(No Model.)

R. WHITEFORD.

RAILWAY CROSS TIE.

No. 435,004. Patented Aug. 26, 1890.

Fig. 1.

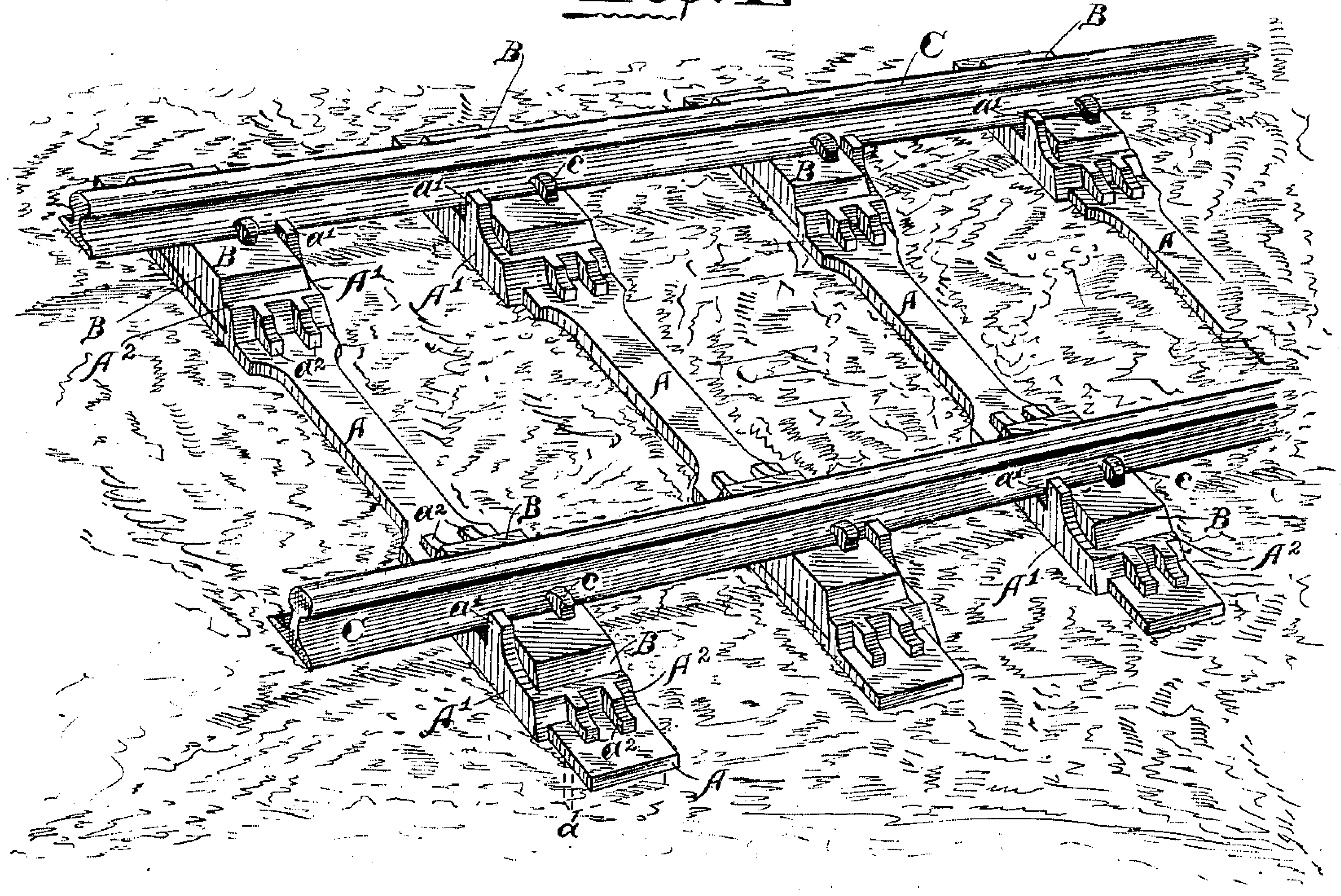


Fig. 2.

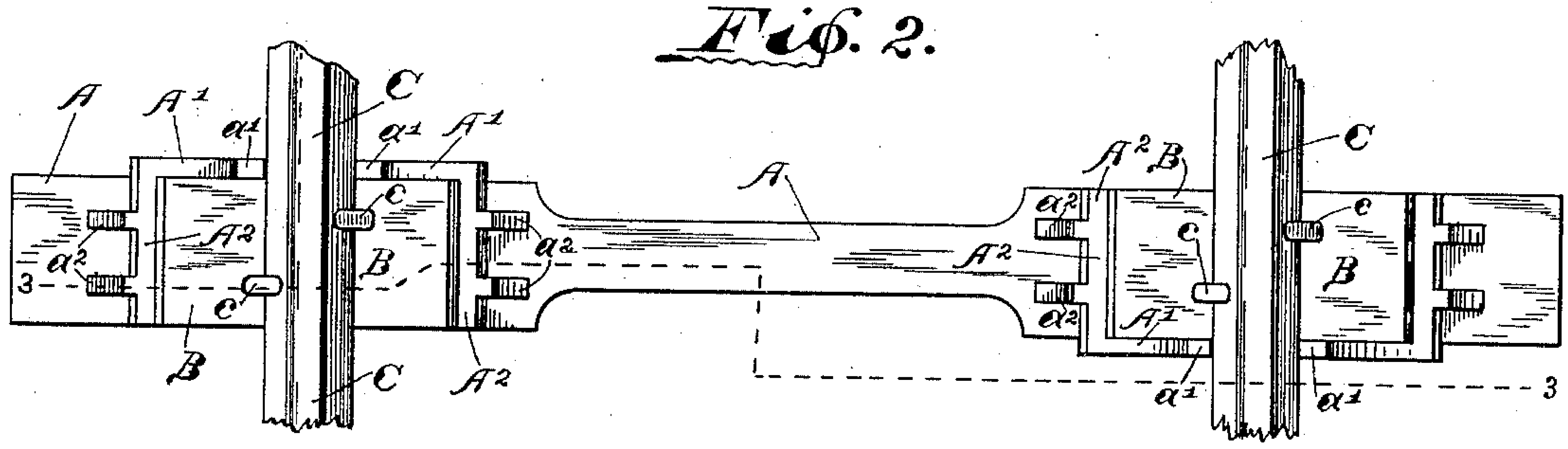
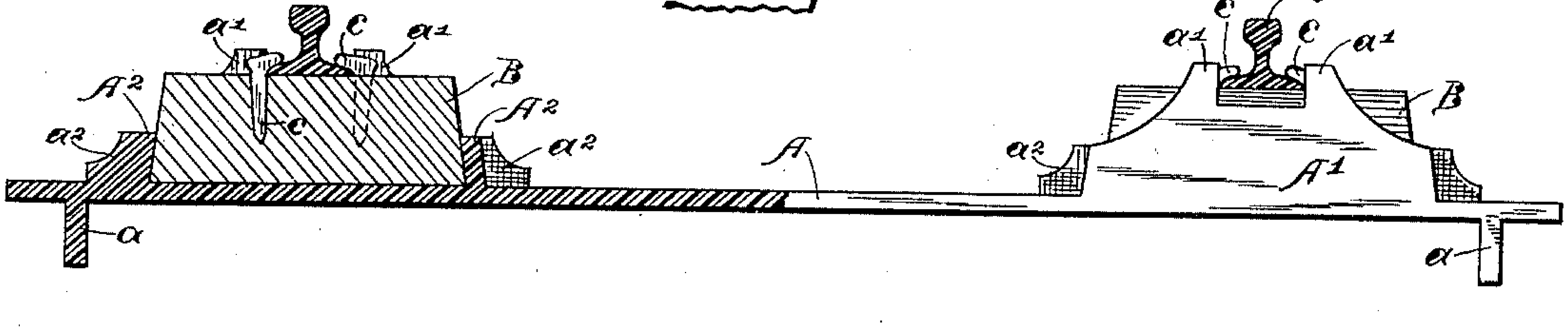


Fig. 3.



WITNESSES.

F. Dean Rhodes.

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UNITED STATES PATENT OFFICE.

ROBERT WHITEFORD, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF FIVE-EIGHTHS TO PATRICK BANNON, DENNIS SHANAHAN, MICHAEL O'SULLIVAN, AND MATT. O'DOHERTY, ALL OF SAME PLACE.

RAILWAY CROSS-TIE.

SPECIFICATION forming part of Letters Patent No. 435,004, dated August 26, 1890.

Application filed February 14, 1890. Serial No. 340,412. (No model.)

To all whom it may concern:

Be it known that I, ROBERT WHITEFORD, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Railway Cross-Ties, of which the following is a specification.

The object of my said invention is to produce a tie on which to lay the rails of railways, which shall embody the strength and durability of metal, together with the elasticity or cushion-like properties of wood, as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a fragment of railway-track having cross-ties which embody my said invention; Fig. 2, a top or plan view of one of said cross-ties with small fragments of rail thereon; and Fig. 3, a view, partly in section and partly in side elevation, as seen when looking upwardly from the dotted line 3 3 in Fig. 2.

In said drawings, the portions marked A represent the casting, which is the main portion of my improved tie; B, wooden blocks therein, on which the rails rest, and C said rails.

The casting A consists of a main plate having flanges A′ A², which extend upwardly therefrom and form the walls of a three-sided chamber, the ends of which incline inwardly somewhat to secure the wooden blocks, which are similarly inclined, as shown. The flanges A², forming the end walls of this chamber, are preferably strengthened by braces a^2. The side flanges A′ have upwardly-projecting points a', which pass up each side of the foot of the rail and securely hold the rails from spreading apart. On the under side of the tie are downwardly-projecting points a, which are intended to enter the ground and assist in preventing the tie from slipping endwise.

The wooden blocks B are formed to fit into the chambers, of which the flanges A′ A² form the walls, and the ends are beveled somewhat, as shown, and the blocks are thus securely held in said chambers, as will be readily understood by an inspection of the drawings, particularly the left-hand end of Fig. 3. The tops of the blocks extend somewhat above the bottom of the space between the projections a', as shown most plainly at the right-hand end of Fig. 3, and thus, while the rails are located between said projections, and thus securely held from spreading, their weight rests upon these wooden blocks, and the cushion-like qualities of a wooden support for the rails thus secured. As will be readily understood, should said blocks become decayed or worn out before the main part of the tie has become useless for further service, (which will usually be the case, as said main part is practically indestructible,) these blocks can be removed and new ones inserted without disturbing the position of the main part of the tie at all, and the existence of the structure as a whole thus prolonged indefinitely.

The rails C are or may be ordinary railway-rails, and are placed, as shown, between the projections a', resting upon the wooden blocks B, to which they are secured by spikes c in an ordinary and well-known manner.

In order that the preferred construction of my improved tie may be more fully understood, I will state the dimensions as I have constructed it. The distance between the rails is of course the gage of the road on which the tie is used. The wooden blocks are about eighteen inches in length at the top and nineteen at the bottom, eight inches wide, and six inches deep. The flanges A² are about three inches high, while the projections a' extend about one inch above the surface of the wooden blocks. These dimensions may of course be varied without departing from my invention, but I have stated them as descriptive of a good construction. If desired, the lower portions of my improved tie may be buried in the ballast. However, as commonly used, the amount of ballast necessary to produce an equally-good road-bed with my improved ties is only about two-thirds the amount which is necessary with the ordinary form of ties.

Having thus fully described my said inven-

tion, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a railway cross-tie, of the casting A, having a flange A′ cut away in its top edge centrally, leaving projections *a′ a′*, between which the rail may pass and whereby said rail may be held to determine position, and flanges A^2 A^2, extending transversely of said casting A and inclined inwardly, and a block B, similarly inclined and placed between said flanges and extending up to above the bottom of the recess or cut-away portion in the flange A′, and thus forming a seat or support for the rail, substantially as set forth.

2. The combination, in a railway cross-tie, of a main casting A, having flanges A′ A′, one at each end, on opposite sides of the tie, said flanges having upward projections, between which the rails are placed and whereby said rails are held to position, and seats alongside said flanges, into which blocks are inserted upon which the rails rest, one being inserted from each side of the tie, substantially as shown and described.

In witness whereof I have hereunto set my hand and seal, at Louisville, Kentucky, this 10th day of February, A. D. 1890.

ROBERT WHITEFORD. [L. S.]

Witnesses:

MATT. O'DOHERTY,

JAS. W. DOUGHERTY.