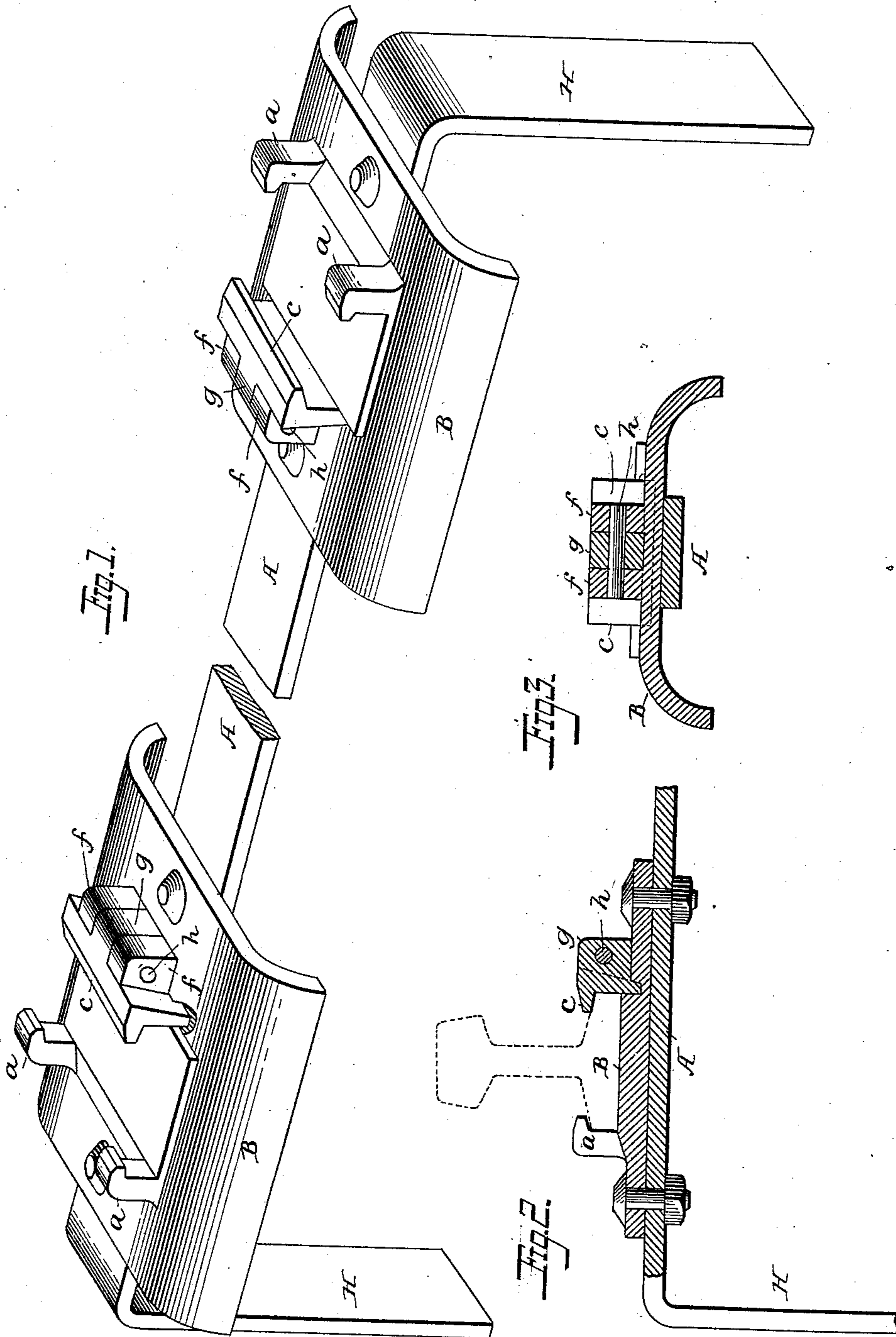


(No Model.)

L. WALLACE.  
RAILWAY CROSS TIE.

No. 427,813.

Patented May 13, 1890.



Witnesses  
*Geo. G. Hinkel.*

*H. S. McArthur.*

Inventor  
*Lewis Wallace*  
By his Attorneys  
*Wm. S. Lee*

# UNITED STATES PATENT OFFICE.

LEWIS WALLACE, OF CRAWFORDSVILLE, INDIANA.

## RAILWAY CROSS-TIE.

SPECIFICATION forming part of Letters Patent No. 427,813, dated May 13, 1890.

Application filed December 28, 1889. Serial No. 335,234. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS WALLACE, a citizen of the United States, residing at Crawfordsville, in the county of Montgomery and State of Indiana, have invented certain new and useful Improvements in Railway Cross-Ties, of which the following is a specification.

In that class of railway-ties in which the bearings are formed on and constitute a part of a continuous strip extending from side to side of the track it is desirable from motives of economy to cast the tie in one piece. One objection to this construction is the liability of the metal to shrink in cooling, while if any warping occurs the bearings are thrown out of line and the structure becomes inefficient. Attempts have been made to provide a tie by stamping or rolling plates of sufficient width and proper shape; but this involves great expense and renders the attachment of jaws for clamping the rails difficult and expensive. To obviate these objections I construct the tie as will be fully set forth hereinafter, and as illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a railway-tie embodying my improvements. Fig. 2 is a longitudinal section through one of the bearings. Fig. 3 is a transverse section on the line 3 3, Fig. 1.

The end bearings B B of the tie are constructed of cast metal, with lugs *ff* to receive between them tongues *g* or other parts of detachable jaws *c*, and with fixed or removable jaws *a*, said jaws being formed to fit the proximate faces or sides of the rails, and the removable jaws being vertically detachable, and when in place being fastened by pins *h*, passing transversely through the lugs *f* and tongues *g*. Each bearing B is wide enough to afford a base of the dimensions necessary for stability, and is preferably curved downward,

so as to hug the ballast and prevent slipping. The two bearings are connected by a cross-bar A, preferably of rolled steel, which is much narrower in width than the bearings, light in weight, strong, and serves effectively to maintain the relative position of the bearings; and to insure greater stability and to absolutely prevent any lateral movement of the tie transversely to the rails I prefer to extend and bend down the ends of the bar A, forming anchors H, which penetrate the ballast and earth and secure the desired result.

It will be evident that while the transverse bar A is of more expensive material than a cast-metal body it is so much lighter in weight as to compensate for this difference in the cost of material, and that by its use in connection with broad cast-metal bearings I am enabled to construct the latter cheaply and to permit the use of detachable clamping-jaws of different forms.

Without limiting myself to the precise construction shown, I claim—

1. The combination, with the cross-bar A, of bearings B, having lugs, vertically-removable jaws between the lugs, and pins passing through the lugs and the jaws to lock the latter in operative position, substantially as described.

2. The combination, with the cross-bar A, having vertically-extending anchor-plates H, of the broad bearings B, having fixed lugs and vertically-removable jaws between the lugs, adapted to be locked between the lugs to secure the rail, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEW. WALLACE.

Witnesses:

THEODORE D. BROWN,  
P. L. KENNEDY.