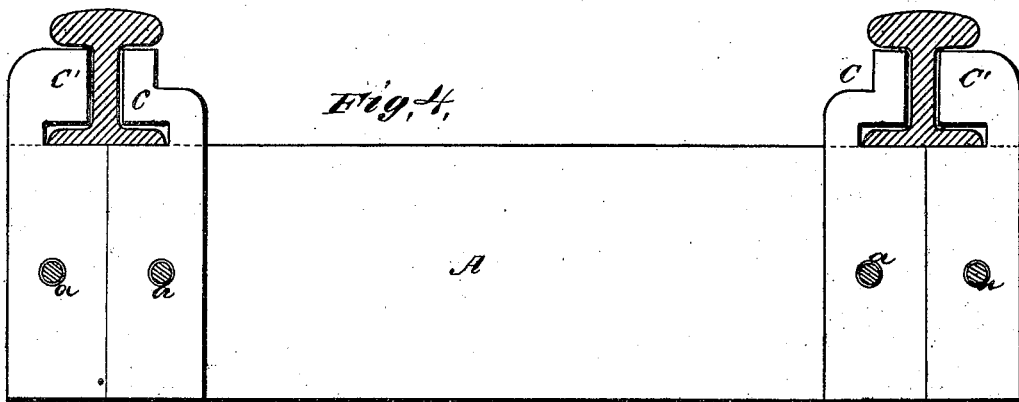
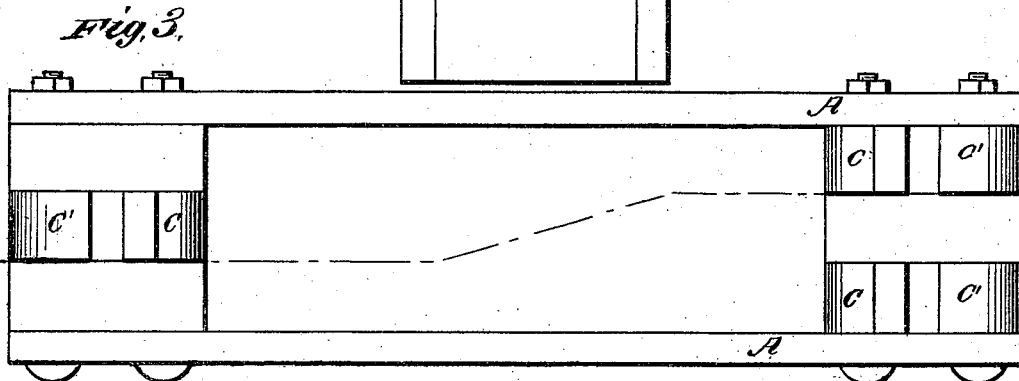
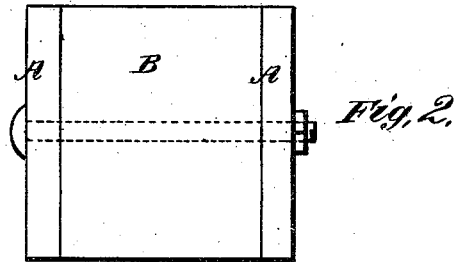
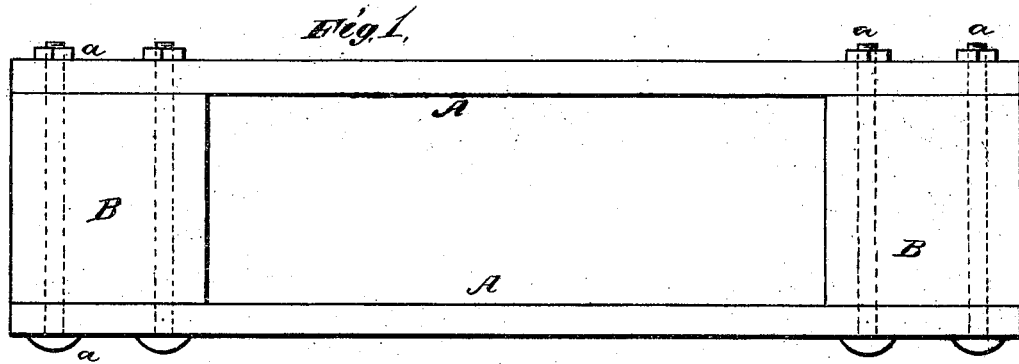


G. W. WILLIAMSON.
RAILROAD TIE.

No. 180,084.

Patented July 18, 1876.



WITNESSES
E. H. Bates
George C. Upham,

INVENTOR,
George W. Williamson.
Gilmore & Smith Co.
 ATTORNEYS

G. W. WILLIAMSON.
RAILROAD TIE.

No. 180,084.

Patented July 18, 1876.

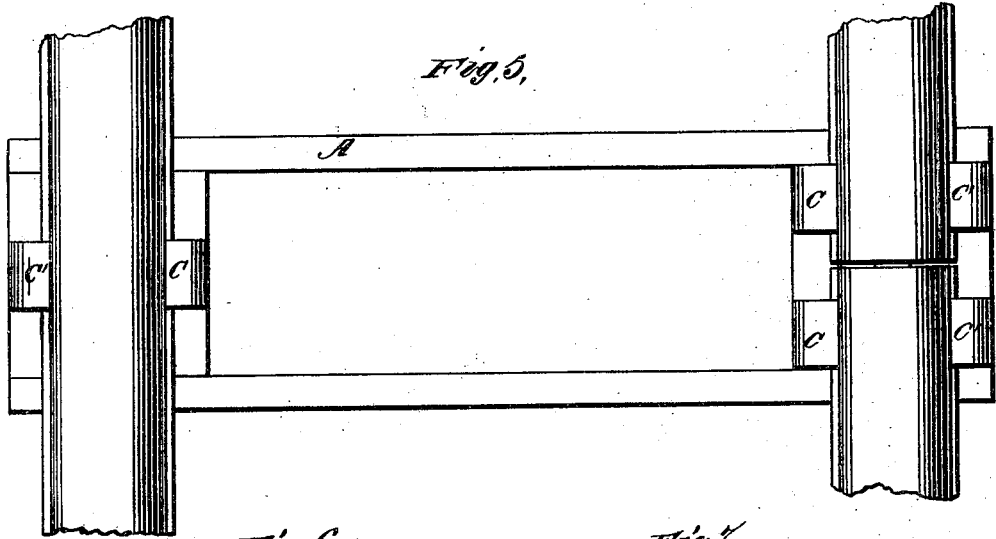


Fig. 5.

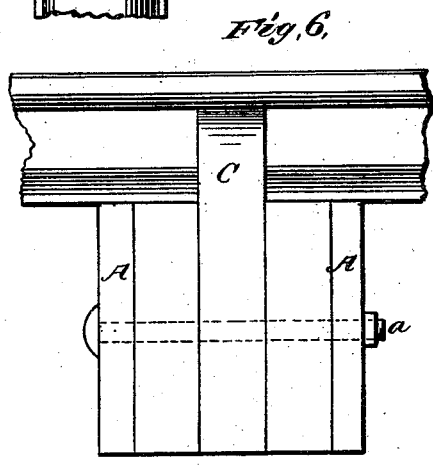


Fig. 6.

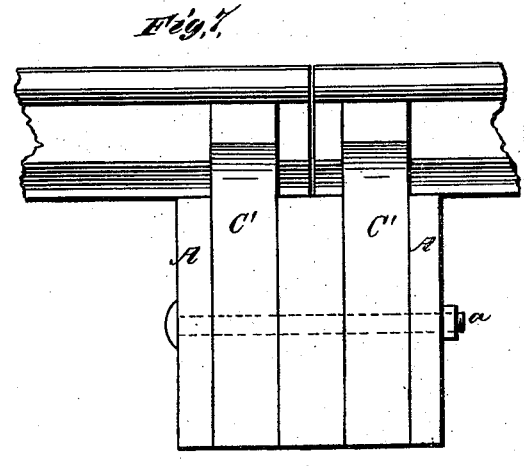


Fig. 7.

WITNESSES
E. H. Bates
George C. Upham

INVENTOR
George W. Williamson
Gilson & Smith Co.
 ATTORNEYS

UNITED STATES PATENT OFFICE.

GEORGE W. WILLIAMSON, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH HIS RIGHT TO GIRARD HILLERS, OF SAME PLACE.

IMPROVEMENT IN RAILROAD-TIES.

Specification forming part of Letters Patent No. **180,084**, dated July 18, 1876; application filed May 29, 1876.

To all whom it may concern:

Be it known that I, GEORGE W. WILLIAMSON, of Pittston, in the county of Luzerne and State of Pennsylvania, have invented a new and valuable Improvement in Railroad Cross-Tie and Rail-Fastening; and do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of my railroad-tie and fastener, and Fig. 2 is an end view. Fig. 3 is also a plan view, and Fig. 4 is a vertical section through line *xx*. Fig. 5 is a plan view with the track fastened in, and Figs. 6 and 7 are side views of the same.

This invention has relation to railroad cross-ties, and also to means for securing the rails thereto; and the nature of my invention consists, mainly, in a cross-tie for railroads, which is composed of narrow planks set on edge, and secured to blocks of any desired width by means of bolts or other suitable fastenings, as will be hereinafter more fully explained.

The invention further consists in combining with the spacing-blocks of the cross-ties angular retaining jaws of metal, which will not only hold the rails down to their places without the use of spikes, but enable me to dispense with fish-plates, and to support the lips of the rails, as will be hereinafter explained.

In many sections of our country wood suitable for cross-ties is very scarce and expensive; and the main object of my invention is to utilize wood in the laying of railroads by making skeleton cross-ties and filling in with earth, so as to give solidity and fixedness to the ties.

In the annexed drawings, A A designate two thin planks, of any desired width and

length, and B B are blocks of wood, of any suitable size, which are placed between the ends of the planks, and secured firmly thereto by means of bolts *a*; or, if desired, dowel-pins may be used. It will thus be seen that I construct a skeleton or box cross-tie which, when it is laid in earth, well tamped inside and outside of it, will afford a good solid foundation for the rails.

The planks A are set edgewise—that is to say, they are vertical; consequently they can be arranged at any desired distance apart, according to the width of bearing required.

Ties which support the ends of the rail-sections are constructed with jaws C C', formed on plates which are rigidly confined between the ends of the planks A A, between which jaws a wooden block of any desired thickness is confined. These jaws C C' are so shaped that they are adapted to receive snugly the base and neck of the rail-sections, and to hold the ends of the same securely without the use of fish-plates or spikes. The upper ends of the jaws C C' afford bearings for the lips of the rail-sections, which prevent the lips from being battered down at the ends of the sections.

At intermediate points between the ends of the sections I shall use, when necessary, a single jaw-holder at each end of each cross-tie, thus dispensing with spikes at such points.

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

Jaws C C', combined with spacing-blocks B and a box cross-tie, constructed substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE W. WILLIAMSON.

Witnesses:

JOHN F. ACKER,
GEORGE E. UPHAM.