top plan view of a section of the track provided with my improvements. Fig. 2 is a detail cross-section on about line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of the tie-plate. Fig. 4 is a detail cross-section on about line 4 4 of Fig. 3. Fig. 5 is a detail top plan view of the shouldered end of the tie-plate, and Fig. 6 shows a somewhat different construction from that shown in Fig. 4.

The rail A and the tie B may be of the ordinary kind, the tie B being of wood, as usual. The tie-plate C is arranged upon the tie B and is embedded therein, so that the upper face C' of the tie-plate will rest approximately flush with the upper surface of the cross-tie B, as shown. The tie-plate C is arranged diagonally to the direction of length of the rail, and the upper face C' of said plate is flat to form a broad base for the rail, and at one end of the tie-plate is formed an upwardly-projecting boss D, whose inner side D' is arranged diagonally to the direction of length of the plate C, so such side D' of the boss will form a square shoulder for abutment by the edge of the rail-base when the tie-plate is disposed diagonally to the rail, as best shown in Fig. 1. The under side of the plate C is formed with the sides or faces E, which slope, as shown, and terminate at their lower sides at E' in a cutting edge, which extends longitudinally of the plate C and midway between the edges thereof, as shown. At their upper

edges the sides E extend to the upper face C' of the plate C, so the plate C may be forced bodily into a tie by suitable pressure or force until its edge E' will lie approximately flush with the upper face of the tie, as shown in the drawings. The sides E may be flat, as shown in Fig. 4, or where the tie-plate is made more than one inch wide it may be desired to dish or curve the surfaces, as shown at e in Fig. 6.

On its under side the plate C is provided with anchoring devices, whereby it may be self-anchored against lateral displacement on the tie. To this end it is preferred to provide the prongs F and G at respectively the outer and inner ends of the tie-plate and at the ends of the cutting edge E', as shown. These prongs F and G slope from the extreme upper face C' of the tie-plate and taper gradually to points f and g, so they can be forced into the tie without destroying the fiber or grain thereof and so the said prongs will operate when forced into the tie to condense the wood surrounding the said prongs, and thus tend to prevent the entrance of moisture and the consequent deterioration of the tie surrounding the said prongs. By preference the outer prong F is made longer than the inner prong G to secure the anchorage at the outer end of the tie-plate directly at the point where the spreading strain will be exerted upon the plate, the outward tendency or pressure of the rail operating against the shoulder D' and serving to force the prong F more firmly into the cross-tie.

Manifestly the plates may be made in different sizes and be employed on any track where cross-ties are employed to support the rail or where it is otherwise desired to secure the rail upon a rail-base. The device in use is noiseless, durable, economical, easily applied, prevents the track from spreading, prevents the tie from splitting, and prolongs the life of the tie, and affords the combination rail-base and tie-plate furnishing an efficient device at a small cost. It will also be seen the tie-plate is adapted to receive any and all rails in practical use.

It may be preferred in some instances to alternate the tie-plates beneath the same rail, the adjacent tie-plates being arranged one



with the shoulder D' on the outer side of the rail and the other with the shoulder D' on the inner side of the rail, as shown in Fig. 1.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The herein-described tie-plate for railroad-tracks, having the flat upper side to form a seat for the rail and provided at one end with an upwardly-projecting boss whose inner side is diagonal to the direction of length of the plate and forms a square stop-shoulder for the rail-base in the use of the device, the underside of the plate being formed with longitudinally-extending sloping sides merging at their lower edges in a cutting edge, and the said sloping sides extending at their upper edges to the upper flat face of the tie-plate, and provided at the opposite ends of the plate and said cutting edge with the depending conical prongs, substantially as and for the purposes set forth.

2. A railroad-tie plate provided on its under side with the central longitudinally-extending cutting edge and having at the ends of said edge the depending conical prongs whereby the plate may be forced into the face of the tie and be self-retaining in use, substantially as set forth.

3. The combination with the tie and the rail thereon, of the tie-plate embedded in the tie and below the rail and extending longitudinally in a direction diagonal to that of the

rail and having on its upper side a shoulder to rest squarely against the rail-base and on its under side integral means for holding the tie-plate from lateral displacement on the tie, substantially as set forth.

4. A railroad-tie plate having its underside provided with a longitudinally-extending cutting edge and with the opposite sloping sides leading from such edge to the upper surface of the plate, whereby the plate may be forcibly embedded bodily in the tie, substantially as set forth.

5. A railroad-tie plate provided on its upper side at one end with a boss having its inner face arranged to form a shoulder for abutment by the rail-base and provided on its under side with the longitudinally-extending cutting edge and at the ends of said edge with the depending prongs to enter the tie, substantially as set forth.

6. A railroad-tie plate provided at its upper side at one end with a boss having its inner face arranged diagonally to the plate and arranged to form a shoulder for abutment by the rail-base and provided on the under side of said tie-plate with integral means for holding the tie-plate from lateral displacement on the tie, substantially as set forth.

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