

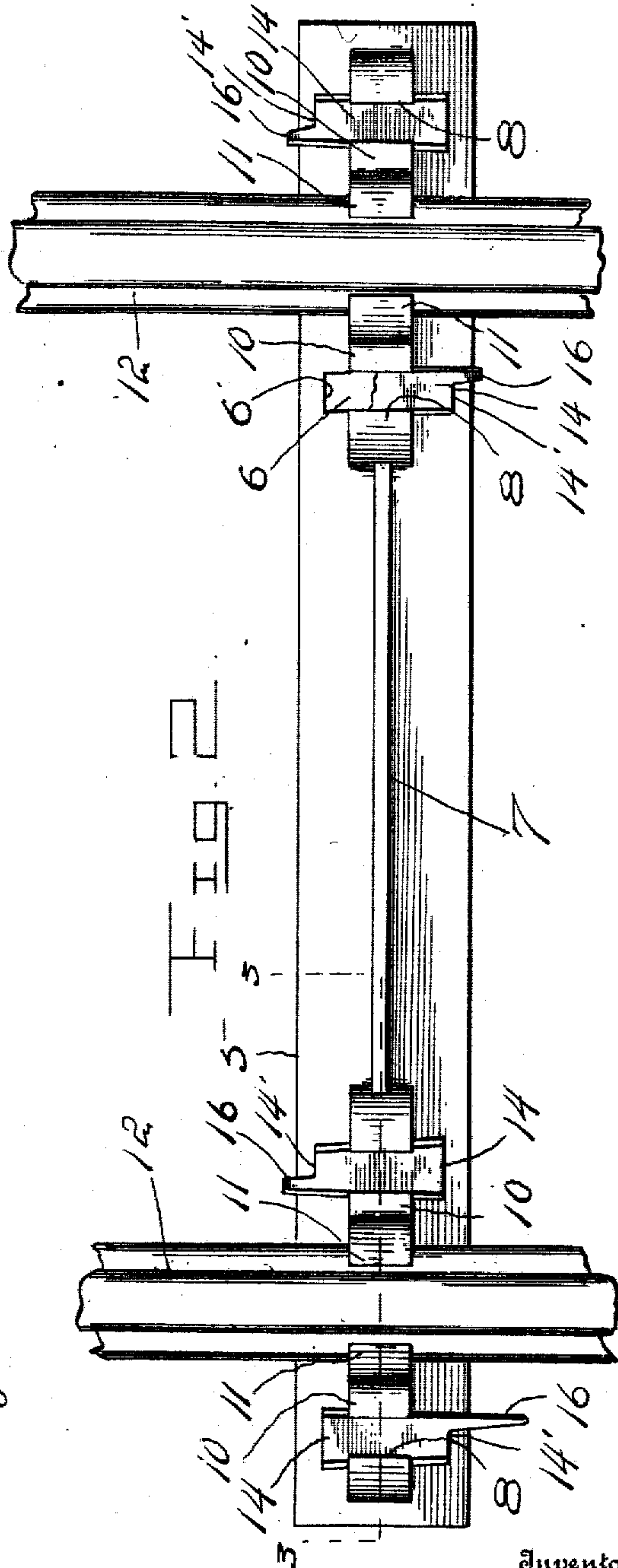
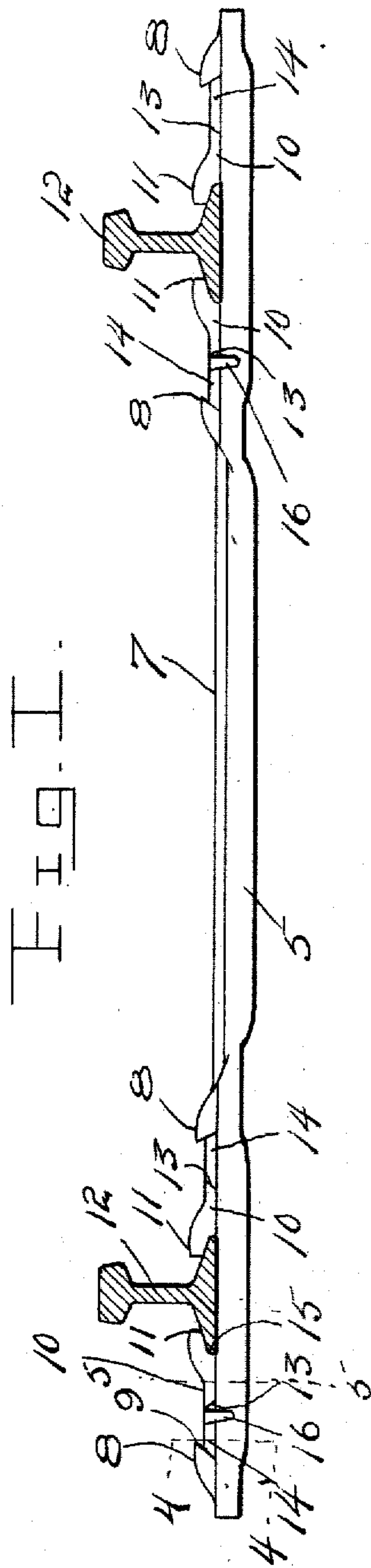
No. 825,492.

PATENTED JULY 10, 1906.

C. S. SMALLWOOD.  
RAILROAD TIE.

APPLICATION FILED DEC. 4, 1905.

2 SHEETS—SHEET 1.



Witnesses  
J. C. Simpson.  
J. C. Jones

Inventor  
C. S. Smallwood.  
By *[Signature]*

Attorney

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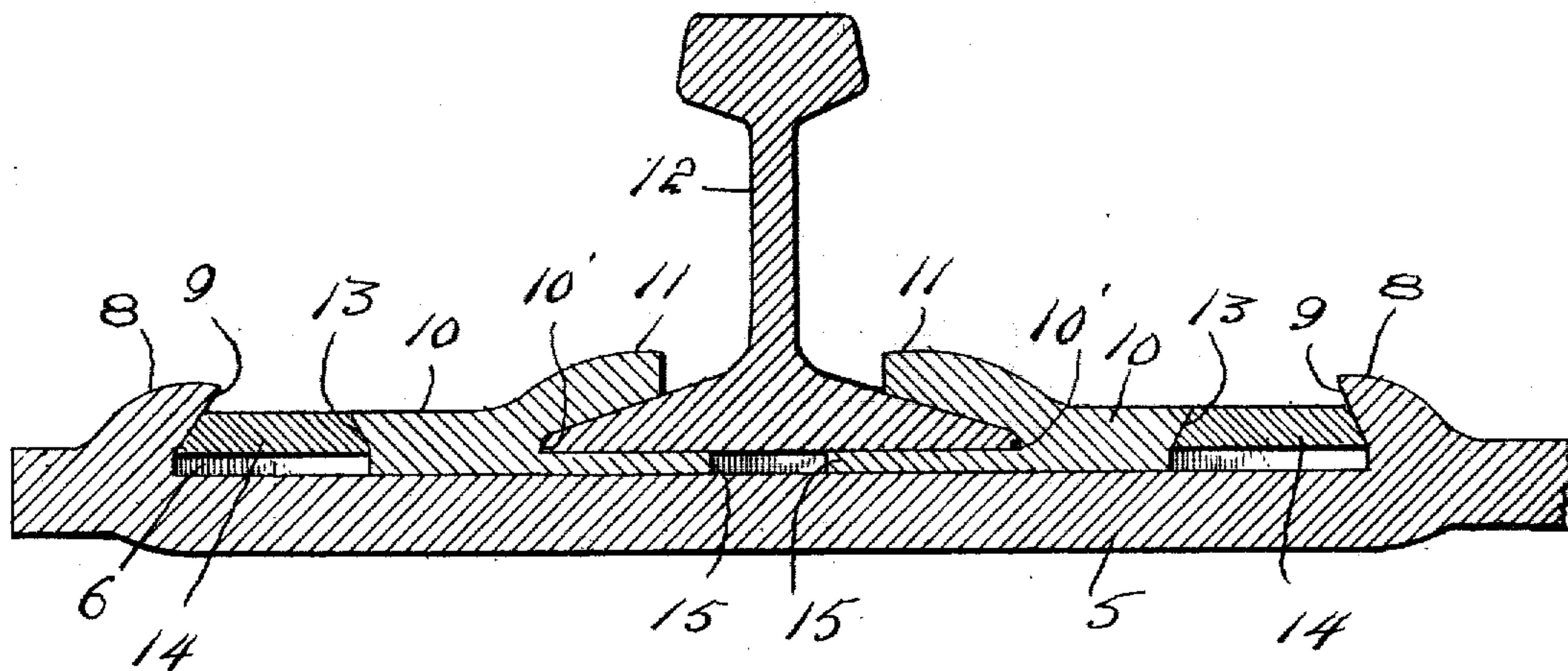


Fig. 3.

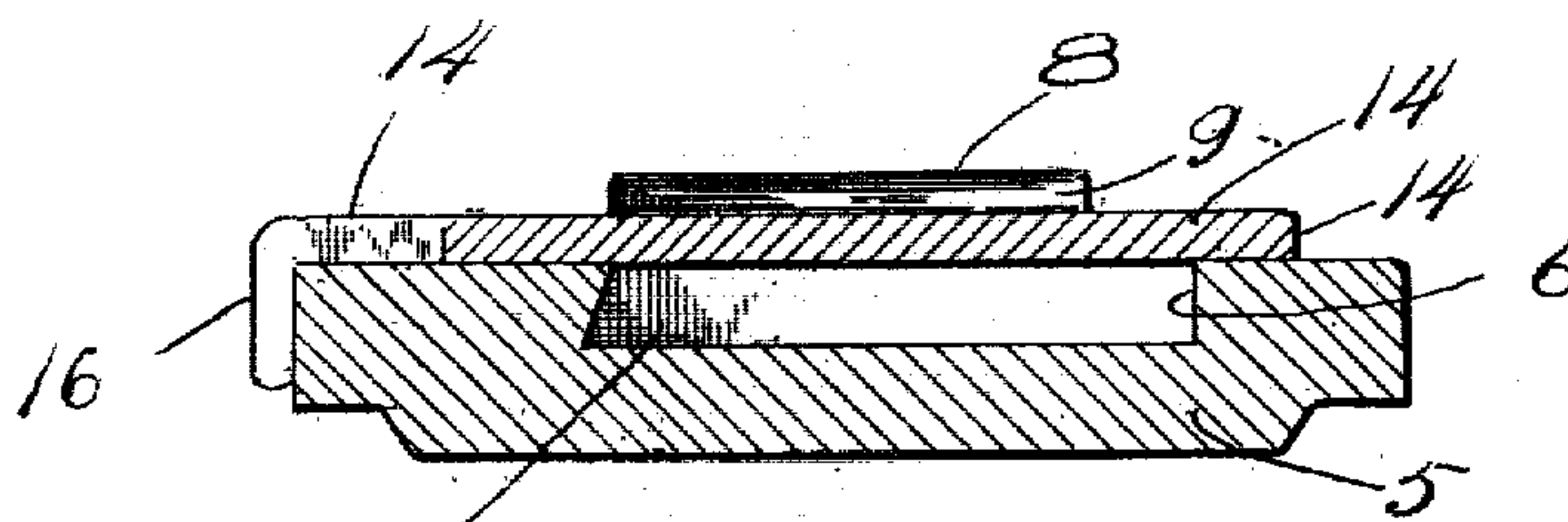


Fig. 4.

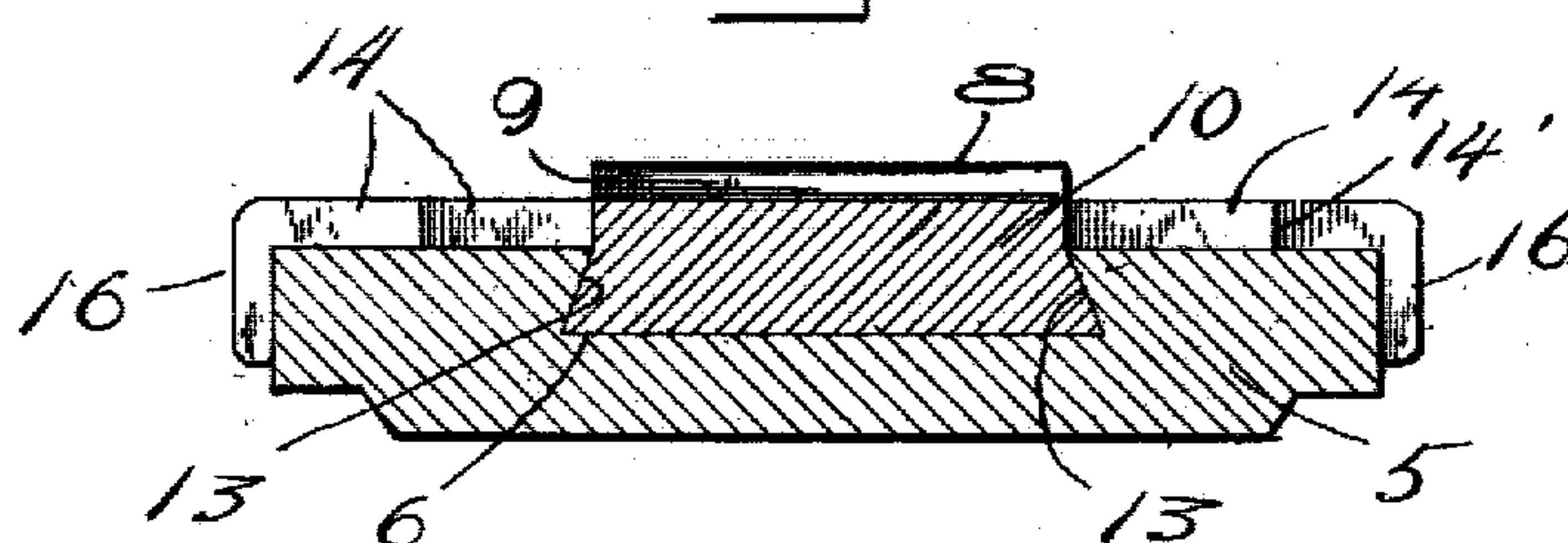


Fig. 5.

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# UNITED STATES PATENT OFFICE.

CLARENCE S. SMALLWOOD, OF GRANITE CITY, ILLINOIS.

## RAILROAD-TIE.

No. 825,492.

Specification of Letters Patent.

Patented July 10, 1906.

Application filed December 4, 1905. Serial No. 280,234.

*To all whom it may concern:*

Be it known that I, CLARENCE S. SMALLWOOD, a citizen of the United States, residing at Granite City, in the county of Madison, State of Illinois, 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 appertains to make and use the same.

This invention relates to railroad-ties, and more particularly to metallic ties, and has for its object to provide a tie of this kind including means by which rails may be easily and securely attached thereto.

Another object is to provide a structure which will permit of some variation of the distance between the rails.

Other objects and advantages will be apparent from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of the present tie. Fig. 2 is a top plan view, one of the retaining-tongues being bent to hold its wedge against dislodgment. Fig. 3 is a central longitudinal section of one end of the tie, taken on line 3 3 of Fig. 2, the parts being somewhat enlarged. Fig. 4 is a section on line 4 4 of Fig. 1. Fig. 5 is a section on line 5 5 of Fig. 1.

Referring now to the drawings, the present tie comprises a flat metallic plate 5, having longitudinal slots 6 therein adjacent to its ends, and between its slots the plate is provided with an upwardly-extending strengthening-rib 7, which extends longitudinally of the tie. At either end of each of the slots 6 there are upwardly-extending lips 8, having their mutually-adjacent faces beveled under, as shown at 9, and slidably engaged in each of the slots there are a pair of cooperating jaws 10, which extend outwardly of the slots and have flanges 11 at their upper portions extending inwardly for engagement over the base-flanges of a rail 12.

The outer faces of the jaws 10—those which lie in the direction of the lips 8—are beveled under, as shown at 13, in a manner similar to the faces 9 of the lip, so that dovetailed passages are formed between the jaws and the lip and have their minor dimensions directed upwardly. The corresponding faces 9 and 13 of the lips and jaws, respectively, converge

in one direction to give the dovetailed passages a slight taper toward one end, and the two passages at each end of the tie taper in opposite directions, as shown.

Wedge-plates 14 are engaged in the tapered passages between the jaws and lips and are shaped to conform to the taper of these passages, and it will be understood that these plates 14 when moved in one direction move the jaws 10 toward each other to tightly grasp a rail disposed therebetween. These jaws are in reality provided with horizontal slots 10' in their mutually-adjacent faces, which form both the flanges 11, lying above the base-flanges of the rail, and also inwardly-extending lower flanges 15, which extend inwardly beyond the flanges 11 and which receive the rail thereupon. The lower portions of these jaws 10 have their side walls slanted outwardly and downwardly to give the base portions of the jaws a transversely-dovetailed shape, the slot 6 being formed to receive these dovetailed portions slidably therein, as stated above, the slots being also dovetailed in cross-section. At one end these slots 6 are broadened, as shown at 6', to permit of the insertion and removal of the jaws, and when the parts are assembled one of the wedge-plates 14 lies over each of these broadened portions.

By reference to the drawings it will be seen that the rails 12 may be moved to occupy different positions with respect to the lips 8 by forcing one of the wedge-plates 14 to a greater and the other to a lesser extent between the jaws 10 and the lips 8.

At its minor end each of the wedge-plates 14 has adjacent to one side thereof a retaining-finger 16, which when the parts are assembled extends beyond the adjacent edge of the body portion or plate 5, and these fingers are bent downwardly over these edges of the body portion to prevent withdrawal of the wedge-plates. When it is desired to disengage the rails from the ties, the retaining-fingers may be bent up to disengage them from the ties, and the wedge-plates may then be struck with a suitable implement upon the portions 14' of their minor ends, which lie at one side of the tongue 16.

What is claimed is—

1. In a railroad-tie, the combination with a base portion having a slot therein and having upwardly-extending lips at the ends of its slot, of jaws slidably engaged in the slot and arranged for the reception of a rail there-



between, members engaged between the jaws and the lips, and fingers carried by the members, said fingers being bent to extend downwardly over the side faces of the base portion.

5 2. In a tie, the combination with a base portion having a slot therein and having lips at the ends of the slot, of jaws slidably engaged in the slot, said jaws and lips having  
10 their mutually-adjacent faces slanted upwardly and toward each other and horizontally and toward each other to form tapered dovetailed passages, dovetailed wedge-plates in the passages, and retaining-fingers carried  
15 by the wedge-plates at their minor ends and extending downwardly over the base portion.

3. In a railroad-tie, the combination with a base portion having a dovetailed slot therein and having projections at the ends of its slot, of jaws having dovetailed lower portions  
20 slidably engaged in the slot, said jaws having their mutually-adjacent ends slotted transversely for the reception of the base-

flanges of a rail, the mutually-adjacent faces of the jaws and projections being upwardly and horizontally convergent to form dove- 25 tailed tapered passages therebetween, said passages being tapered in opposite directions, wedge-plates engaged in the tapered passages, and fingers carried by the wedge-plates at their minor ends and engaging the  
30 body portion to hold the wedge-plates against removal, said fingers being of a character to permit of their being bent out of operative position, said wedge-plates having portions at their minor ends arranged to receive an in- 35 strument thereagainst for disengagement of the wedge-plates from the passages.

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

CLARENCE S. SMALLWOOD.

Witnesses:

L. E. ERWIN,  
G. E. WHITTEN.