

A. C. CANDLAND.
FASTENING FOR RAILWAY RAILS.
APPLICATION FILED DEC. 13, 1910.

995,660.

Patented June 20, 1911

2 SHEETS—SHEET 1.

Fig. 1.

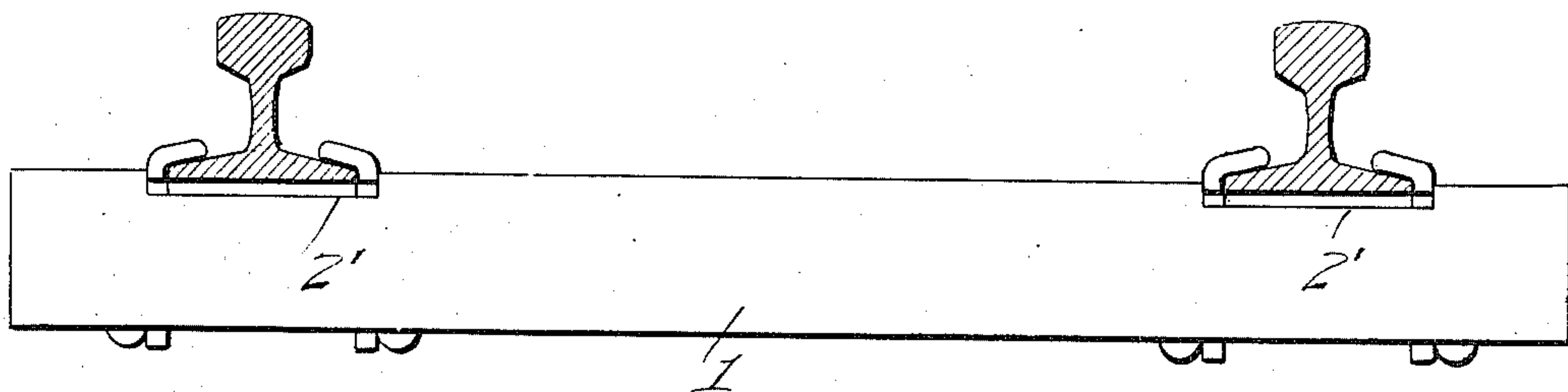


Fig. 2.

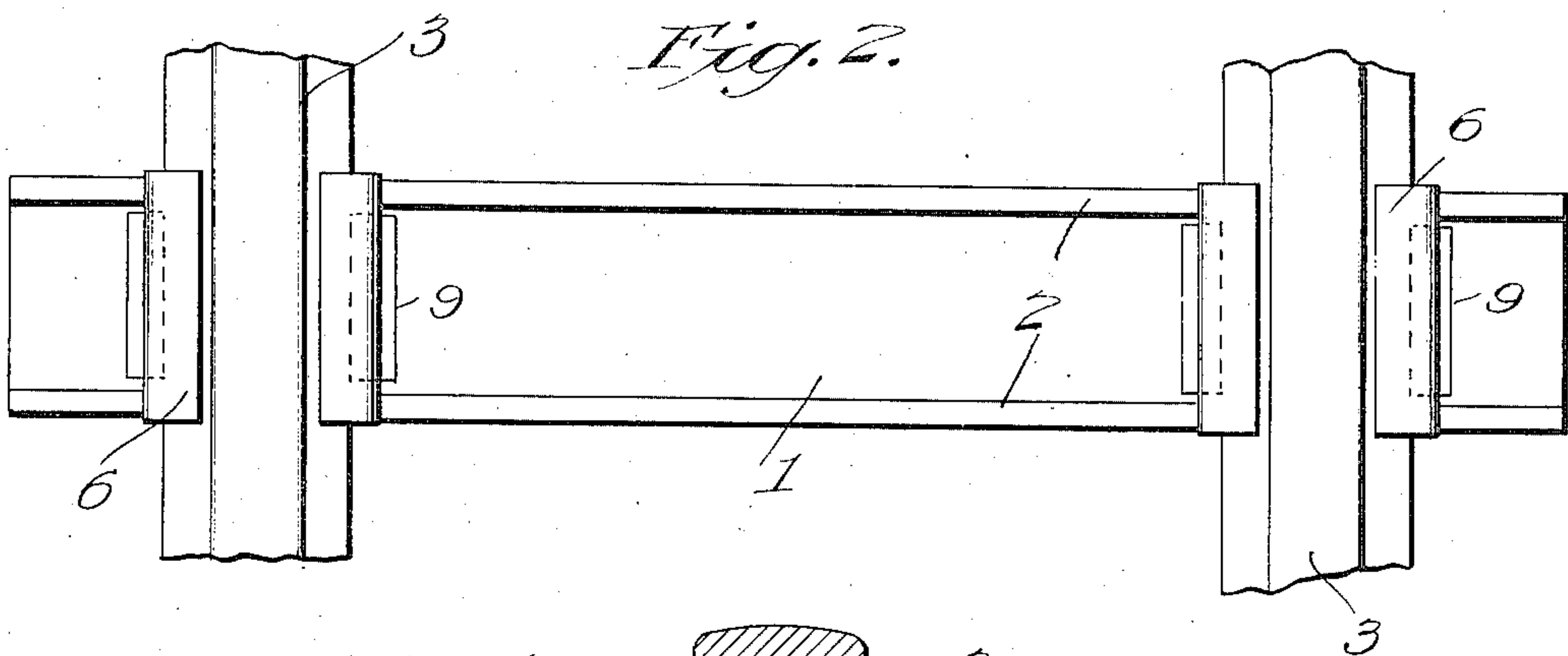


Fig. 3.

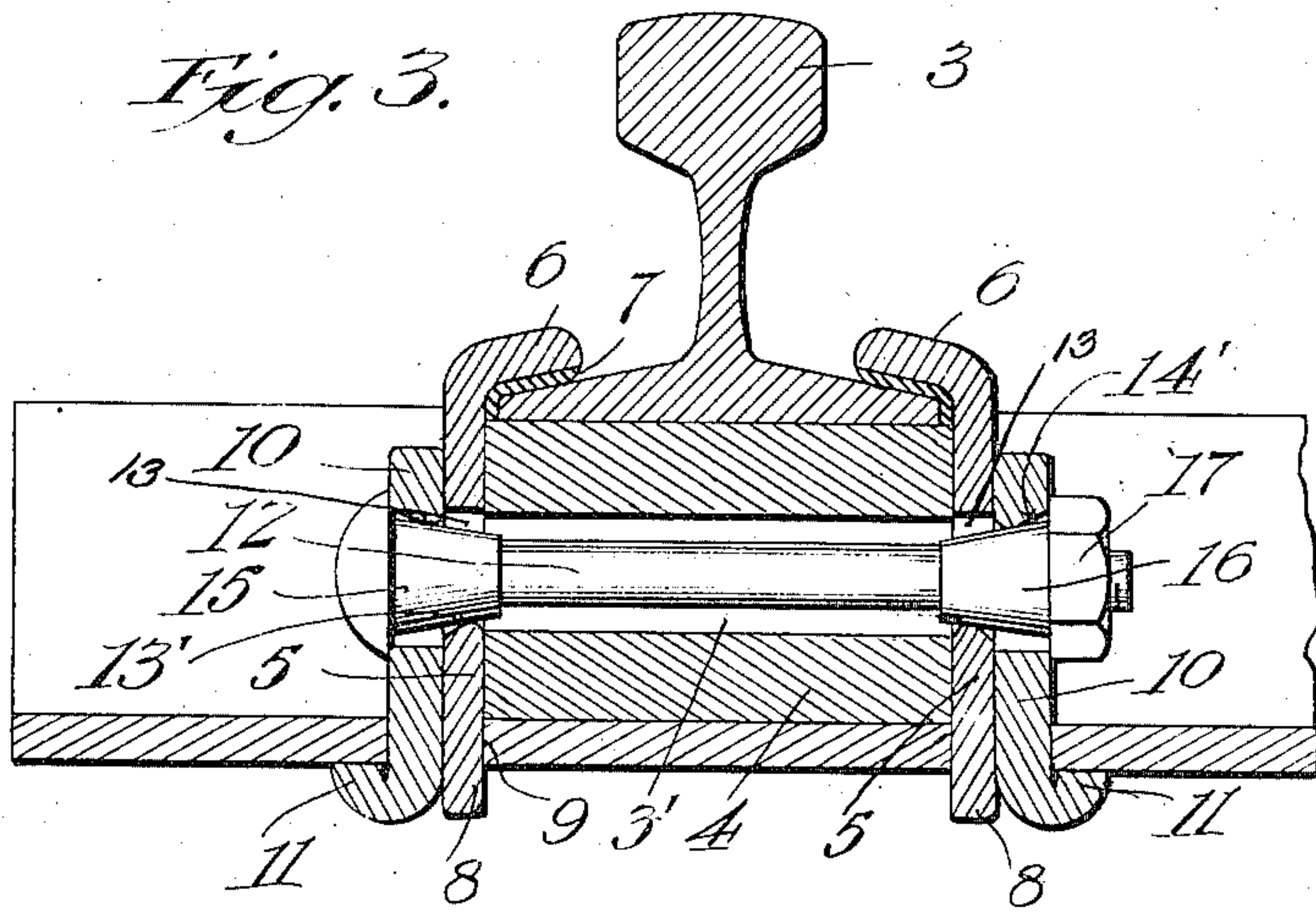
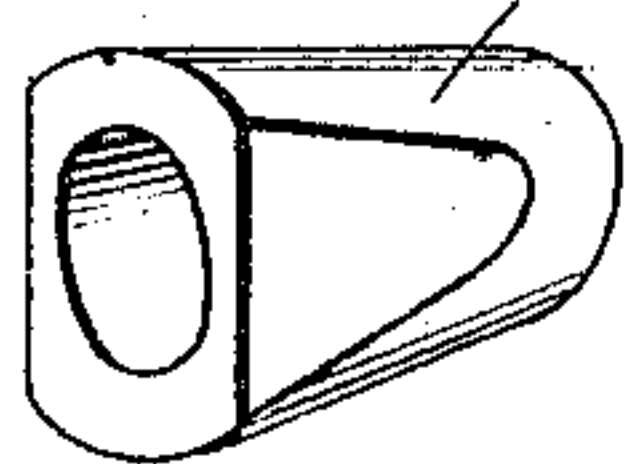


Fig. 6.



WITNESSES

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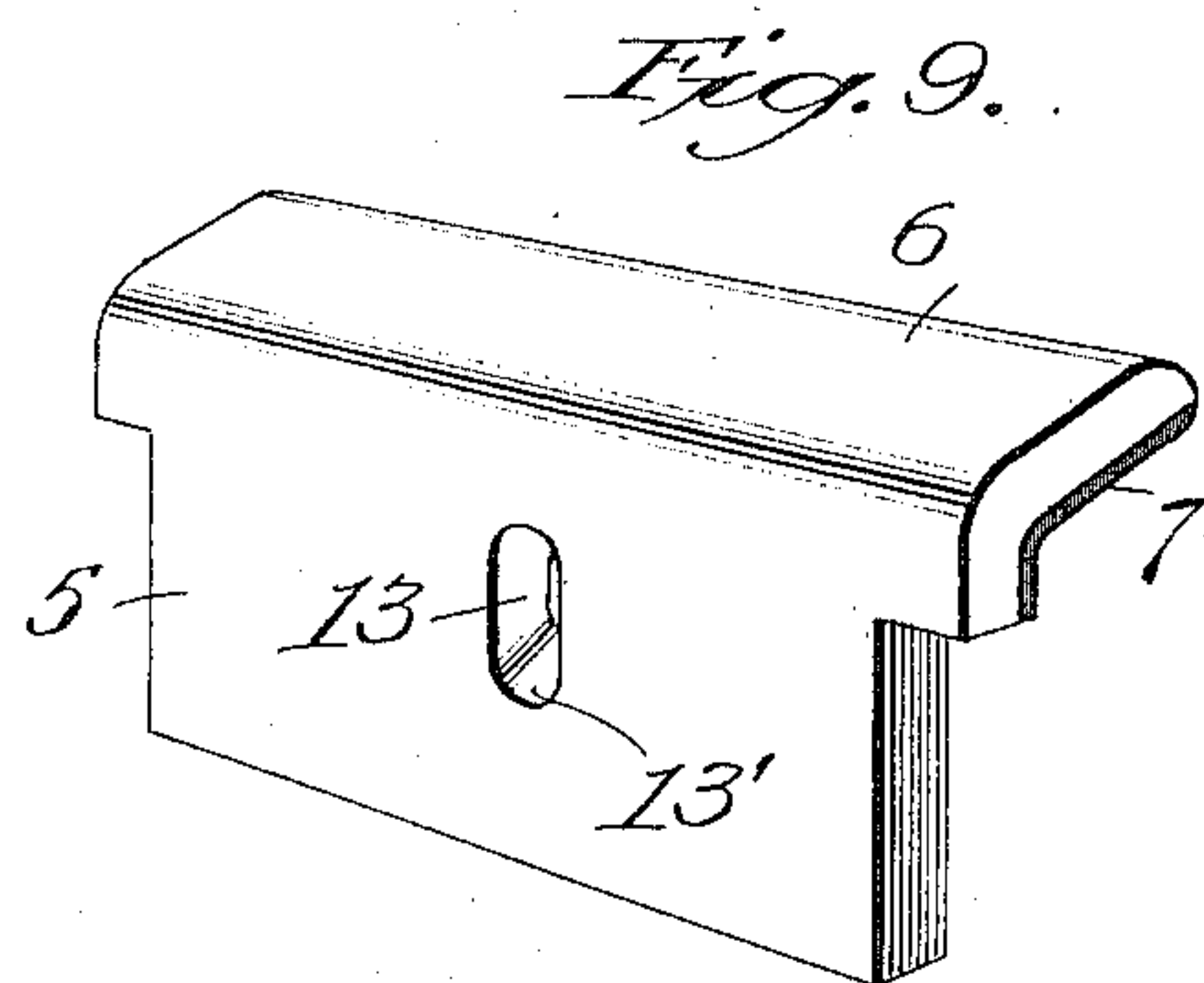
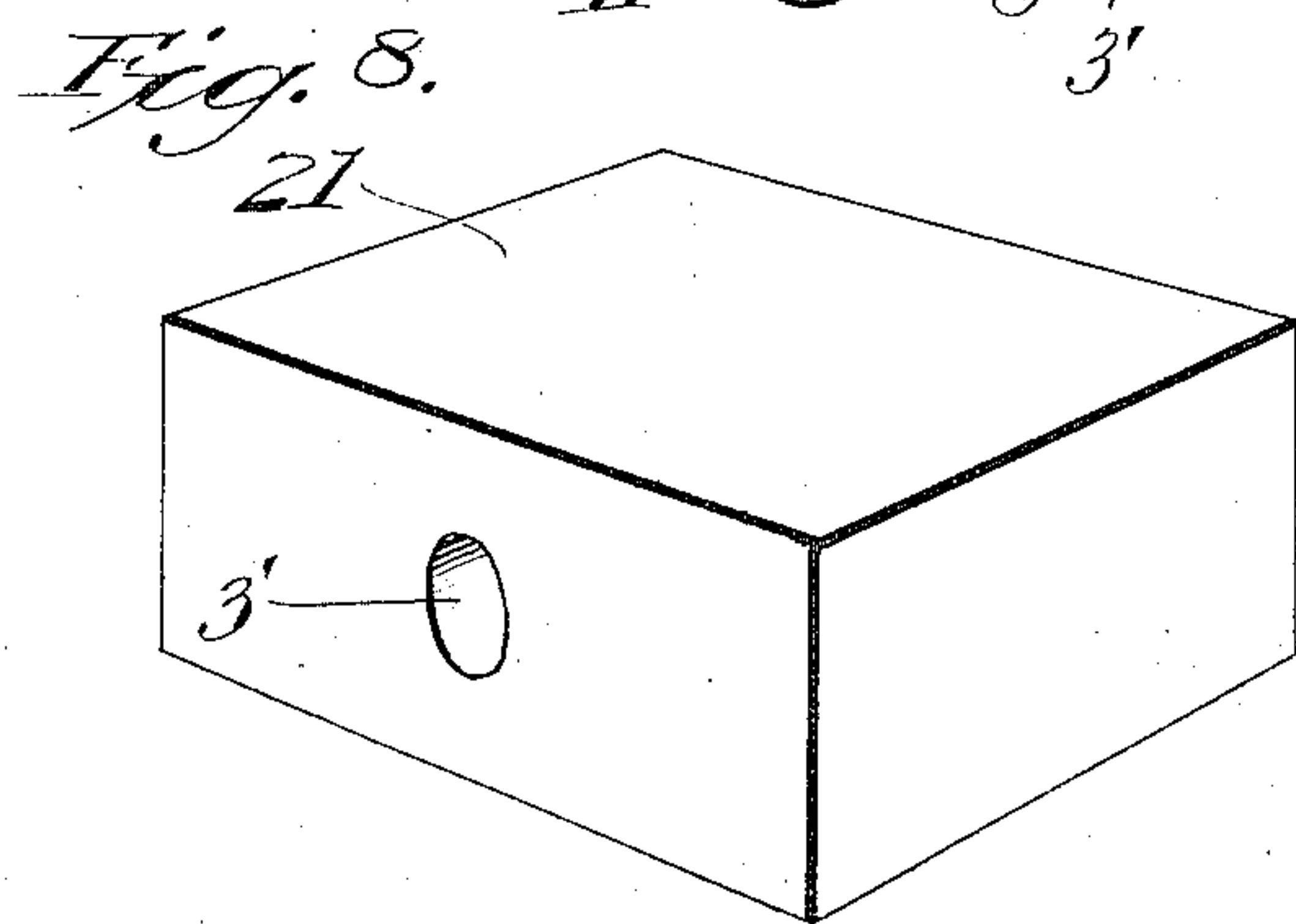
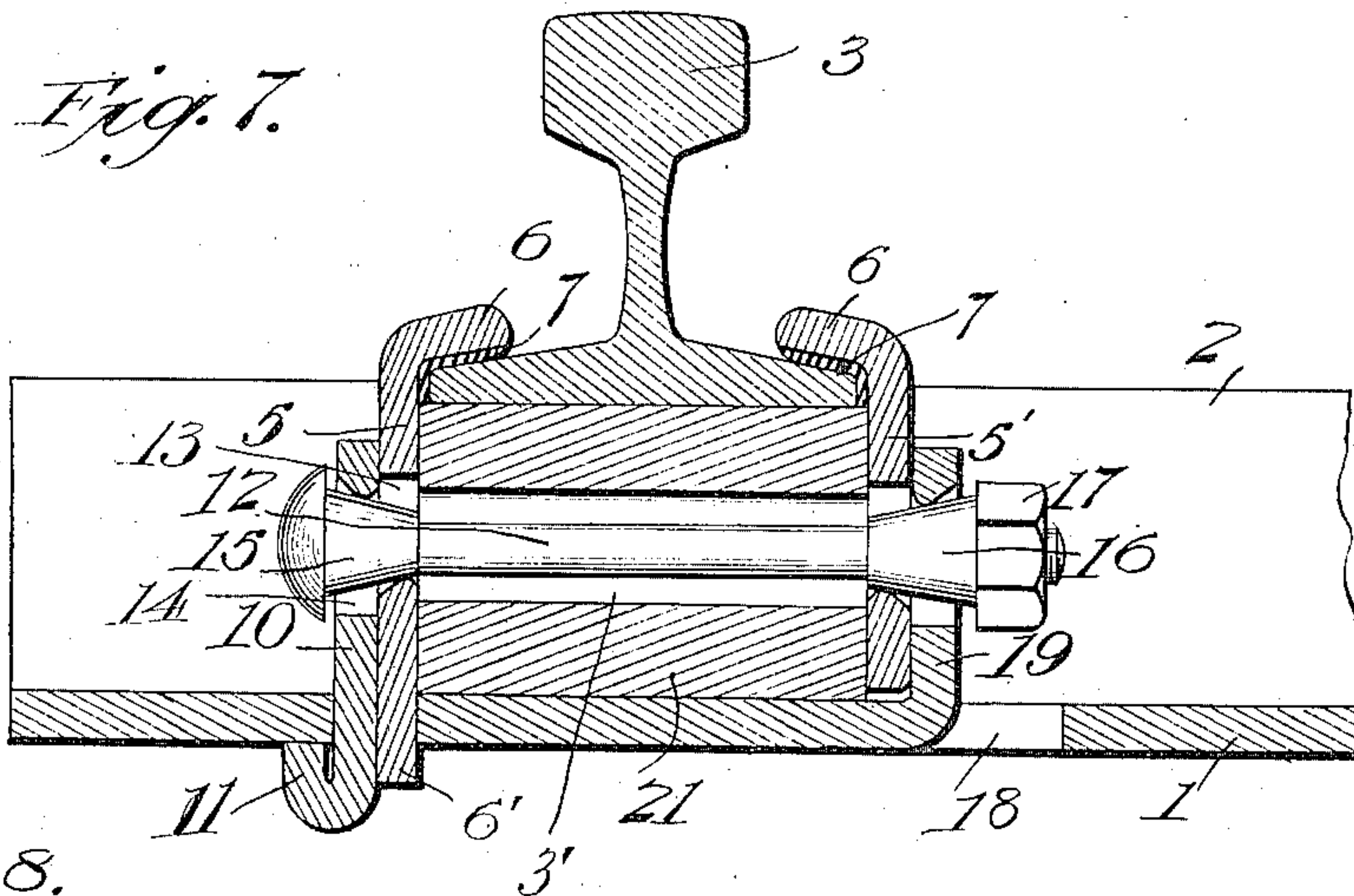
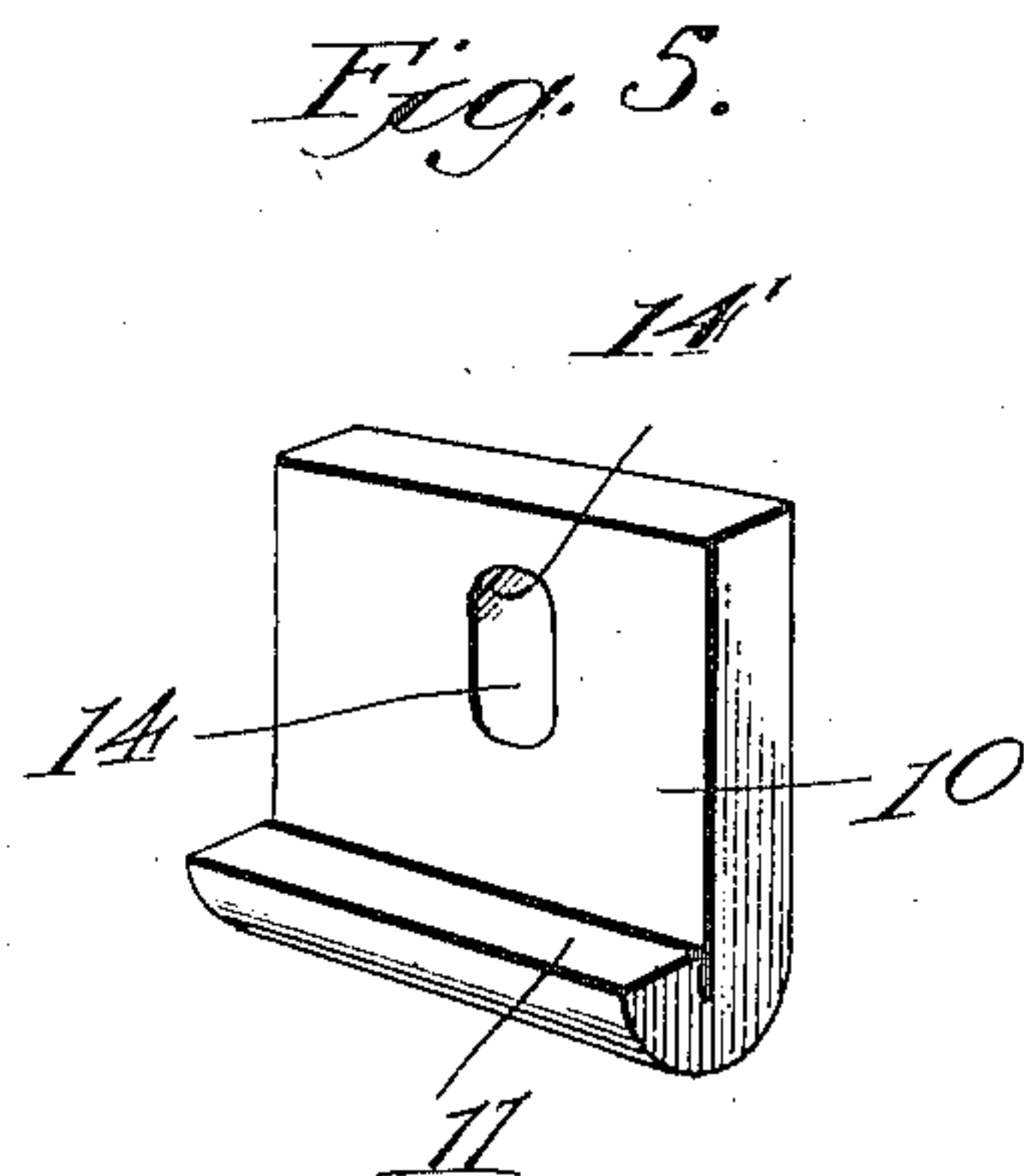
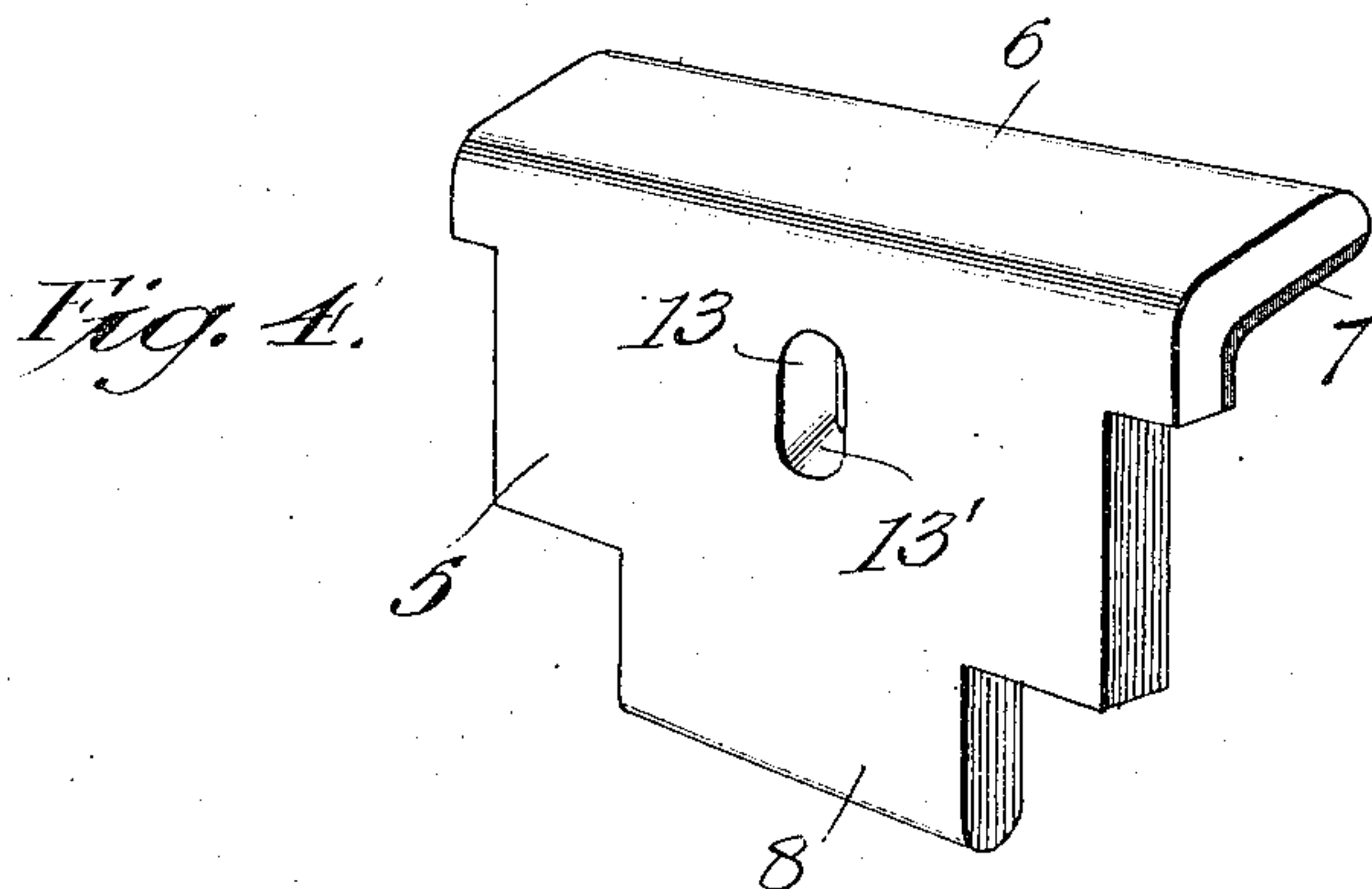
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2 SHEETS—SHEET 2.



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ARTHUR C. CANDLAND, OF PROVO, UTAH.

FASTENING FOR RAILWAY-RAILS.

995,660.

Specification of Letters Patent. Patented June 20, 1911.

Application filed December 13, 1910. Serial No. 597,087.

To all whom it may concern:

Be it known that I, ARTHUR C. CANDLAND, a citizen of the United States, residing at Provo, in the county of Utah and State of Utah, have invented new and useful Improvements in Fastenings for Railway-Rails, of which the following is a specification.

The present invention relates to fastenings for railway rails upon metallic ties and has for its purpose to provide a device of that character which will effectively hold the rail to the tie regardless of the vibration incident to the passing of the car wheels; and wherein the fastening means effects to lock the rail to the tie in direct proportion as the fastening means is secured.

A further purpose of the invention consists in constructing the parts of such structure and design that the invention will suggest itself as one to be favorably indorsed by those concerned with the present and future building of railways; and this especially in view of the fact that with the phenomenal depletion of our forest reserves which makes it imperative that a suitable substitute be devised for the present used wooden ties.

The invention is of further merit to the extent that a minimum number of parts are employed which readily facilitates their assembling or disassembling.

The invention is shown by way of example in the accompanying illustrations wherein:

Figure 1 is a side elevation of a tie employing the improved fastening means, and with the rails shown in section. Fig. 2 is a top plan view thereof. Fig. 3 is a detailed view in transverse section of the rail and the fastening means therefor. Fig. 4 is a detailed perspective view of one of the clamps. Fig. 5 is a similar view of its associated locking member. Fig. 6 is a detailed view of the cone washer. Fig. 7 is a view corresponding to Fig. 3 of a modified structure. Fig. 8 is a detailed view of the bed block employed in Fig. 7, and Fig. 9 is a detailed perspective view of the clamping plate shown in Fig. 7.

Referring to the figures in further detail and with like reference characters indicating corresponding parts in the different views shown—1 designates the metallic tie which is of trough-like structure having parallel sides 2. The sides 2 are cut away as at 2' to receive the flanges of the rail 3; said rail 3 being supported on the tie

through the medium of block 4, which may be of wood or any other material having the necessary cushioning qualities.

For holding the rails upon the supporting blocks 4 said ties are each provided with two pairs of clamping devices; said clamps comprise each a clamping plate 5 having an inwardly disposed portion 6 which overlies the rail flange in that manner shown in Fig. 3. On the underside of each part 6 there is a binding strip 7 which enables the clamps to have secure engagement with the rail flange. At its lower end the plate 5 has a reduced portion 8 which projects through an elongated aperture 9 formed in the base of the tie. The part 5 of the clamping plate is of such length as to fit snugly within the sides 2 of the tie and prevent endwise movement of said plate.

Each of the clamping plates has associated therewith a locking plate 10 through the medium of which the clamping plate is itself secured to the tie. Said member 10 is fitted within the aperture 9 of the tie immediately adjacent the outer side of the clamping plate and said pieces 10 are each formed with a flange 11 which sets against the under side of the tie (see Fig. 3).

In their assembled relation the clamping plates and their associated locking members 10 are held through the medium of a bolt 12 which bolt likewise passes through an aperture 3' in the block 4. The clamping plate has an aperture 13 formed with a beveled surface 13', and the member 10 has a like aperture 14 with its beveled surface 14' disposed to the upper part thereof or opposite to that of the aperture 13. In their juxtaposed positions the elements 13' and 14' provide a variable conical seat for the cone 15 of the bolt 12. On its screw threaded end said bolt has a loosely fitting cone washer 16 which is secured in position through the medium of the bolt nut 17.

From the foregoing it will be evident that with tightening the bolt 12 through the medium of the nut 17, the cones 15 and 16 will be forced inwardly with such pressure against their conical seats that the clamping plates 5 will be forced downwardly, and their associated pieces 10 forced upwardly; and since upward movement of the members 10 is prevented by the flanges 11 the clamping plates are in consequence securely held against the rail flange.

In the modified arrangement shown in

Fig. 7 the clamping plates 5 and 5' are similar to those shown in Fig. 3 excepting that in this instance only the latter has a part 6' corresponding to the piece 8 which passes through the base of the tie. For holding the member 5' in position there is a locking plate 10 which has an upturned end 11 providing a shoulder which seats against the underside of the tie. For securing the clamp 5 the tie itself is cut away as at 18 and the part 19 struck therefrom is turned upwardly at right angles to the tie base and lies immediately against the outer face of the clamping plate 5. 21 indicates the supporting block for the rail. In other respects the details of structure and manner of assembling the parts shown in Fig. 7 are similar to that shown and described of the foregoing figure and need not therefore be further set forth.

What I claim is:

1. The combination with a rail, a supporting bed block and tie, of a fastening device therefor comprising a clamping plate engaging with the rail, a locking member adjacent said plate engaging with the tie, said plate and locking member having registering apertures and provided with beveled faces forming a substantially conical seat, and a locking bolt passing through said bed block, clamping plate and locking member and tending to bind said locking member against the tie, and the clamping plate against the rail.
2. The combination with a rail having a flange, a supporting bed block, and a tie, of a fastening device therefor comprising a clamping plate having a part engaging with

the rail flange, a locking member engaging with the tie and disposed adjacent said clamping plate, said locking member and clamping plate having registering apertures and provided with diametrically opposed beveled surfaces providing a substantially conical seat; and a bolt passing through said locking member, bed block and the clamping plate, said bolt having a cone head adapted to seat within said conical seat and tend to bind said clamping plate against the rail flange as the bolt is secured in position.

3. The combination with a rail having a flange, a supporting bed block, and a tie, of a fastening device therefor comprising clamping plates having each a part engaging with the rail flange and a part projecting through an aperture in the tie, locking members projecting through said aperture and engaging with the tie and disposed against said clamping plates, said clamping plates and locking members having registering apertures and provided with diametrically opposed beveled surfaces forming substantially conical seats, and a bolt passing through the clamping plates, the locking members, and the bed block, said bolt having a cone head and cone washer adapted to seat within said conical seats and tend to bind the clamping plates against the rail flange as the bolt is secured in position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ARTHUR C. CANDLAND.

Witnesses:

W. L. BONOS,
ALVA NELSON.