

(No Model.)

J. B. WILSON.  
RAILROAD TIE.

No. 420,895.

Patented Feb. 4, 1890.

Fig-1-

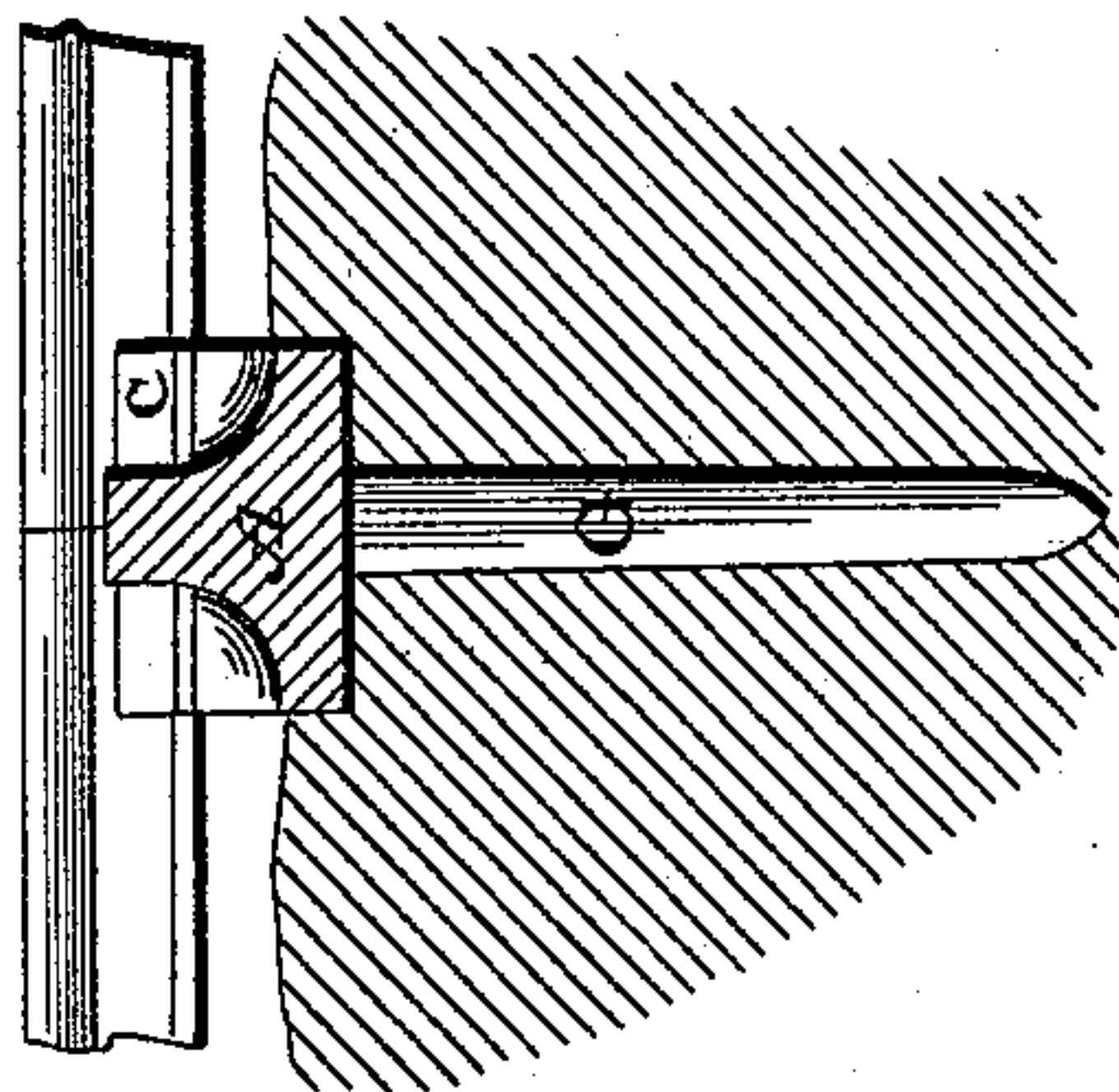
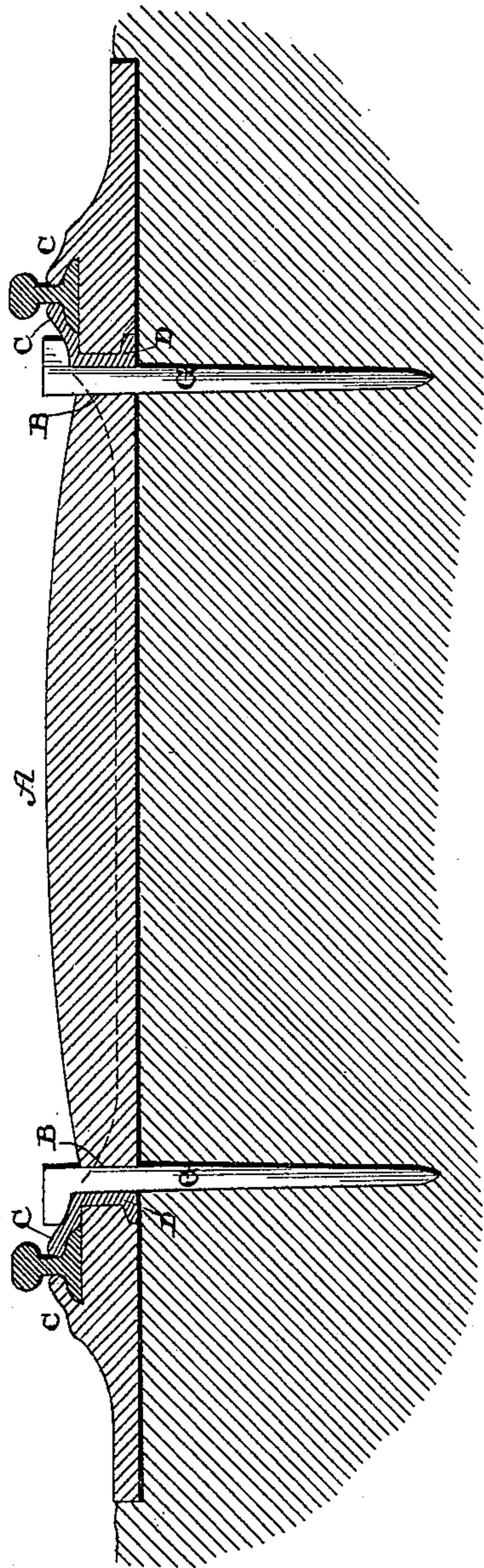


Fig-2-

Witnesses:

*E. P. Ellis,*  
*E. Hart*

Inventor:

*Jos. B. Wilson,*  
*per*  
*F. A. Lehmann,*  
*att'y.*



# UNITED STATES PATENT OFFICE.

JOSEPH B. WILSON, OF WOODBURY, NEW JERSEY, ASSIGNOR OF ONE-HALF  
TO LEWIS M. GREEN, OF SAME PLACE.

## RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 420,895, dated February 4, 1890.

Application filed November 15, 1889. Serial No. 330,373. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH B. WILSON, of Woodbury, in the county of Gloucester and State of New Jersey, have invented certain new and useful Improvements in Railroad-Ties; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in railroad-ties; and it consists in the combination, with the tie having openings through its ends and clips for holding the rail in position upon the tie, of trunnels which are passed down through the tie and anchor it in position, as will be more fully described and claimed hereinafter.

The object of my invention is to devise a means for anchoring or holding either wooden or metal ties in position in the road-bed and at the same time fasten the clips which hold the rails in place upon the ties in place.

Figure 1 represents a vertical section of a tie and its attachments which embody my invention. Fig. 2 is a cross-section of an iron tie.

A represents either a wooden or a metal tie of any desired shape, size, or construction that may be preferred.

If the tie is made of wood, it will be of the usual shape or form and have cut or mortised through its ends suitable holes or openings B, through which the hook on the clip C and the stay will pass.

If the tie is made of iron, it will be made much thinner than a wooden tie, and its edges along its top will be cut away, so as to reduce the amount of metal and thus lighten the tie as much as possible. For the sake of strength there will be formed a flange or rib along the top of the tie, and this rib or flange will be made convex or round at its top, so as to prevent the slightest give of the tie in any direction.

Where the tie is made of iron the outer clip C may either be cast as a part of the tie or made separate therefrom and the holes B will be cast through the tie, so as to avoid the expense and trouble of making them afterward. As here shown, the outer clip is made as a portion of the tie, while the inner

one is made movable; but they may both be made movable for the sake of adjusting the parts, if so preferred. I do not restrict my invention in this respect, for either form of construction may be used.

When the clips are made movable, each one is provided with a hook D, which passes down through the opening in the tie and catches on its under side, so as to prevent any vertical movement of the clip after it is once fastened in position against the side of the rail.

In order to lock the movable clips in position, as well as to anchor the tie in the position in which it is placed in the road-bed, a spike or a slightly-tapering trunnel G is used, and which, in being forced down through the holes B in the tie, forces the clips tightly against the side of the rails and at the same time extends down into the earth eighteen inches or two feet, so as to prevent the tie from having any movement whatever after it is once placed in position. In case the road is being built over rocky or stony places holes must be picked in the rock to receive the trunnels, and shorter ones may be used, as the ties do not need as much to hold them in place upon solid rock as they do upon the soft and yielding ground. These trunnels extend into the earth and hold the ties in the position in which they were first placed, and hence the rails are prevented from separating or the ties from having any twisting or turning movement, and a better, firmer, and safer track in every respect is produced.

Having thus described my invention, I claim—

The combination of a metal or wooden tie A, having an opening or openings B through its ends, with a clip or clips which both catch against the side of the rail and against the under side of the tie, and tapering trunnels or spikes which extend down through the openings and both fasten the clips in position and anchor the tie in place in the earth, substantially as described.

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

JOSEPH B. WILSON.

Witnesses:

PHILIP MAURO,  
F. A. LEHMANN.