(No Model.)

H. P. ADAMS.

METALLIC RAILWAY TIE AND CHAIR.

No. 361,199. Patented Apr. 12, 1887.

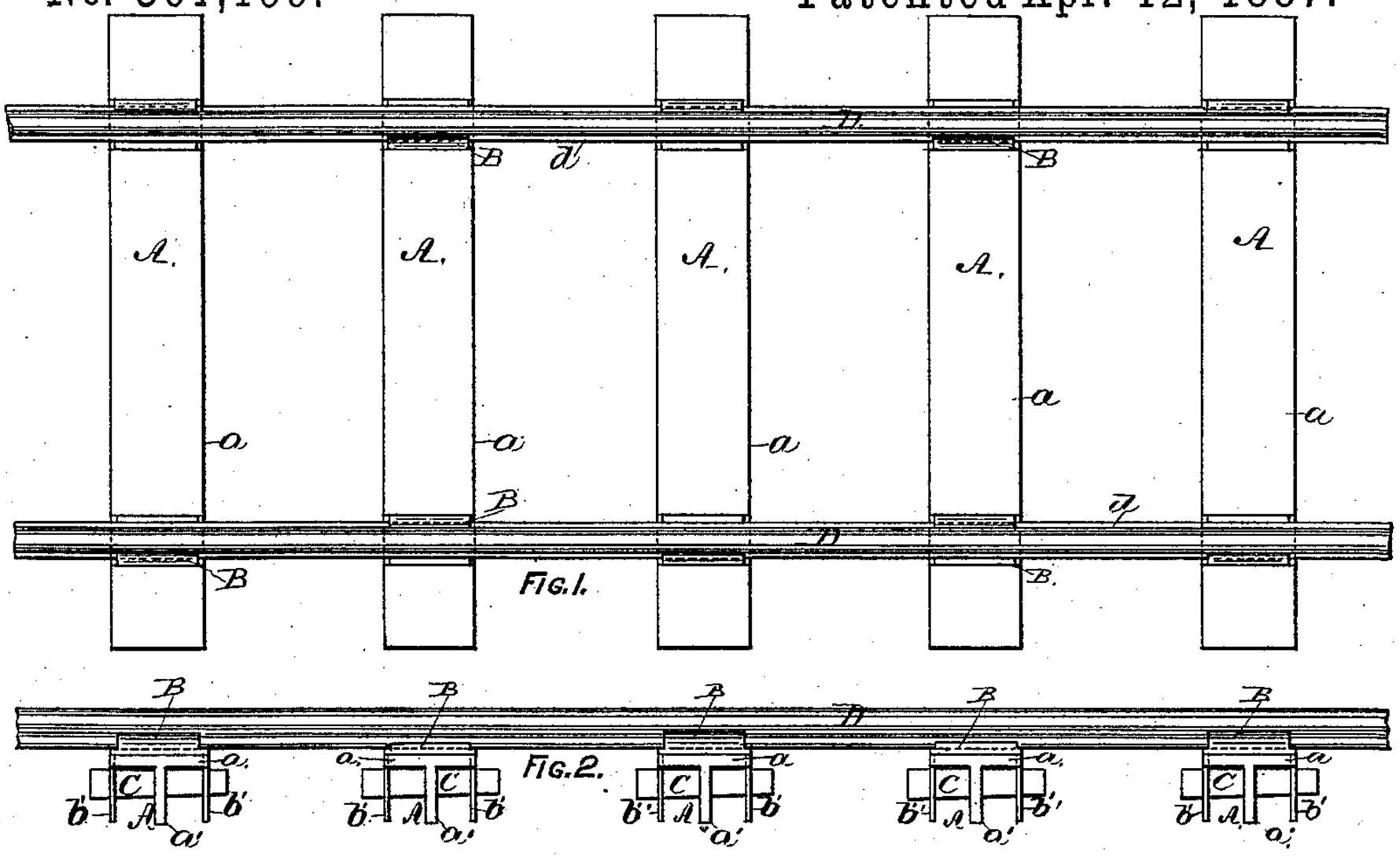

Fig. 1.

Fig. 2.

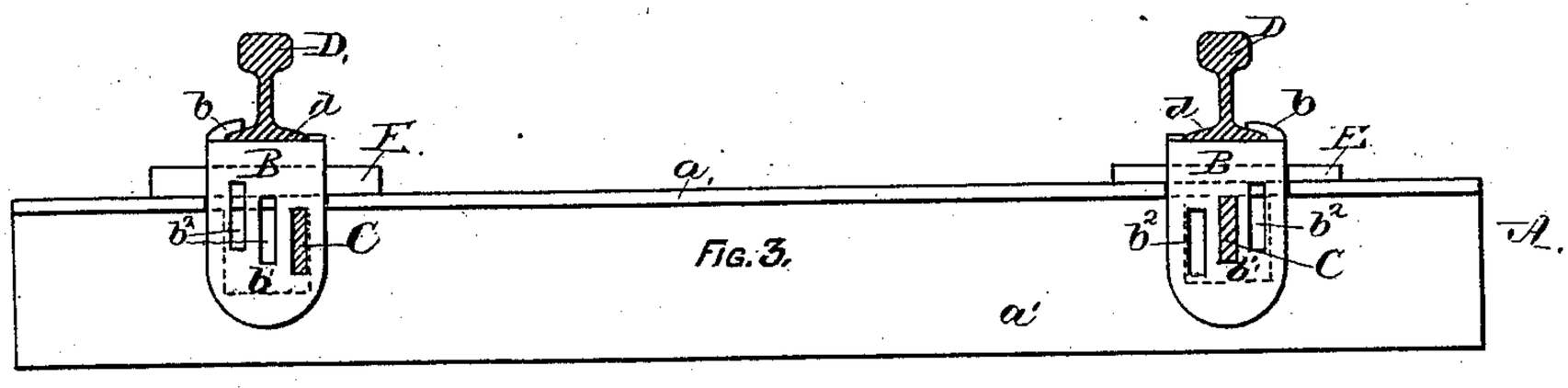

Fig. 3.

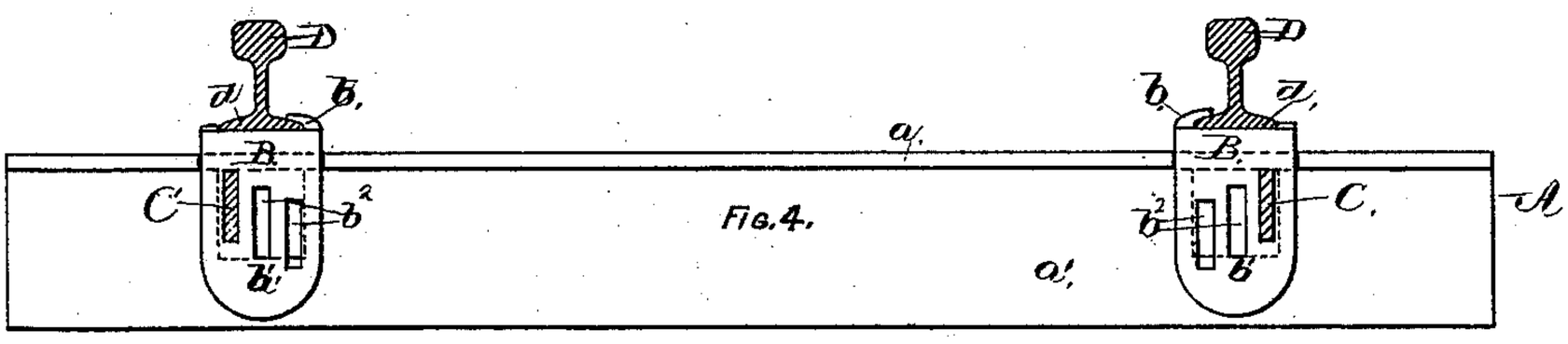

Fig. 4.

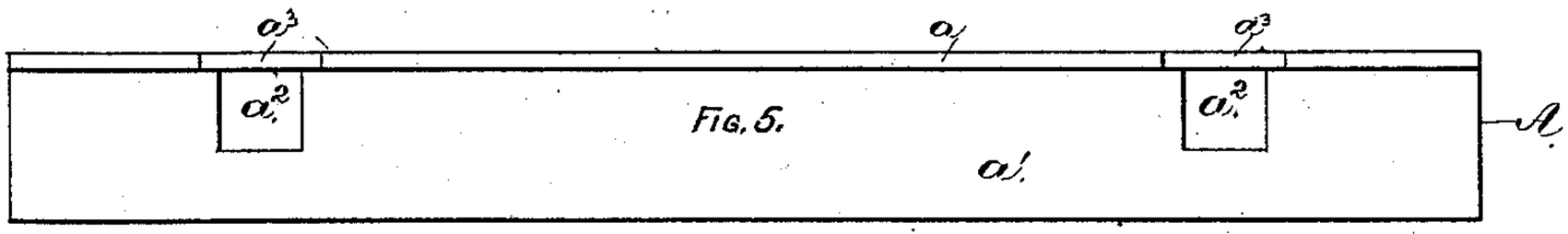

Fig. 5.

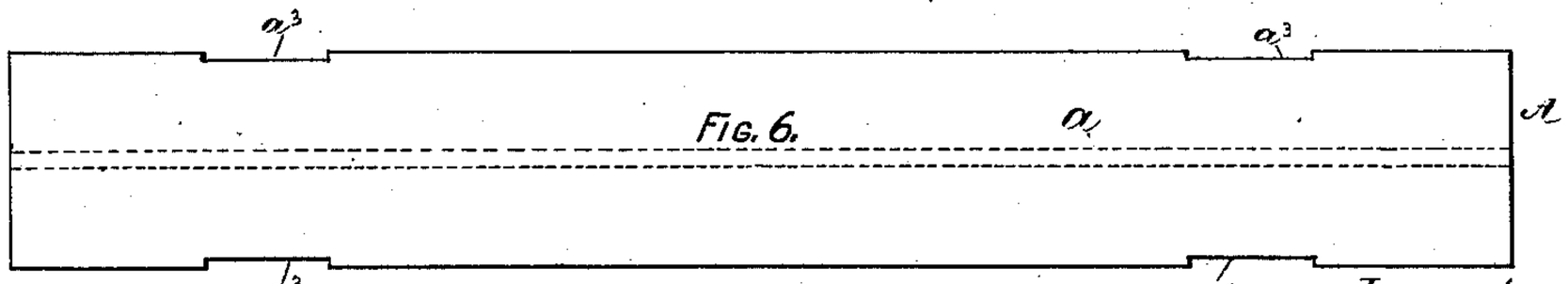

Fig. 6.

Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY PARKE ADAMS, OF ALBANY, NEW YORK, ASSIGNOR TO JAMES N. BRADY AND ROBERT C. BLACKALL, BOTH OF SAME PLACE.

METALLIC RAILWAY TIE AND CHAIR.

SPECIFICATION forming part of Letters Patent No. 361,199, dated April 12, 1887.

Application filed August 14, 1886. Serial No. 210,878. (No model.)

To all whom it may concern:

Be it known that I, HENRY PARKE ADAMS, of the city and county of Albany, in the State of New York, have invented new and useful Improvements in Metallic Railway Ties and Chairs, of which the following is a full and exact description, reference being had to the accompanying drawings, which form part of this specification, and in which—

Figure 1 is a plan view of a railway-track provided with my improvements; Fig. 2, a side elevation of the same. Figs. 3 and 4 are enlarged side elevations of my metallic tie and chairs; Fig. 5, a like elevation of my metallic tie, and Fig. 6 a plan view of the same.

The objects of my invention are to afford facilities for constructing railway-tracks entirely of metal, to dispense with the use of spikes and bolts for securing the rails to the ties, and to furnish facilities for "shimming" up the tracks where they have been thrown out of level by the action of frost or other causes.

As represented in the drawings, A is my metallic tie, whose cross-section has a T form, which consists of an upper plate or flange, *a*, having along its central line, on the under side of said plate, a pendent web, *a'*, through which an opening, a^2, is formed directly under each seat for a track-rail, for a purpose hereinafter explained.

B is the rail-chair, which consists of a plate having a hooked flange, *b*, that is adapted to engage over the lower flange, *d*, of the track-rail D. At each end of said rail-chair a pendent flange, *b'*, is formed, which flanges fit into the notches a^3 cut into the edges of the top plate of the tie A at the required distances apart to produce the proper gage for the rail-tracks. Said flanges are provided with mortises b^2, whose lower edges are arranged stair-like in steps at different heights.

C are keys fitted to drive through the mortises b^2 in the pendent flanges of the rail-chair, so as to bear against the under side of the plate *a* of the tie, and the lower edge of the mortises b^2, so as to hold the rail-chairs B securely in place. Said keys pass freely through the openings a^2 in the web *a'* without touching the bottom or sides of said openings.

In laying railway-tracks in which my improvements are used the ties A are placed at proper distances from each and are brought to the required height by tamping gravel or soil under the flanges *a*. The rail-chairs B are fixed on said ties and arranged in such manner that the hooked flanges *b* of said chairs will be fixed on the outside of the lower flange, *d*, of the rail on one tie and on the inside of said flange on the next, as shown in Figs. 1 and 2, and this alternation in position of said hooked flanges should be maintained throughout the entire track for the purpose of obtaining the required degree of stability for the track-rails D. The chairs B are then secured in place on the ties by driving the keys C through the mortises in the pendent flanges of said chairs, and said keys may be fastened by means of a cross-pin or by any other well-known device commonly used for such purpose. When the tracks become thrown out of line by the heaving occasioned by frost, or from other causes, the keys C should be driven out, and shims E, of the required thickness for bringing the rail up to the proper level, should be inserted under the chair B on top of the tie A, and the keys C again driven in to bring the chairs firmly to place; and it will be readily seen that by the step-like arrangement of the bottom of the mortises b^2 provision is made for using shims of different thicknesses, as shown in Fig. 3, in which the shim E, near the left end of the tie A, is of greater thickness than that at the right.

I claim as my invention—

1. The T-shaped metallic tie A, consisting of a top plate, *a*, and a longitudinal web, *a'*, the latter having openings a^2 formed therein, as and for the purpose specified.

2. The rail-chair B, provided with pendent side flanges, *b'*, containing key-mortises b^2, whose lower edges are arranged in steps at different heights, as and for the purpose herein specified.

3. The combination, with a metallic tie having in its top plate notches a^3, of the chair-rail B, provided with pendent side flanges, *b'*, which are adapted to fit into the notches a^3, as and for the purpose herein specified.

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