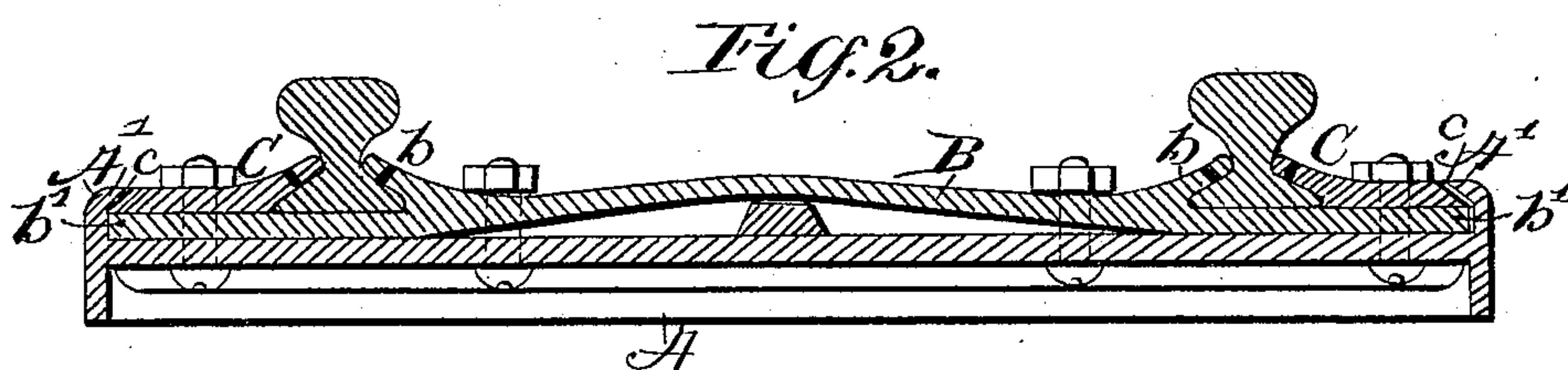
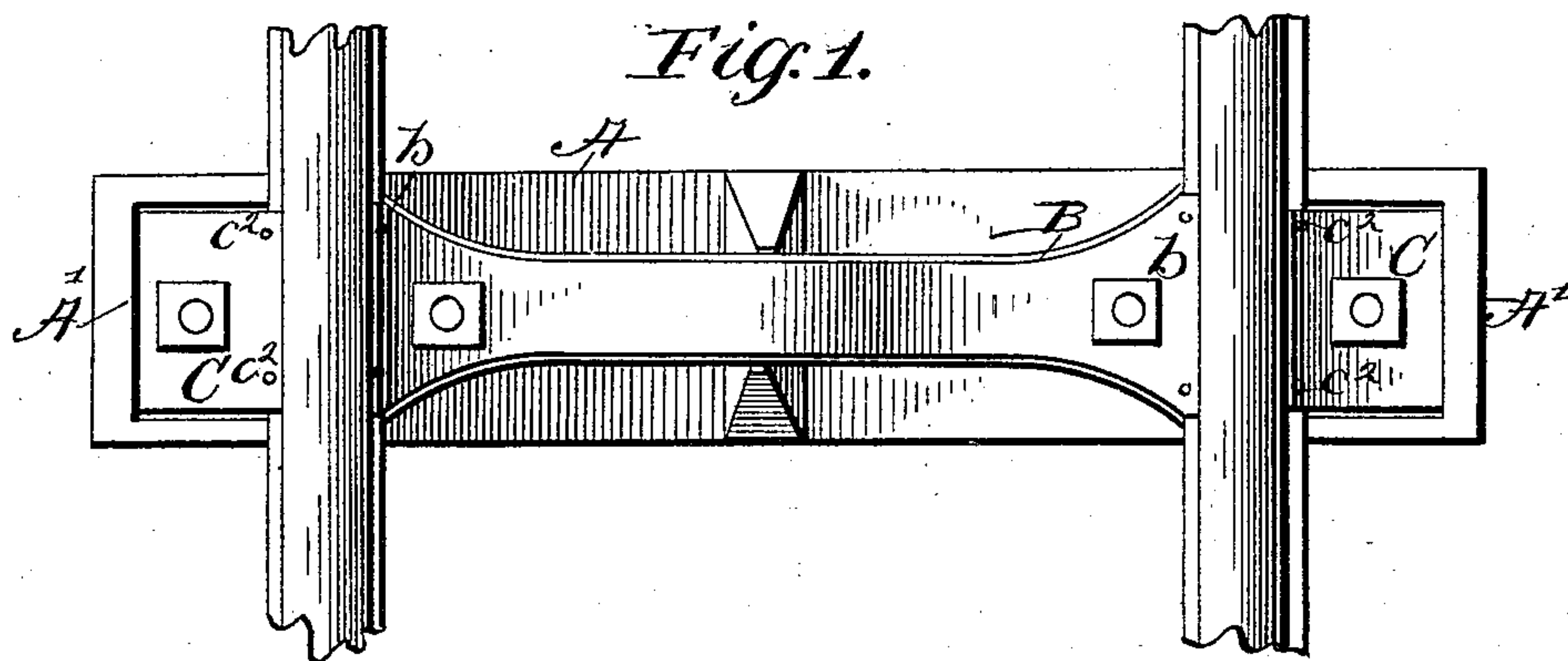


(No Model.)

S. U. SMITH.
METALLIC RAILROAD TIE.

No. 398,004.

Patented Feb. 19, 1889.



Witnesses.
O. Fred. Keller.
Vernon M. Rossy.

Inventor.
Sidney W. Smith.
By
J. B. Lawyer, Attorney.

UNITED STATES PATENT OFFICE.

SIDNEY U. SMITH, OF CANISTEO, NEW YORK, ASSIGNOR OF ONE-HALF TO
ALONZO I. WILCOX, OF SAME PLACE.

METALLIC RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 398,004, dated February 19, 1889.

Application filed December 9, 1887. Renewed August 22, 1888. Serial No. 283,512. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY U. SMITH, a citizen of the United States, residing at Canisteo, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Metallic Railroad-Ties; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention has for its object to provide a novel construction in metallic ties; and the nature thereof consists in providing the same with a lug or projection over which an expansion-bar is placed, the said bar being provided with two lips for securing the rails upon one side, and auxiliary lugs fixed to the expansion-bar, thereby securely holding the rails in position by means of bolts, and other details in the construction, as will be herein-after more fully described.

In the accompanying drawings, in which corresponding parts are designated by similar letters, Figure 1 is a top plan view of my invention, and Fig. 2 is a sectional view thereof.

Referring to the drawings, A represents a metallic tie of box form and strengthened by means of longitudinal ribs cast within it. The tie is provided with a lug or projection cast upon its surface, over which the expansion-bar B rests at its center. The expansion-bar is provided with two lugs, *b*, struck up from the same, by means of which the rails are securely held in position upon one side. This bar has also two horizontal extensions, *b'*, which rest upon the tie and are placed in boxes A', formed for their reception in the outer ends of the tie.

Upon the horizontal extension *b'* of the expansion-bar are placed independent lugs or braces, C, which are placed upon the same and held firmly in position against the rails by means of screw-bolts D. These lugs or

braces are provided with a beveled edge, *c*, which fits corresponding bevel edges formed in the boxes A', by means of which the rails are held firmly in position should the bolts become broken through the rough usage to which all ties are necessarily subjected. The lugs or braces C are also provided with two holes, *c'*, by means of which sections of rails may be fastened together in addition by screw-bolts.

From the foregoing description it will be observed that rails are laid with more rapidity and at the same time securely fastened in place uniformly without the use of track-gages and other instruments generally employed in laying the same, and in a simple and substantial manner.

It will be more particularly noted that by the use of this construction the expansion-bar employed constitutes a very important part of my invention, by means of which the strain of the rails is almost entirely taken from the few bolts that are employed.

Having fully described the nature of my invention, what I claim, and desire to secure by Letters Patent, is—

1. A metallic tie provided with a projection over which an expansion-bar rests, the said bar having two lips and two horizontal extensions leading therefrom which rest in boxes in the outer ends of the tie, within which lugs are fastened against the rails, as and for the purpose described.

2. A metallic tie provided with a projection over which an expansion-bar rests, the said bar having lips and horizontal extensions leading therefrom and resting in boxes in the ends of the tie, and lugs having their rear edges beveled, which fit corresponding bevels in the said box, as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

SIDNEY U. SMITH.

Witnesses:

F. H. ROBINSON,
DWIGHT COOK.