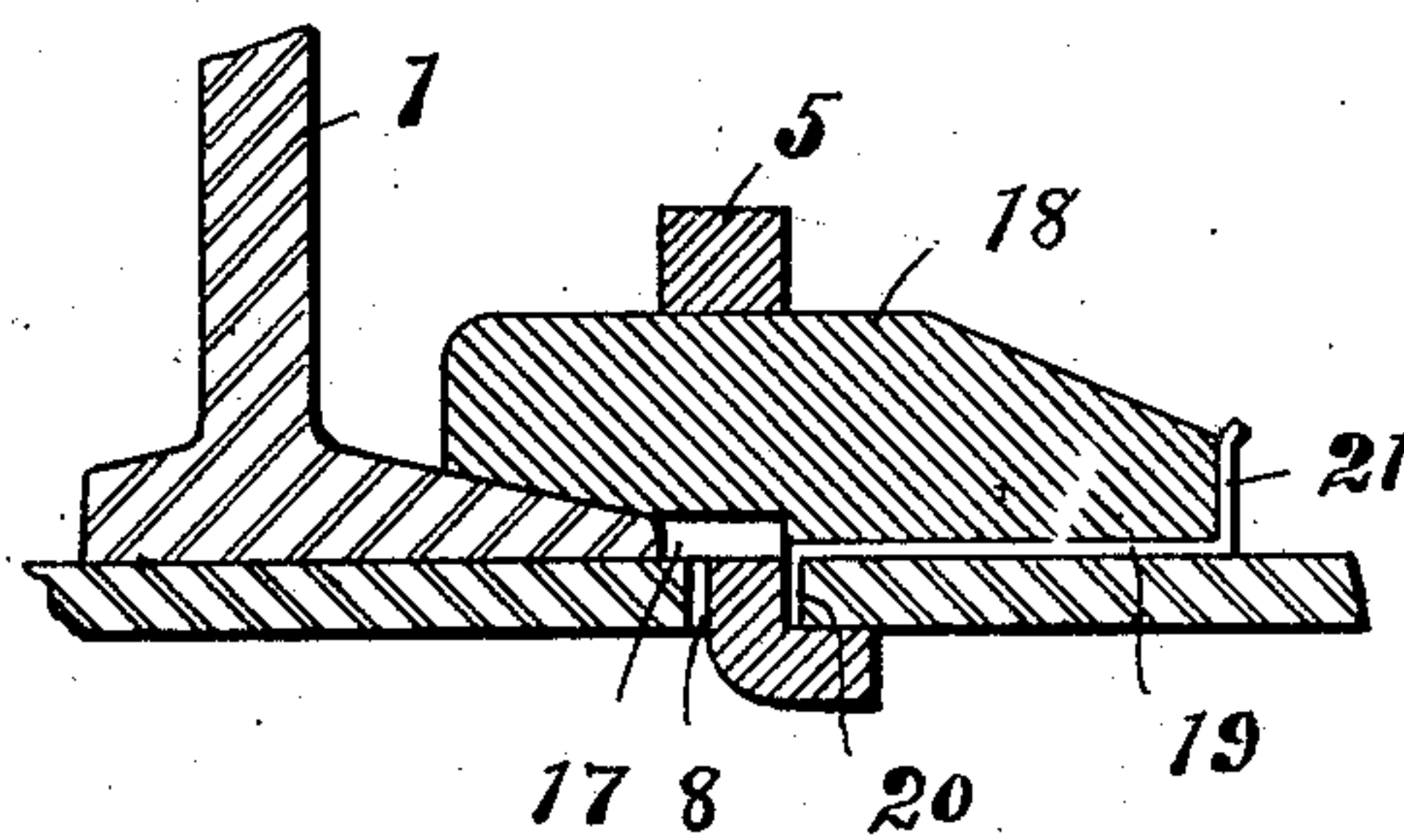
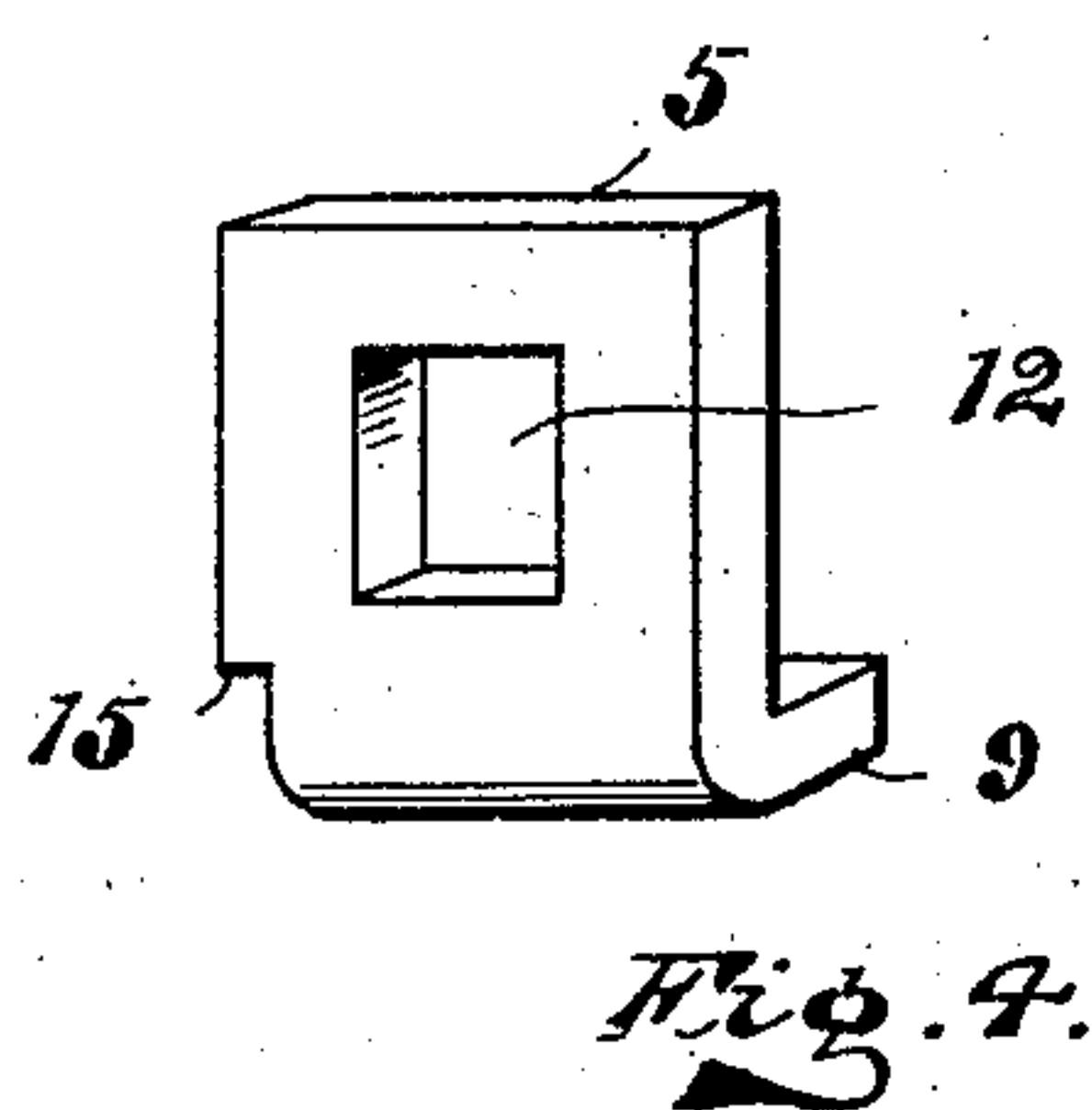
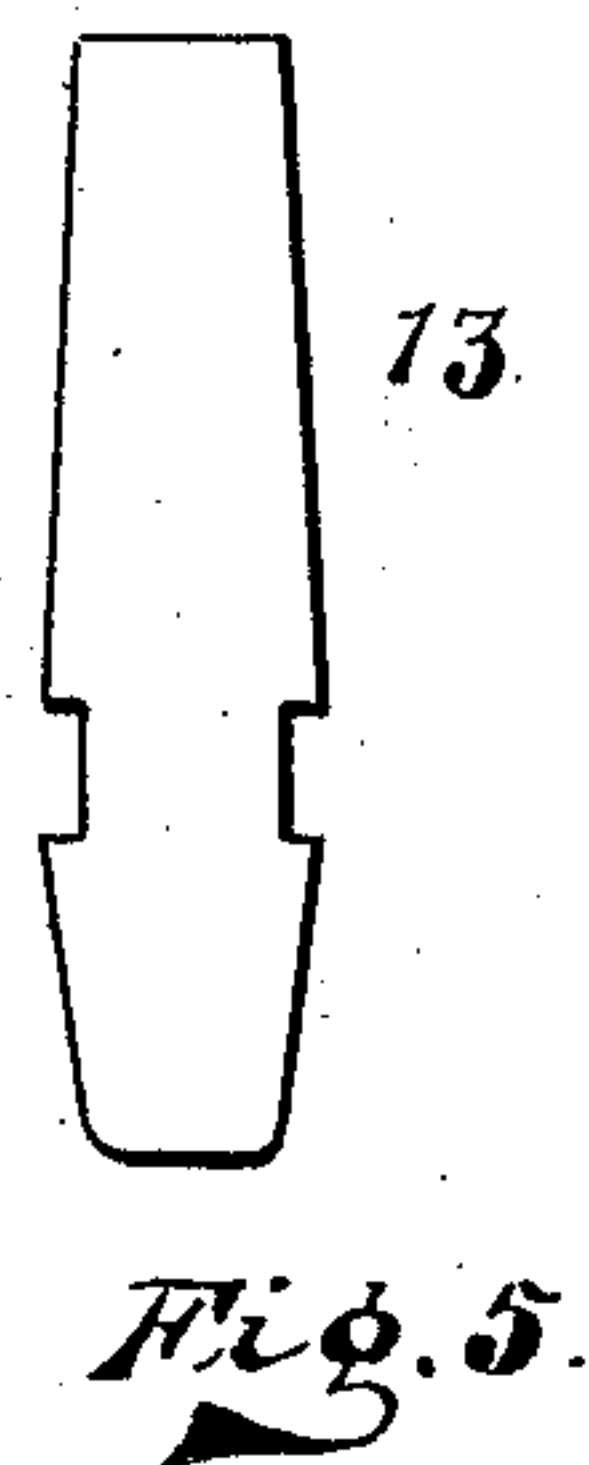
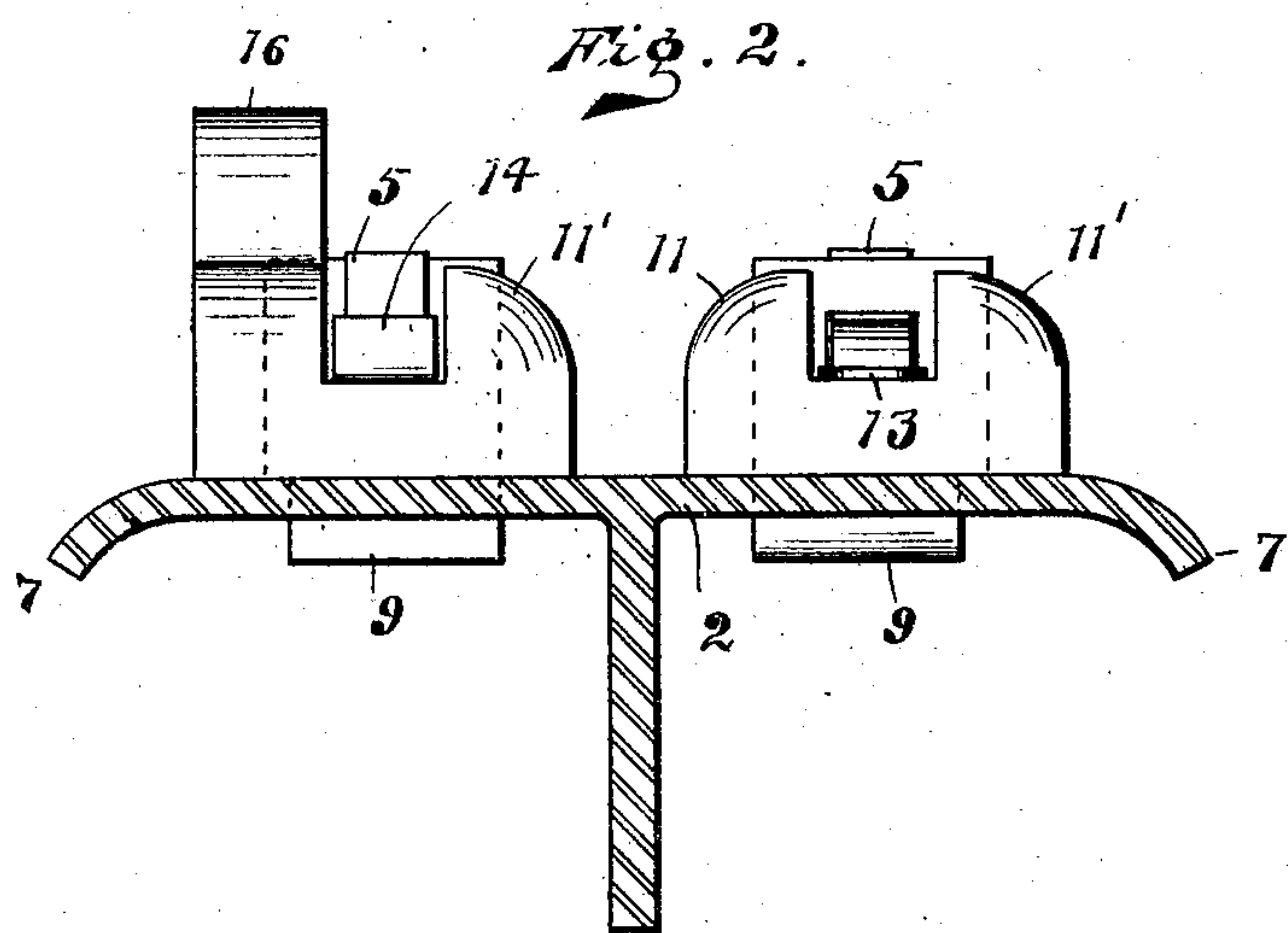


928,791.



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# UNITED STATES PATENT OFFICE.

HANS O. OLSON, OF TWO HARBORS, MINNESOTA.

## RAILWAY-TIE AND RAIL-FASTENER.

No. 928,791.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed November 23, 1908. Serial No. 464,030.

*To all whom it may concern:*

Be it known that I, HANS O. OLSON, a citizen of the United States, residing at Two Harbors, in the county of Lake and State

of Minnesota, have invented certain new and useful Improvements in Railway-Ties and Rail-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in railroad ties and rail fasteners, and pertains more particularly to metallic ties.

The object of my invention is to provide a rail fastener which may be readily applied to most any form of metallic tie, and in which the rail can be secured and adjustably secured to the tie.

Another object of my invention is to provide a fastening means of this character, which can be readily applied to the tie after the tie has been placed in position.

A still further object of my invention is to provide a more simple, cheap and effective rail and fastening means.

In the accompanying drawings, Figure 1, is a longitudinal, sectional view of the tie showing the fastening means applied thereto, and holding the rail thereon. Fig. 2, is a transverse, sectional view of the tie showing the fastening means applied thereto. Fig. 3, is a longitudinal, sectional view of the tie showing a modified form of fastening means. Fig. 4, is a perspective view of one of the hooked members. Fig. 5, is a plan view of one of the key keepers.

Referring now to the drawings, 1 represents a rail-rod rail secured upon the tie 2 by two of my improved fasteners 3, and 4 arranged on opposite sides of the rail, it being understood that each end of the ties is provided with two fasteners 3 and 4.

The fastener 3 is what is termed a plain clip while the fastener 4 is termed a bracket clip, and both clips are fastened in the same manner which I will now proceed to describe.

The metal tie 2 is preferably T-shaped in cross-section and formed with drooping or downwardly-curved edges indicated at 7 to prevent the tie from slipping from the road-bed, and my improved form of fastening is such that there is no necessity for having the lower side of the tie exposed, as the fastening is inserted and locked above the upper face of the tie. The crown surface of

the tie 2 at each end is provided with two transverse elongated openings 8 and 8' spaced a distance apart greater than the width of the base 1' of the rail 1, and said openings are adapted to receive the hooked ends of the staples.

The clips 3 and 4 are formed with the flat base portion 10 having at each side the upwardly-extending side portions 11 and 11', which are provided with rounded outer ends, and said side portions are adapted to protect the key or wedges 6. The wedges or keys 6 are formed with upwardly-projecting enlarged portions 6' at their outer ends by means of which they may be readily driven outwardly when desired. The clips are provided with transverse slots 3' through which the hooked members 5 pass, and said slots also extend through the side portions 11 and 11'. The hooked members 5 have the lower hooked ends 9 which extend through the openings 8 and 8' in the tie, and whereby they are held against upward movement through the tie, yet allowing the hooked members to be readily inserted through the tie from the upper side thereof. The hooked members are provided with the shoulders 15 which prevent them from dropping through the tie beyond the required distance in order that the clips may readily be inserted over the same. The hooked members are also provided with openings 12 through which the keys 6 are driven, and whereby the clips may be drawn down tightly upon the base of the rail. The inner ends of the clips are shaped as indicated at 22, to conform to the rail base.

In order to prevent the keys from working outwardly by the jarring of the rail, I provide a keeper 13 which is passed through the opening 12 in the hooked member before the key is inserted, and thus when the key is inserted the outer end 14 is bent up against the end of the key and prevents it from working outwardly. The openings 8 and 8' in the tie are slightly larger than the hooked members 5, and whereby the gage of the rails may be varied, such as is necessary on curves. The clip 4, or bracket clip, is provided with the upwardly enlarged portion 16 which extends under the ball of the rail, forming an additional support for the same, as is required upon curves in the railroad.

The upwardly-projecting portion 16 of the clip 4 and the projections 11 and 11'



may be omitted entirely if desired, thus leaving a plain flat clip as formed by the base 10 only.

In the modification shown in Fig. 3, the hooked member 5 is made considerably thicker forming the shoulder 17, the object of which is to contact the edge of the rail base and hold it somewhat away from the opening 8 to provide for the variation in track gage, before mentioned, and by reversing the hooked member the rail is allowed to move outwardly. The clip 18 of the modification is made thicker, dispensing with the key 6, and the wedging action is between the clip and the rail base. The keeper 19 is turned downwardly into the opening 8 in the tie just back of the hooked member, as indicated at 20, and has its outer end 21 bent upwardly against the outer end of the clip 18, and thus locks it against outward movement.

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

1. In a rail fastening, the combination with a metallic tie, of rail clamps having openings therethrough, hook-shaped members extending through the clamps and tie, and wedges passing through the hook-shaped members and extending transverse the rail.

2. In a rail fastening, the combination with a metallic tie, of rail clamps, members adjacent the clamps, and wedges extending through the members and engaging the clamps and extending transverse the rail.

3. In a rail fastening, the combination with a metallic tie, of rail clamps having longitudinal grooves in their upper faces, hooked members, passing through the clamps and the tie and wedges within the grooves of the clamps and extending through the hooked members.

4. In a rail fastening the combination with a metallic tie, of rail clamps having longitudinal grooves in their upper faces, hooked members passing through the clamp and the tie, and wedges within the grooves of the clamps and extending through the hooked members and extending in a direction transverse the tie.

5. In a rail fastening, the combination with a metallic tie, of rail clamps having longitudinal grooves in their upper faces, hooked members passing through the clamps and the tie, means for limiting the downward movement of the hooked members, and wedges within the grooves of the clamps and extending through the hooked members.

6. In a rail fastening, the combination with a metallic tie, of a rail clamp resting upon the tie and extending over the rail base, said clamp having a longitudinal groove in its upper face, and a vertical opening communicating therewith, a hooked member passing through the clamp and the tie, means for limiting the downward movement of said clamp, and a wedge within said groove of the clamp and extending through the hooked member and extending in a direction transverse the rail.

7. In a rail fastening, the combination with a metallic tie having openings therein, adjacent its ends, rail clamps above said openings and having openings registering with the openings in the tie, hooked members passing through the openings in the clamps and tie, means for limiting the downward movement of the hooked members, upwardly-extending side portions carried by the clamps, wedges between the side portions and passing through the hooked members, and flexible sheets of metal between the clamps and the wedges and having extended ends turned up adjacent the ends of the wedges, substantially as described.

8. In a rail fastening, the combination with a metallic tie, having openings adjacent its ends, rail clamps, members passing through the clamps and having hooked lower ends entering said openings, means for limiting the downward movement of the members, wedges passing through the members and clamping the clamps on the tie, plates between the clamps and the wedges and having their outer ends turnable against the wedges.

9. In a rail fastening, the combination with a metallic tie having openings, adjacent its ends, rail clamps, members passing through the clamps and having hooked lower ends entering said openings, and locked therein, means for limiting the downward movement of the members, upwardly-extending side portions carried by the clamps, wedges between the side portions and passing through the members, means for locking the wedges in position, and extensions carried by the clamps for engaging the ball of the rail.

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

HANS O. OLSON.

Witnesses:

NORMAN E. LA MOND,  
S. GEO. STEVENS.