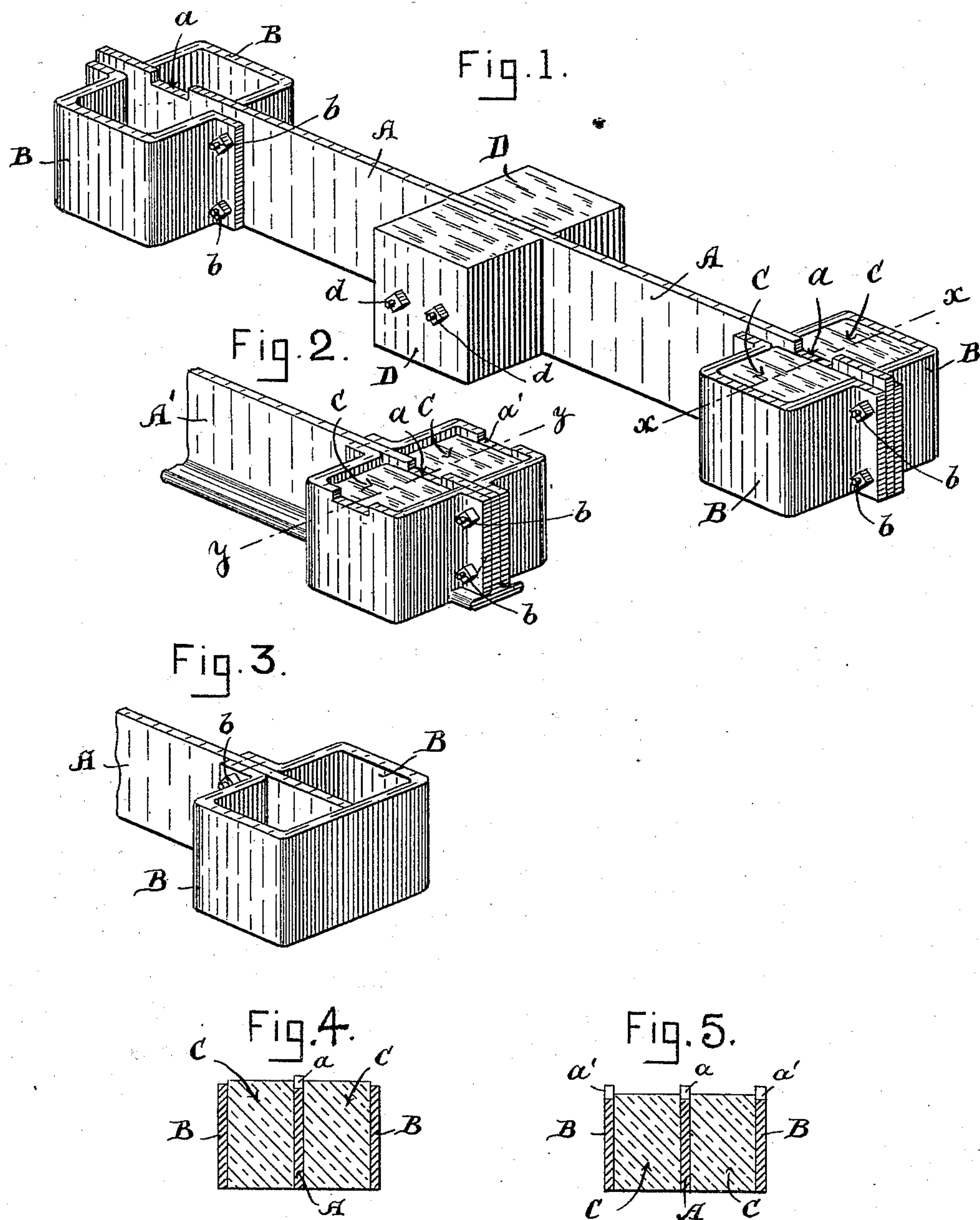


(No Model.)

G. E. MARVIN.
RAILROAD TIE.

No. 426,458.

Patented Apr. 29, 1890.



Witnesses.
George Fetzger
Joseph Carratori.

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UNITED STATES PATENT OFFICE.

GEORGE E. MARVIN, OF BOSTON, MASSACHUSETTS.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 426,458, dated April 29, 1890.

Application filed January 14, 1889. Serial No. 296,314. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. MARVIN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Railroad-Ties, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of my invention is to produce strong, cheap, and durable ties for use in the construction of railroads.

The invention consists in certain details of construction, as hereinafter fully described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a perspective view of a railroad-tie embodying my invention. Fig. 2 is a similar view of one end of the tie, having a central T-iron instead of a flat bar. Fig. 3 is a view of one end of a tie, showing the box formed of one piece of metal. Fig. 4 is a vertical section taken on line $x x$ of Fig. 1. Fig. 5 is a vertical section taken on line $y y$ of Fig. 2.

A represents a flat metal bar of the required dimensions, and preferably provided at each end with a recess a to receive the flanges of the rail and prevent their spreading.

B B are boxes or cases of sheet metal bent to the form shown and secured to the cross-bar A by means of bolts $b b$. These boxes or cases are filled with any suitable material C, but preferably wood, the upper edges of which may be level with the top of the boxes B, as shown in Fig. 1; but I prefer to have the wood stand a short distance above the top of the boxes, so that the plates do not rest upon the iron but upon the blocks, thereby allowing a certain amount of elasticity.

The rails are held in position by means of spikes driven into the wooden block, or any suitable fastening device may be employed.

If desired, the upper edges of the bars A may be formed flush and without the recesses a .

In the center of the length of the tie I se-

cure an anchor, consisting of a block of wood D on each side of the plate and secured thereto by bolts d . It will be seen that when the tie is laid the soil or ballast between the boxes B and the anchor D will prevent any lateral movement, as the tie cannot shift unless the whole body of the said soil or ballast is moved.

In Fig. 2 I have shown a tie constructed with a T-iron A' instead of a flat plate, and the upper edges of the box are on a level with the top edge of the cross-bar and are provided with notches or recesses a' to correspond with the recesses a in the cross-bar A', and I prefer to have the blocks C project beyond the bottom of the recesses, as shown in Fig. 5. By the employment of the T-iron the tie has a much greater bearing-surface and is particularly applicable where the soil is of a light or loose nature.

In Fig. 3 I have shown the box at the end of the tie formed of one piece of metal. In this figure I have shown the upper edges flush—that is, without any recess to receive the flanges of the rail; but of course they may be recessed, if required.

What I claim as my invention is—

1. A railway-tie consisting of a cross-bar A, set edgewise and having notches a , in which the rails rest, and boxes B, secured at each end, the cross-bar extending through the boxes, dividing them into two compartments, which are filled with wood C or other suitable material, substantially as shown and described.

2. The metal plate A, provided with notches a , in combination with the boxes B and anchor D, substantially as and for the purposes set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 26th day of July, A. D. 1888.

GEORGE E. MARVIN.

Witnesses:

CHAS. STEERE,
EDWIN PLANTA.