

F. H. BLASSINGHAM.  
RAILWAY TIE.  
APPLICATION FILED APR. 22, 1910.

988,855.

Patented Apr. 4, 1911.

2 SHEETS-SHEET 1.

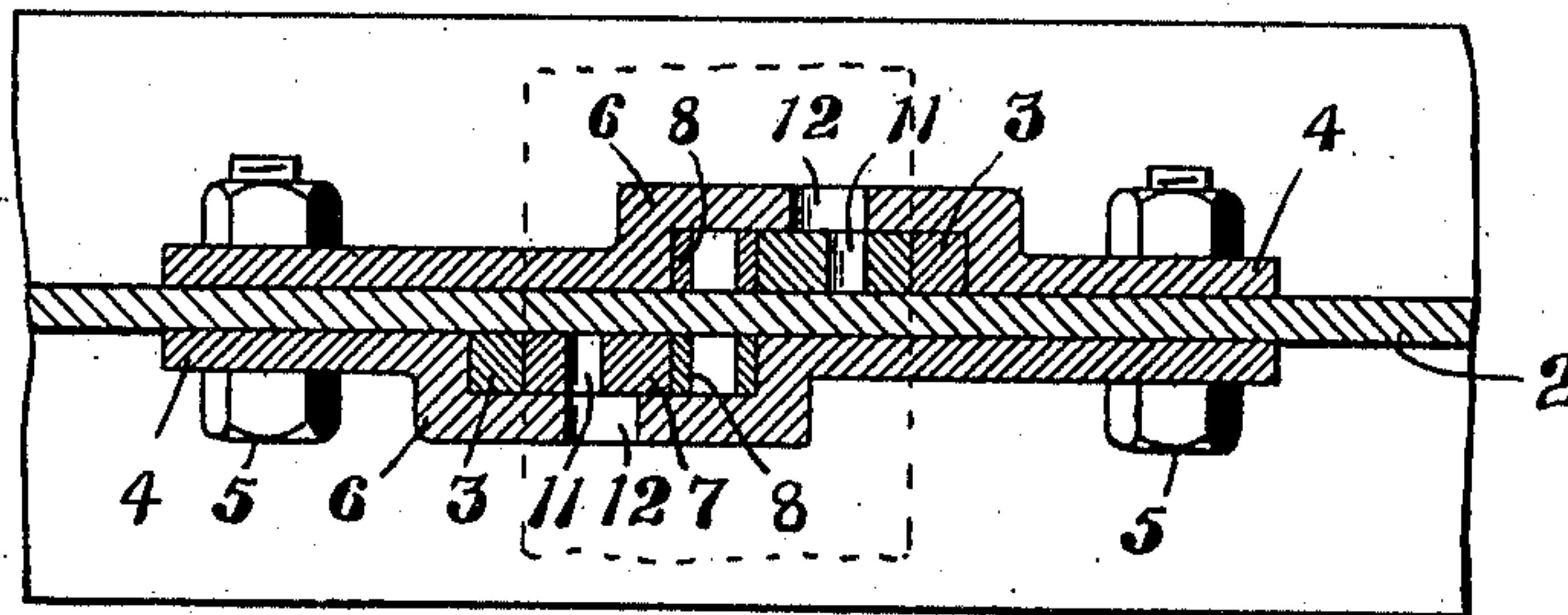
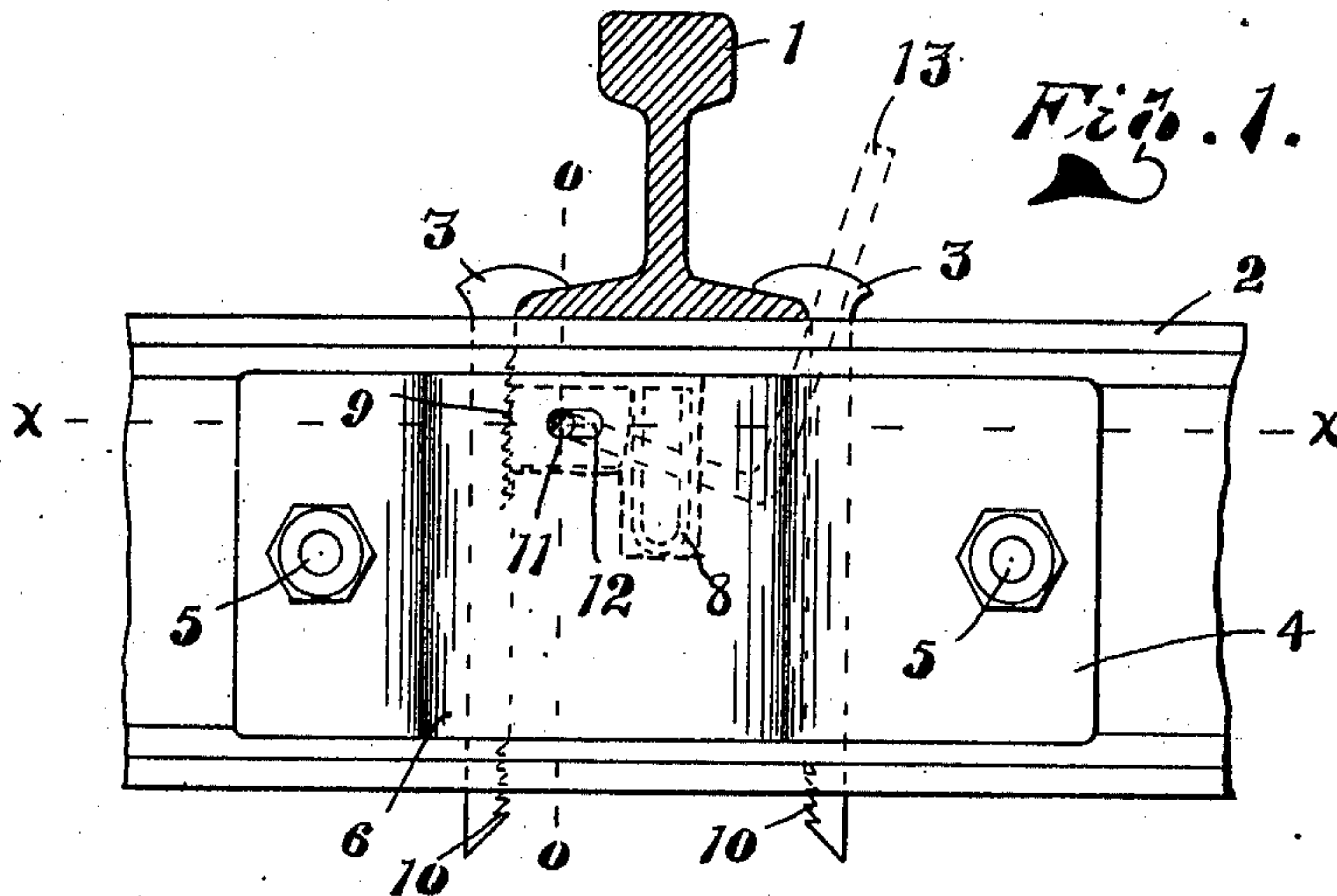


Fig. 2.

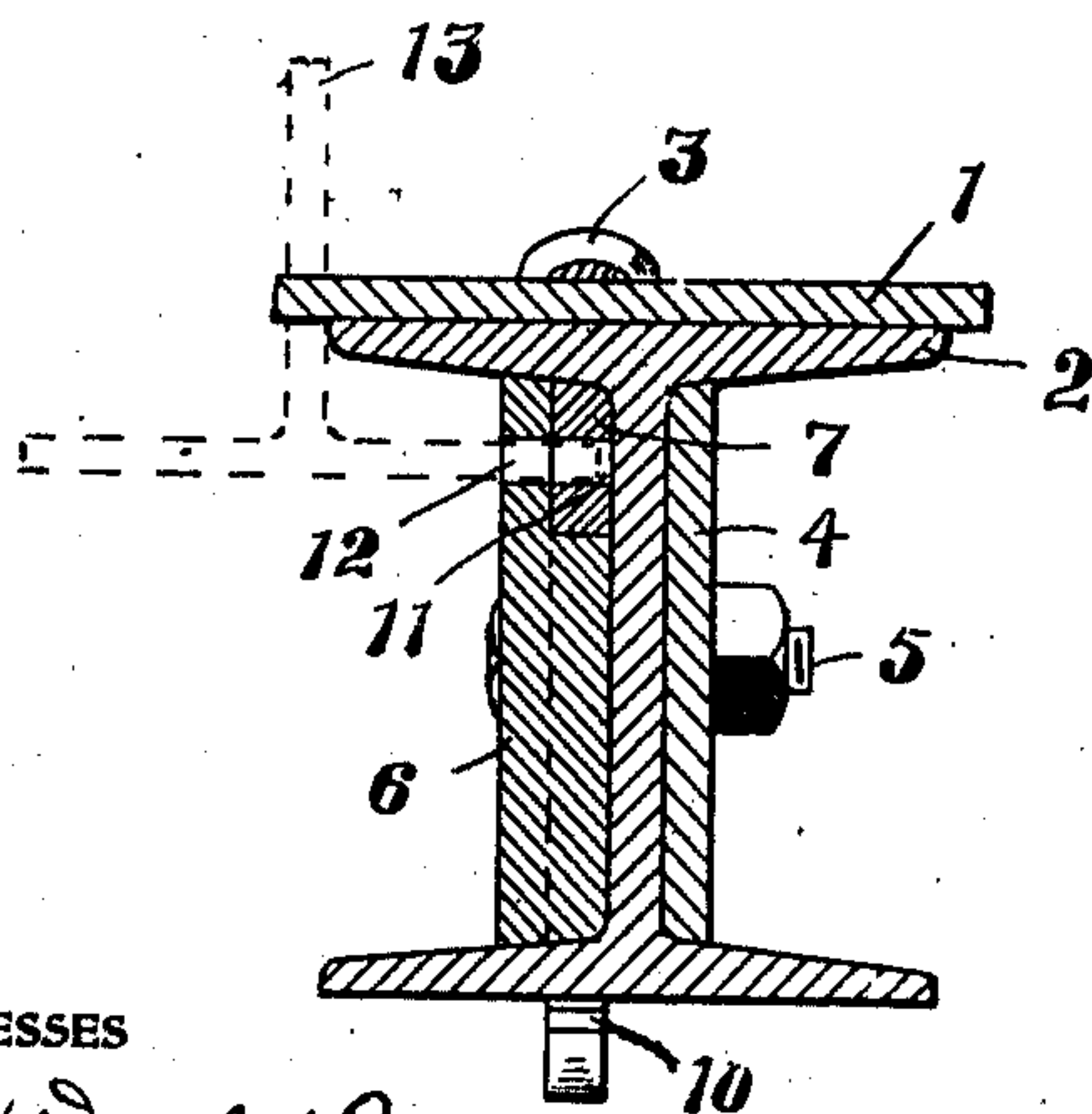


Fig. 3.

WITNESSES

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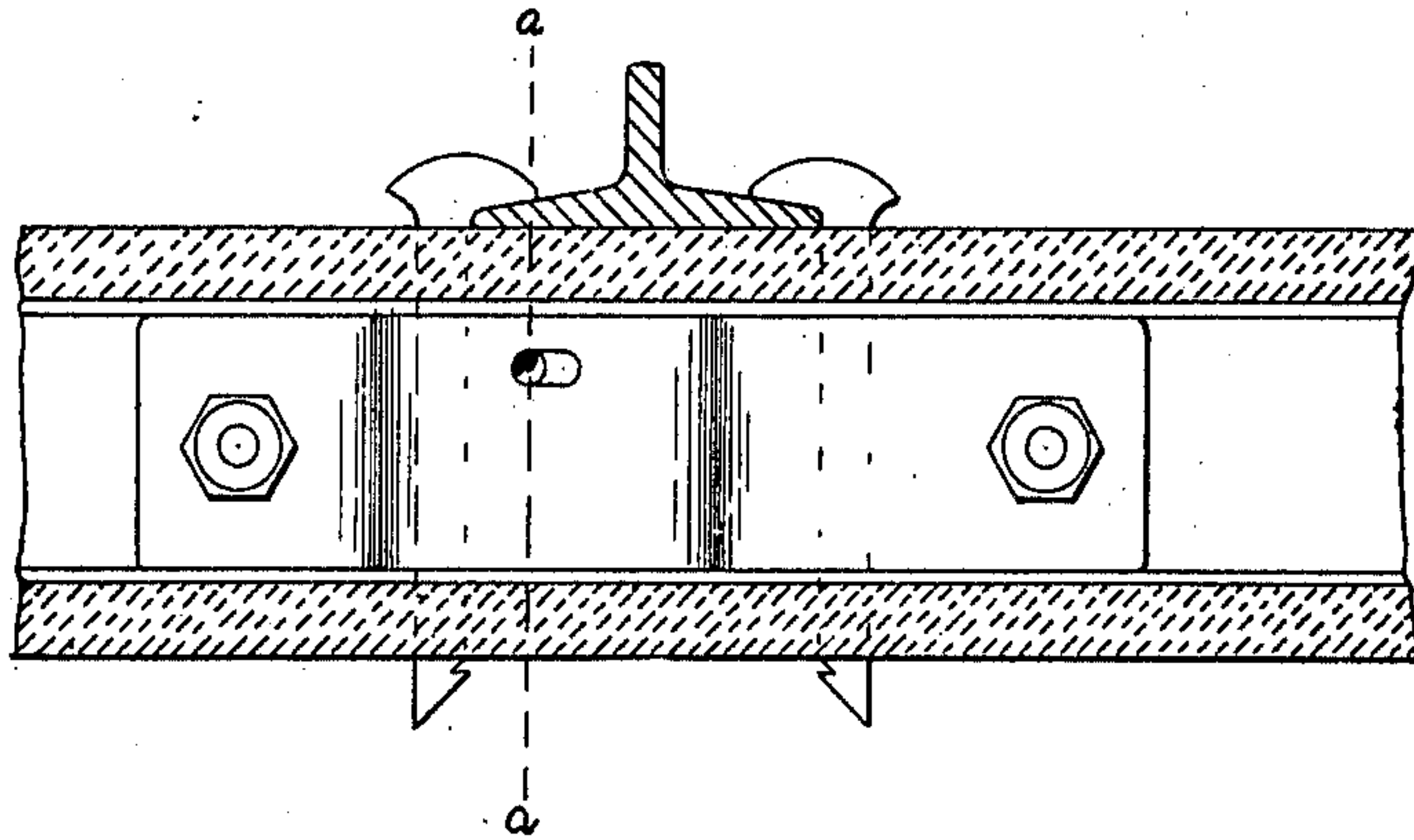


Fig. 4.

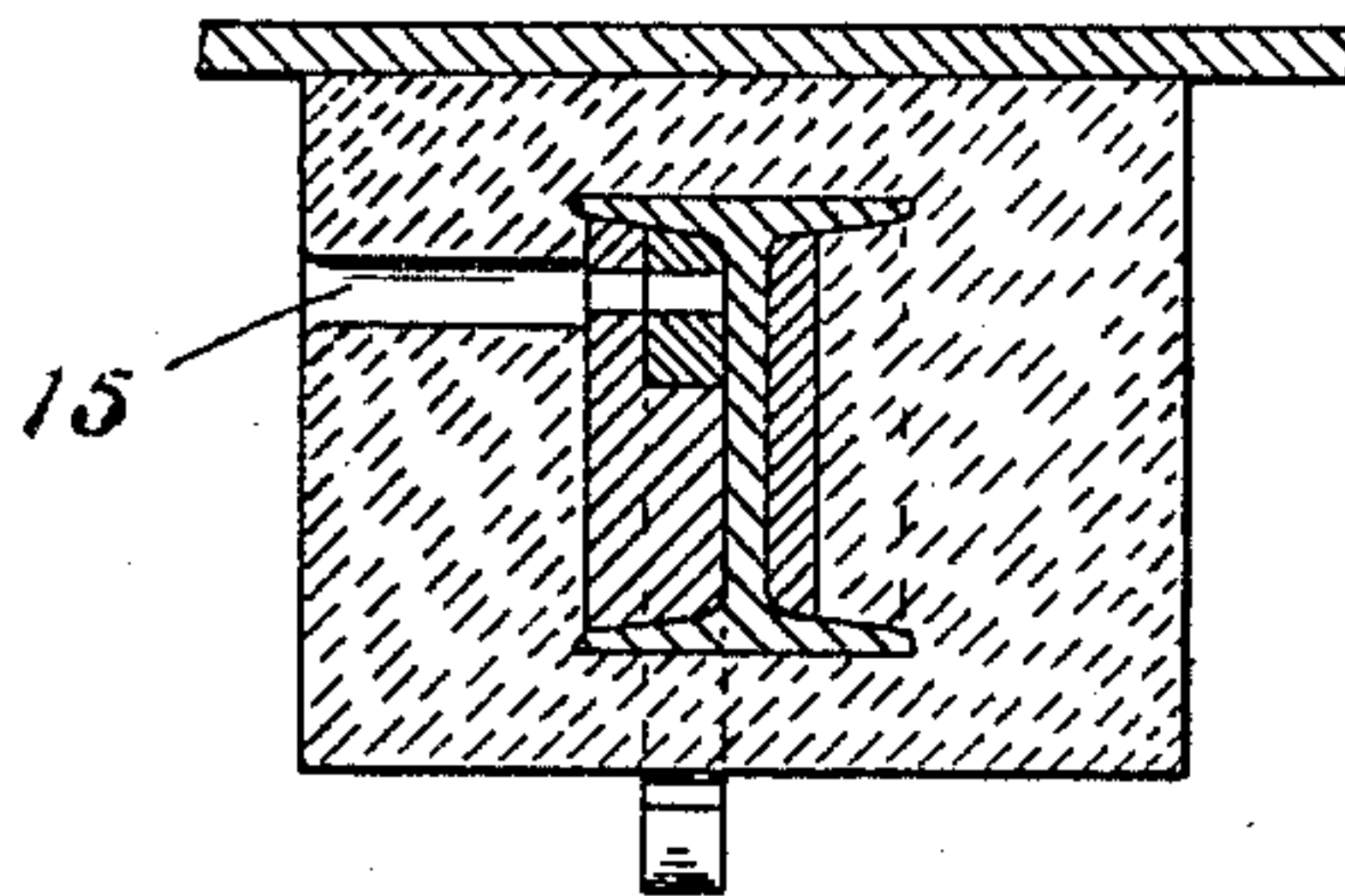


Fig. 5.

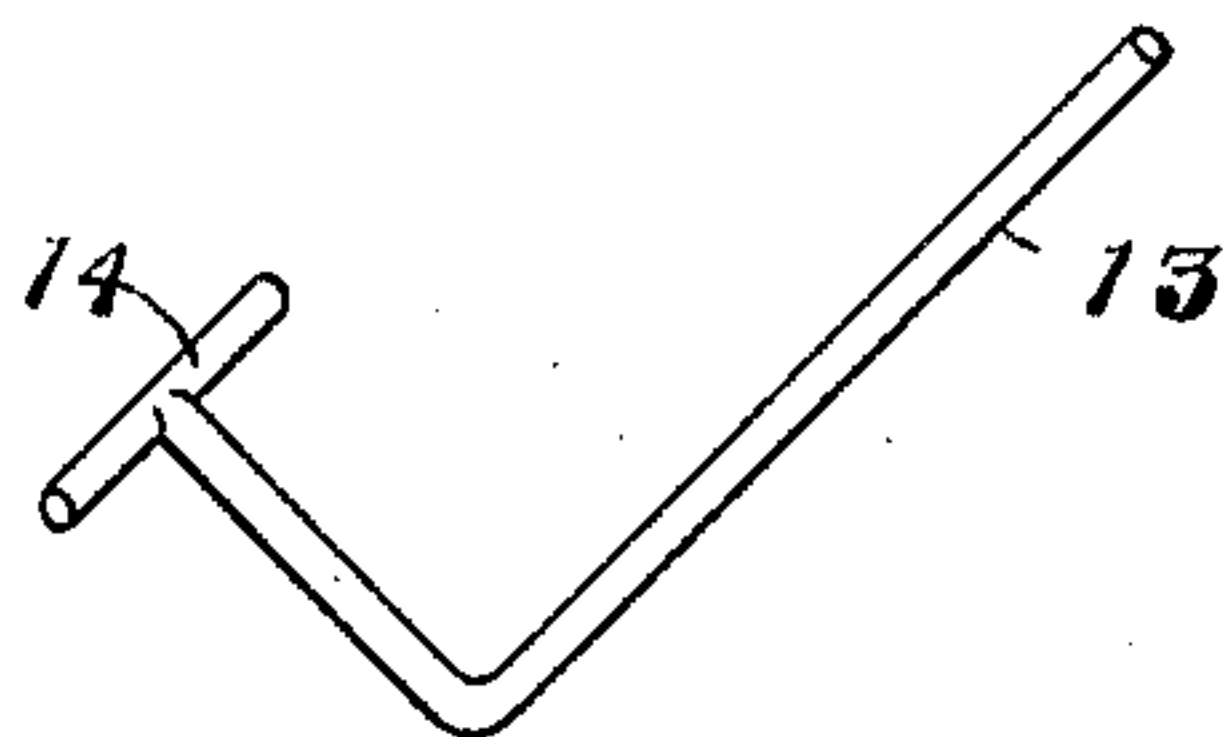


Fig. 6.

WITNESSES

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# UNITED STATES PATENT OFFICE.

FRANK H. BLASSINGHAM, OF SUPERIOR, WISCONSIN.

## RAILWAY-TIE.

988,855.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed April 22, 1910. Serial No. 557,098.

*To all whom it may concern:*

Be it known that I, FRANK H. BLASSINGHAM, a citizen of the United States, residing at Superior, in the county of Douglas and State of Wisconsin, have invented certain new and useful Improvements in Railway-Ties, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in railway ties, and pertains more particularly to metallic and reinforced concrete ties.

The object of my invention is to provide a tie of this character in which the rail can be readily fastened to the tie, without any liability of the fastening means working loose and at the same time the fastening means having a wide range of adjustment.

Another object of my invention is to provide a more simple, cheap and effective fastening means which can be readily released for removing the rail.

In the accompanying drawings—Figure 1 is a side elevation of my improved fastener as applied to an I-shaped metallic tie, and showing the rail secured thereon. Fig. 2 is a longitudinal horizontal sectional view taken on the line  $x-x$ , Fig. 1. Fig. 3 is a transverse vertical sectional view taken on the line  $O-O$ , Fig. 1. Fig. 4 is a longitudinal vertical sectional view of a reinforced cement tie embodying my invention. Fig. 5 is a vertical transverse sectional view taken on the line  $A-A$ , Fig. 4, and Fig. 6 is a perspective view of the releasing bar or lever.

Referring now to the drawings, 1 represents a rail mounted upon an I-beam tie 2, and said rail securely held thereon by spikes 3—3, and my invention pertains to the means of securing said spikes to the I-beam or tie. The spikes 3—3 are identical in construction and are each held in position by an independent fastener with the object of staggering the spikes diagonally the tie as in common practice, thus the fasteners are on each side of the web of the tie.

Secured on each side of the web of the I-beam is a metal strap designed to completely fill the vertical space between the upper and lower flanges of the tie and securely bolted thereto by means of bolts 5—5. The said straps are provided with off-set portions 6, which are arranged diagonally opposite on the web of the I-beam and in which is housed the spike fastening which

will be later described. The plates or straps 4, as shown, are so arranged that the bolts 5—5 secure both plates to the web of the beam. The said off-set portions are provided with vertical openings through which the spikes pass and said openings intersecting the outer ends of the horizontal dog carrying hollow portion. Within the upper ends said off-set portions 6, of the straps or plates 4, are horizontal hollow portions in which are housed the dogs 7. In each case the dogs are arranged in the outer end of the hollow portion and U-shaped springs 8 are arranged within the inner ends of the hollow portion and arranged directly opposite each other. These springs 8 bear against the dogs 7 and normally hold the same in their outward position. The outer faces of the dogs are serrated forming the teeth 9, which are designed to register with the serrated edge 10 on the inner faces of the spikes 3, and thus engaged will prevent the spikes 3 from being moved upwardly, the spikes 3—3 extending entirely through the tie 2 and housed by the straps 4.

The dogs 7 are each provided with a hole 11, which registers with an elongated hole 12 in the offset of the strap 4, this hole being for the purpose of inserting a suitable bar or lever 13, whereby the dogs 7 may be forced against the spring 8, which will disengage the spike 3 and admit of its being freely withdrawn. The spike is made long and serrated its entire length to provide for any desired vertical adjustment or shimming up of the rail.

In Figs. 4 and 5, I have shown my improved fastener applied to a reinforced concrete tie and while I have shown the reinforcement as being an I-beam, yet it is evident that the fastener would work equally as well as if some other form of reinforcement were used or the fastener itself might be embedded within the concrete. In such a structure the concrete is provided with openings for the spikes and registering with the fastening means and the tie is also provided with a horizontal opening 15 for releasing the dogs.

For releasing the dogs 7, as above described, I prefer to make use of the bar or lever 13, as shown in Fig. 6, it being applied as indicated in dotted lines Fig. 1. In this manner one end of the cross-arm 14 is inserted within the hole 11, in the dogs 7 and the purchase to release the dog and force it



against the spring 8 is accomplished by forcing the lever 13 against the edge of the rail base, as clearly shown. While I have shown this as a convenient means of releasing the dog, it is evident that there are various ways of accomplishing the same, such as with a simple tapered wedge or pin. The lower end of the spike 3 is made wedge-shaped so as to readily force itself down past the face of the dog and thus automatically engage the same.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A tie comprising a beam, spikes securing the base of the rail on the tie and automatic sliding members within the tie for securing the spike therein.

2. A tie comprising a beam, sliding dogs carried by the beam, spikes engaging the base of the rail and passing through the beam and secured therein by the dogs, and the beam and dogs having registering openings whereby the said dogs may be released.

3. A tie comprising a beam, spring pressed sliding dogs carried by the same, a rail resting upon the beam, and spikes securing the rail on the beam and passing through the same and secured thereto by the dogs.

4. A tie comprising a beam, a housing secured on the side of the beam, automatically sliding dogs within said housing, a rail resting upon the beam and spikes securing the rail on the beam and passing through the housing and secured therein by the sliding dogs.

5. A tie comprising a beam, a housing secured on each side thereof, sliding dogs within said housings, springs for holding the dogs within one end of the housings, a rail resting upon the beam and spikes securing the rail to the beam and passing through the housing and secured therein by the dogs.

6. A tie comprising an I-beam, a housing secured to the web of said beam on each side, a rail resting upon the beam, and spikes engaging the base of the rail and passing through the beam and the housings and dogs securing the spikes within the housings.

7. A tie comprising a beam, a housing secured to the beam on each side by the same bolts, sliding dogs within said housings, U-

shaped springs holding the dogs within each of the housings, each housing having an elongated opening opposite the dog and said dog having an opening opposite the opening in the housing, a rail supported upon the beam, and spikes engaging the base of the rail passing through the beam and through the housings and secured within the housings by the said dogs.

8. A tie comprising a beam, housings secured on opposite sides of the beam, spring pressed dogs within the said housings and having serrated ends, a rail supported by the beam and spikes engaging the base of the rail and having serrated faces passing through the housings and interlocking with the serrations of the dogs.

9. A concrete tie comprising a central metal core, housings carried by the opposite sides of the cores, movable dogs within said housings, a rail supported by the tie, spikes securing the rail on the tie and passing downwardly through the tie and through the housings and interlocking with the dogs and means whereby said dogs may be moved from engagement with the spikes.

10. A tie comprising an I-beam, housings secured to the web of said beam on opposite sides, spring pressed sliding dogs in said housings, means whereby said dogs may be moved from the outside of the housings, the outer ends of the dogs having serrations, a rail resting upon the upper edge of the I-beam, spikes engaging the base of the rail and passing downwardly through the I-beam and through the housings and having serrations interlocking with the serrations of the dogs.

11. A tie comprising an I-beam, housings secured to the web on opposite sides, horizontally movable dogs in said housings, V-shaped springs bearing against said dogs, a rail resting upon the upper side of the beam, and spikes engaging the base of the rail and passing through the housings and having serrations with which the dog engages.

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

FRANK H. BLASSINGHAM.

Witnesses:

S. GEO. STEVENS,  
L. H. WHIPPLE.