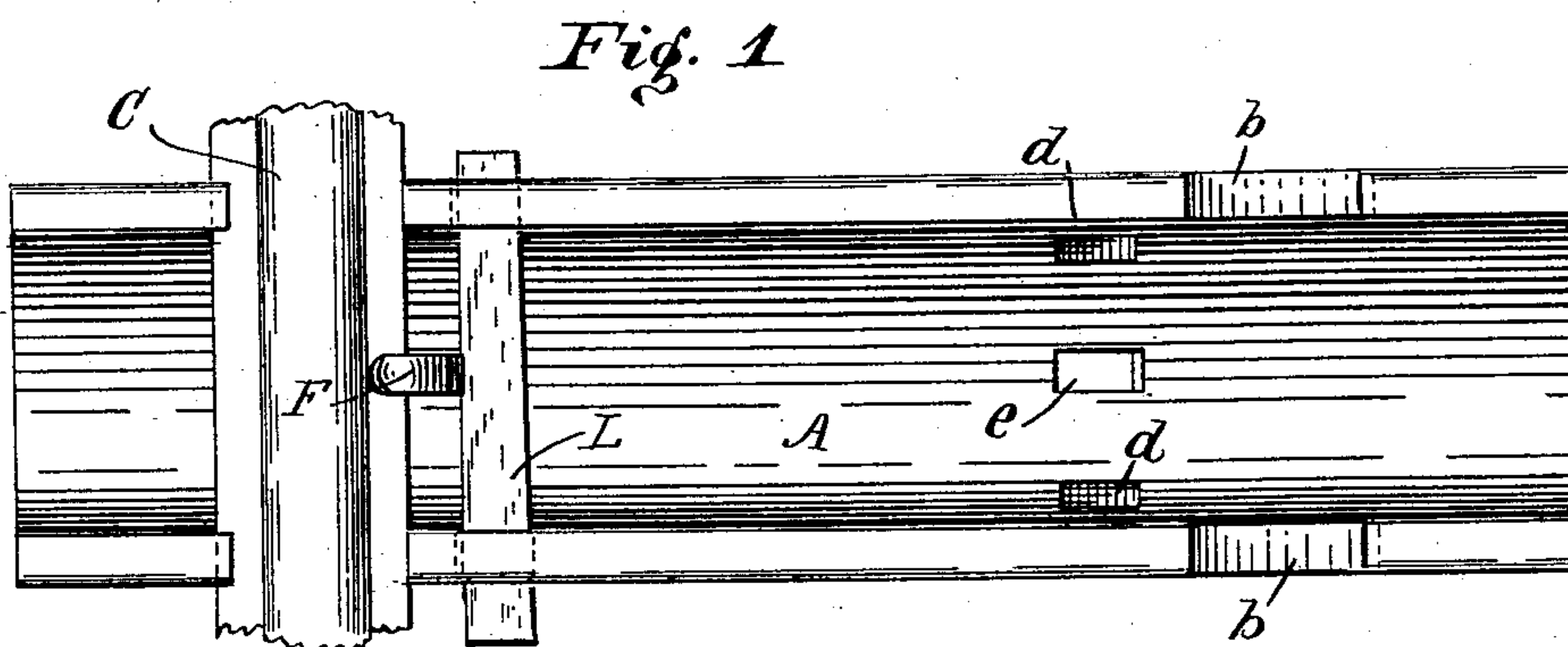
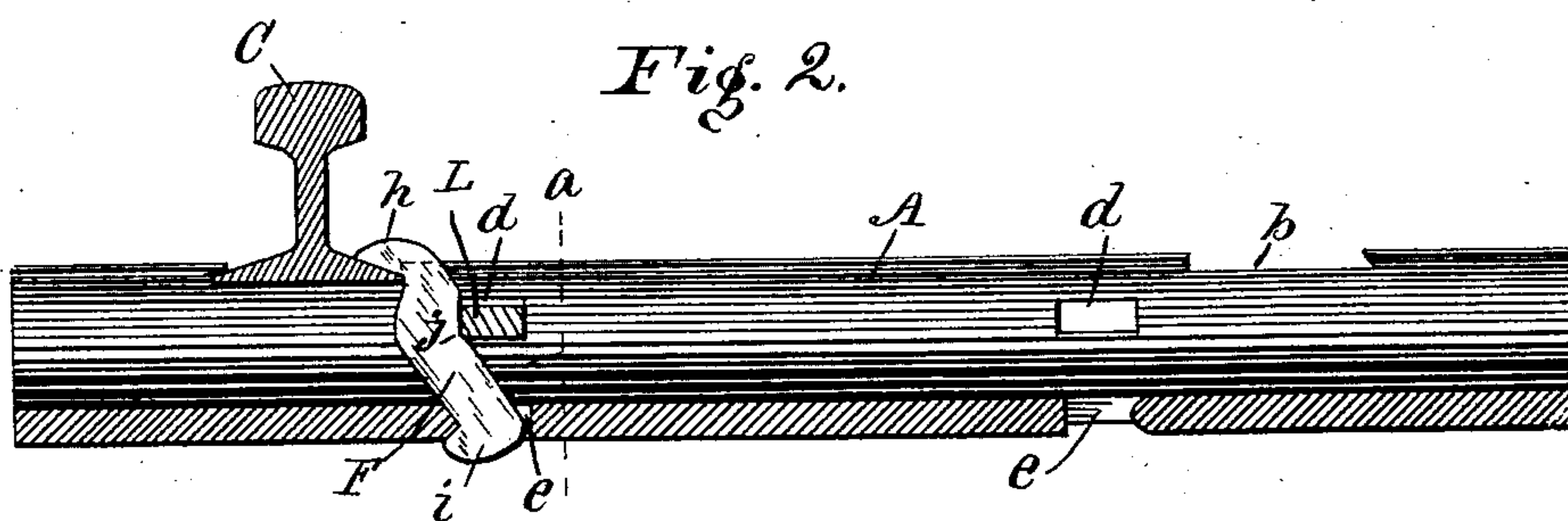
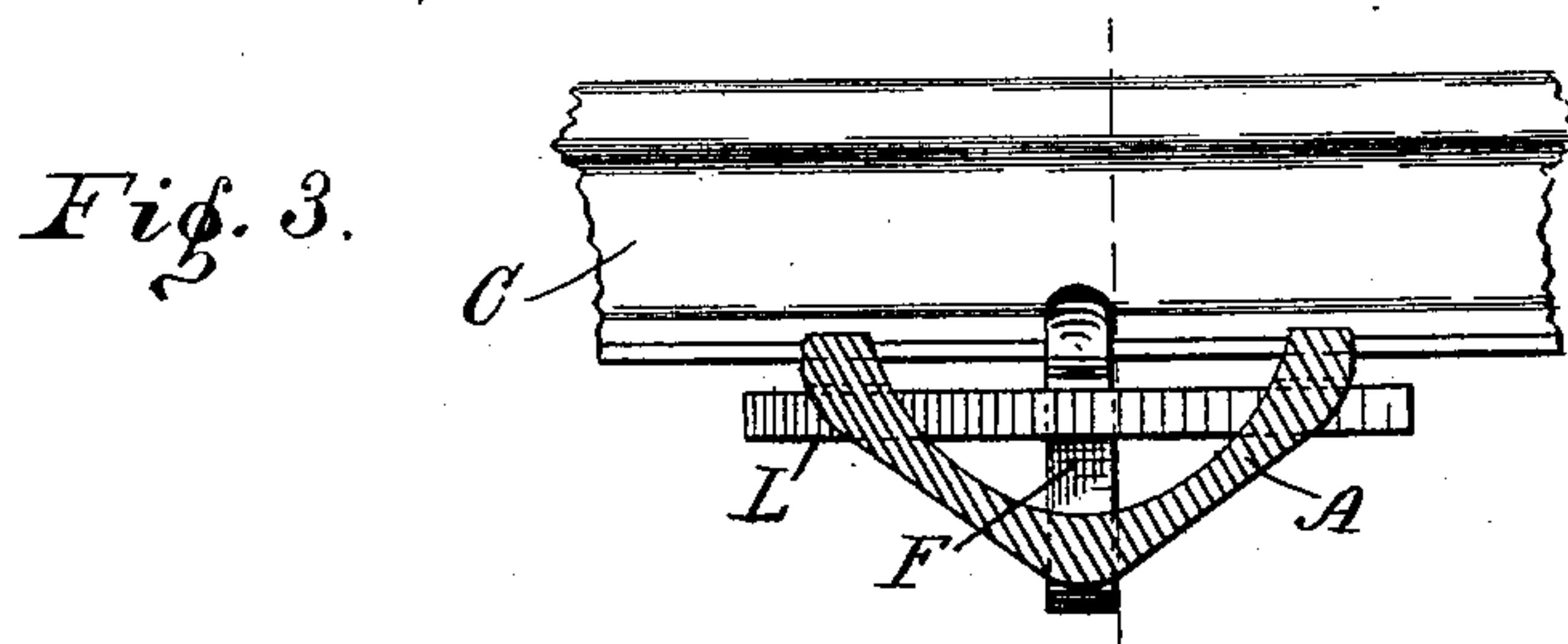


(No Model.)

A. KIMBER.  
METALLIC RAILROAD TIE.

No. 434,600.

Patented Aug. 19, 1890.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ABRAHAM KIMBER, OF INDIANAPOLIS, INDIANA.

## METALLIC RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 434,600, dated August 19, 1890.

Application filed June 9, 1890. Serial No. 354,768. (No model.)

*To all whom it may concern:*

Be it known that I, ABRAHAM KIMBER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Metallic Railroad-Ties, of which the following is a specification.

My invention relates to an improved railroad-tie.

The objects of my improvement are, first, to provide a metallic tie for railroads of such shape that it will rest firmly on the road-bed and will act as a transverse drain thereto, and, second, to provide improved means for securing the rails to the tie, all as hereinafter fully described.

The accompanying drawings illustrate my invention.

Figure 1 represents a plan; Fig. 2, a central longitudinal section; and Fig. 3, a cross-section at *a*, Fig. 2.

The body of the tie consists of a V-shaped metallic forging or casting A, forming a trough having open ends and of a length somewhat greater than the gage of the road. Trough A is designed to be set in the road-bed with its open side upward, and its upper edges are provided near each end with shallow notches *b b*, in which the flanges of the rails are set, the outer ends of the notches being undercut to receive the outer edge of the flange of the rail. In the drawings one end of the tie is shown without any rail, and at the other end the rail C is shown in position. The tie is provided at each end near the notches *b* with a pair of transverse mortises *d*, passing through the sides of the trough near its upper edges, and a vertical mortise *e*, passing through the bottom or angle. The rail seated in the notches *b* is secured to the tie by means of a bent dog F, having at its upper end a hooked head *h*, adapted to rest upon the top and inner edge of the rail-flange, and having

at its lower end a hooked foot *i*, adapted to pass through the mortise *e* and to engage the bottom of the trough at the outer end of the mortise, as shown. Dog F is bent so as to form an inner angle *j*, adapted to receive the outer edge of a wedge L when the wedge is driven through the mortises *d d*.

In operation the tie is set in the road-bed with its angle downward and its open side upward. The foot of the rail is then set in the notches *b*. Dog F is placed in position, its lower end resting in the mortise *e* and its head *h* resting on the inner flange of the rail, and wedge L is then driven across the tie in mortises *d* behind dog F, thus forcing the head of the dog against the inclined upper surface of the rail-flange and drawing the rail tightly down to the tie, and at the same time forcing the outer edge of the rail-flange under the undercut ends of the notches *b*. The relation of the rail, mortise *e*, the wedge L, and the angle *j* in the dog F is such that when the rail, the dog, and the wedge are in position on the tie the wedge rests in the angle *j* of the dog and effectually prevents the inward and upward movement of the dog. The tie operates when in position not only as a support for the rails, but to effectually drain and prevent the softening of the road-bed.

I claim as my invention—

The combination of the rail, the V-shaped metallic tie A, having recesses near its ends adapted to receive the flange of the rail and provided with mortises *d d* and *e*, the bent dog F, and wedge L, all arranged to co-operate in the manner and for the purpose set forth.

ABRAHAM KIMBER.

Witnesses:

H. P. HOOD,  
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