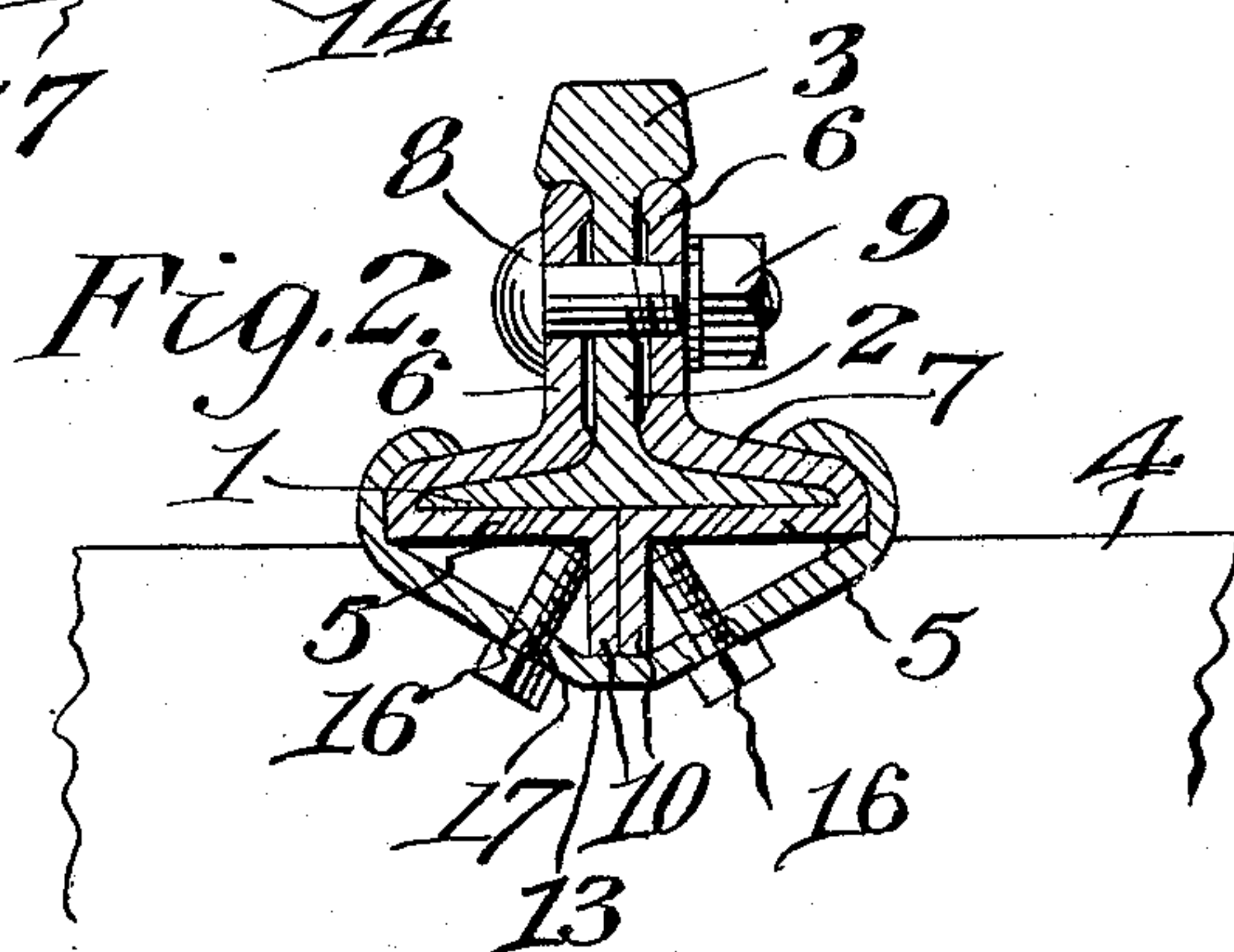
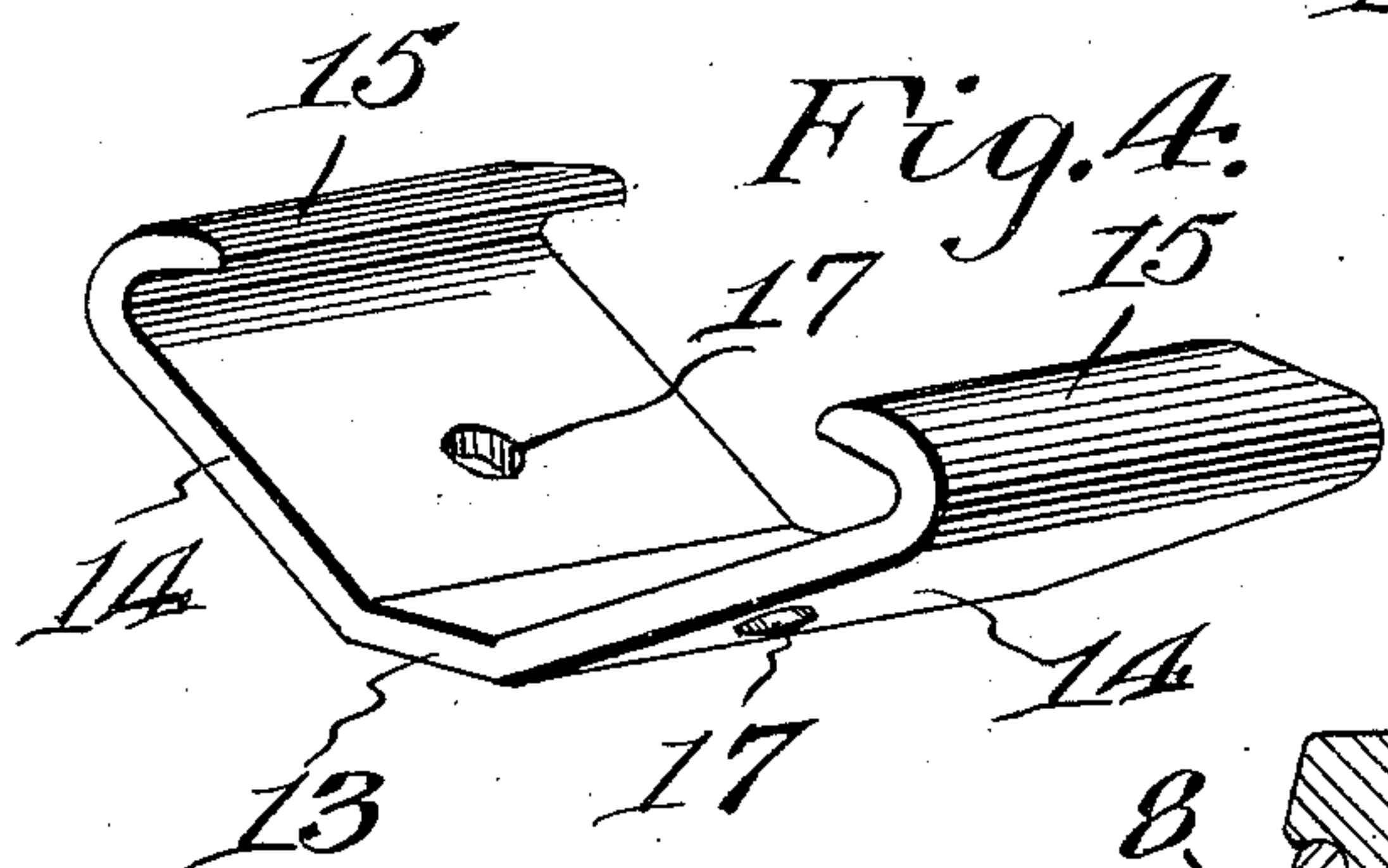
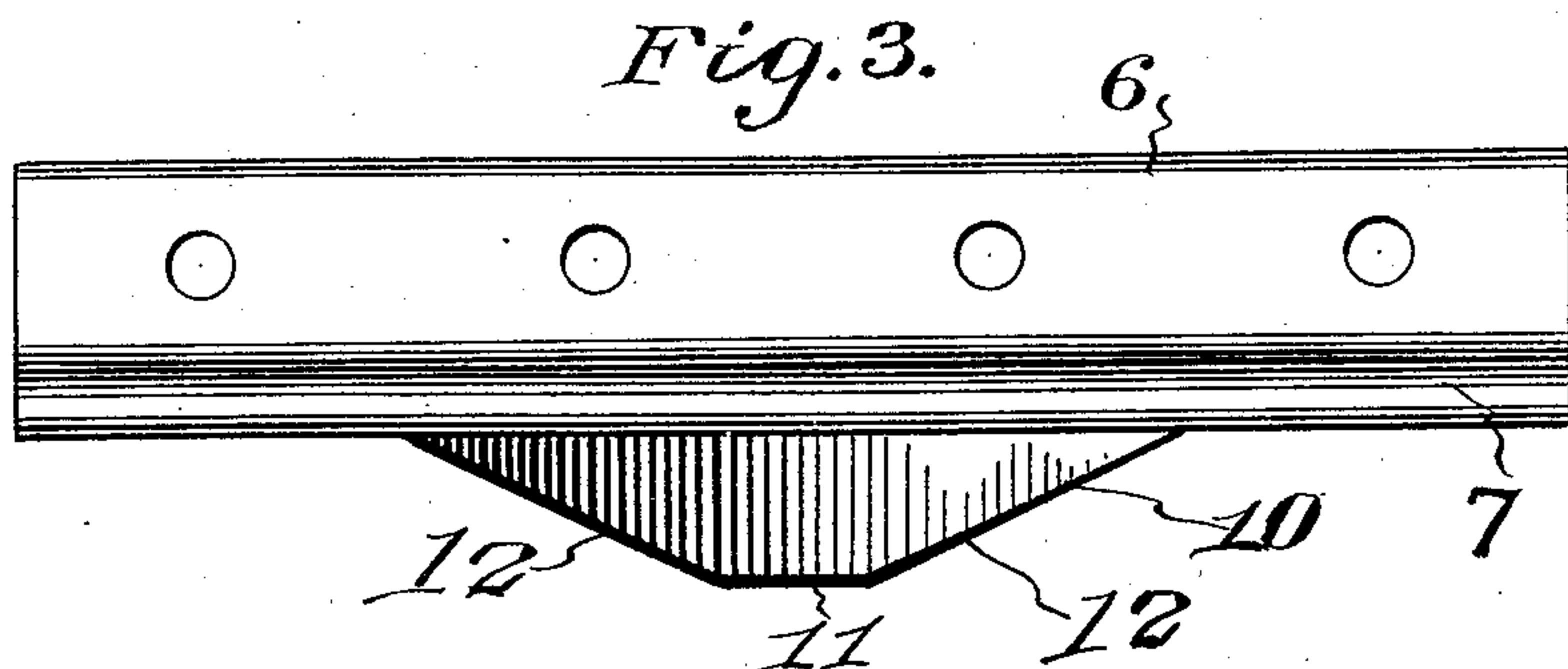
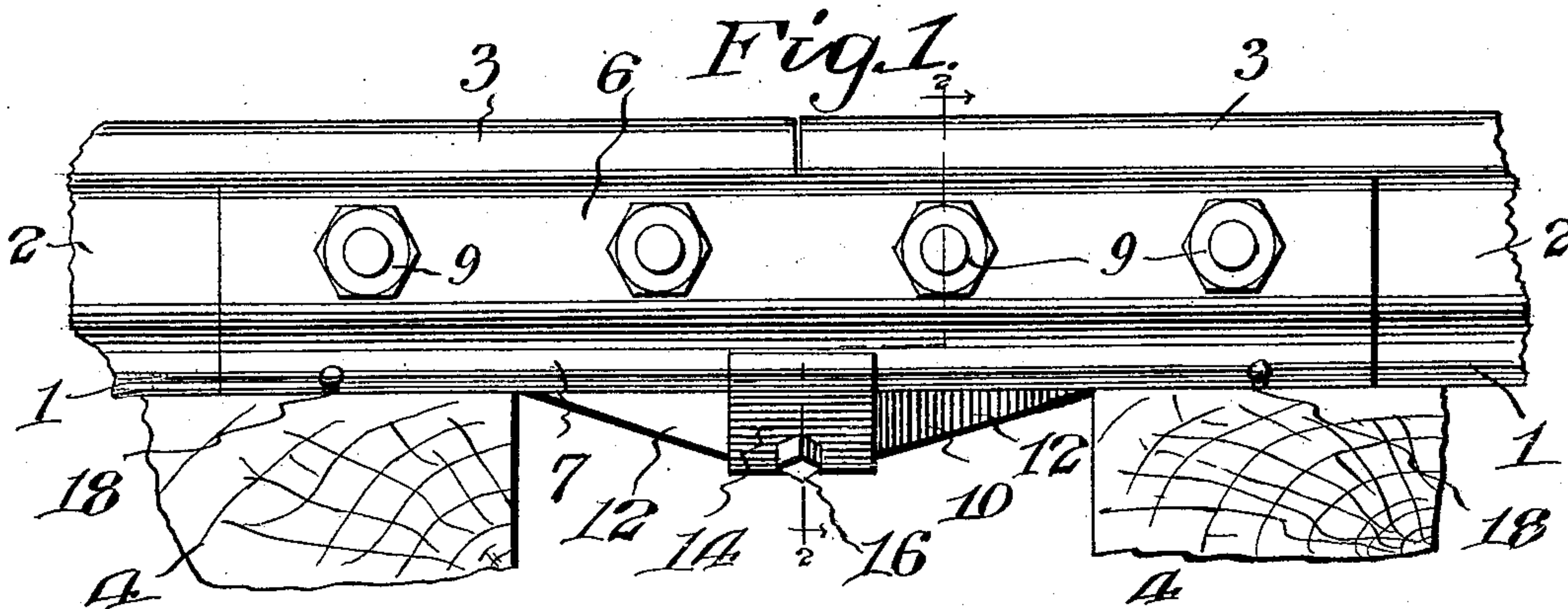


M. E. BETHURUM.  
RAIL JOINT.  
APPLICATION FILED FEB. 6, 1909.

934,271.

Patented Sept. 14, 1909.



Inventor

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Witnesses:

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# UNITED STATES PATENT OFFICE.

MADISON E. BETHURUM, OF ELSINORE, CALIFORNIA.

## RAIL-JOINT.

934,271.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed February 6, 1909. Serial No. 476,425.

*To all whom it may concern:*

Be it known that I, MADISON E. BETHURUM, a citizen of the United States, residing at Elsinore, in the county of Riverside and State of California, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to improvements in railway rail joints, and its primary object is the provision of a joint of this character which shall be strong, durable and efficient, which shall support the meeting ends of the rails against sagging, and which may be manufactured and sold at a comparatively low cost.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawing, wherein:—

Figure 1 is a view in side elevation of a railway rail joint constructed in accordance with my invention. Fig. 2 is a sectional view taken on the plane indicated by the line 2—2 of Fig. 1, looking in the direction indicated by the arrows. Fig. 3 is a detail view in side elevation of one of the joint members, and Fig. 4 is a detail perspective view of the joint brace.

Referring to the drawing by reference numerals, 1 designates the bases, 2 the webs, and 3 the heads of two rails of a railway, and 4 the ties of such way.

The rails are united by my improved joint which comprises duplicate members embracing the bases 1 and webs 2 of the rails. Each joint member comprises a base plate 5 located beneath the bases 1 of the rails, a fish plate 6 engaging the webs 2 of the rails, and an angular portion 7 engaging the upper sides of the bases of the rails and uniting the base and the fish plates. The joint members are secured in applied position by means of bolts 8 and nuts 9, the bolts passing through the webs 2 of the rails and through the fish plates 6 of the joint members. At their meeting edges the base plates 5 are formed with downwardly extending flanges 10. Each flange 10 is provided with a horizontally disposed bottom edge 11 and upwardly and laterally inclined side edges 12. A brace is applied to the joint members to prevent the meeting ends of a rail from sagging, and it comprises a head 13 which engages the bottom edges 11 of the flanges 10. The brace

also comprises diverging arms 14 which terminate in hooked ends 15, said hooked ends engaging the joint members and securing the brace in applied position. Bolts 16 threadedly engage the walls of openings 17 in the arms 14 of the brace. The bolts also engage the base plates 5 of the joint members and secure the brace against accidental movement. Each joint rests upon a pair of ties 4, and the flanges 10 are located between the ties. Bolts 18 enter the ties on opposite sides of the rail joints. As the sides of the flanges 11 are inclined upwardly and laterally, the brace may be readily and quickly applied and removed.

It should be apparent from the above description, taken in connection with the accompanying drawing, that I provide a railway rail joint which is strong, durable and efficient, which will prevent the rails from sagging at their meeting ends, and which may be manufactured and sold at a comparatively low cost.

While I have described the method of operation of the invention, together with the apparatus which I now consider to be the best embodiment thereof, I desire to have it understood that the apparatus shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims.

Having thus described the invention, what is claimed as new is:—

1. The combination with a pair of rails, of joint members secured to the rails, flanges formed on the joint members, a brace engaging the flanges and the joint members, and bolts passing through the brace and engaging the joint members.

2. The combination with a pair of rails, of joint members secured to the rails, each joint member comprising a base plate and a fish plate, and an angular plate connecting the fish and base plates, flanges formed on the base plates, a brace engaging the flanges and the joint members, and bolts passing through the brace and engaging the joint members.

3. The combination with a pair of rails, of joint members secured to the rails, each joint member including a base plate formed with a depending flange, a brace engaging the flanges of the joint members, and bolts carried by the brace for engagement with the joint members.

4. The combination with a pair of rails,

of joint members secured to the rails, each joint member including a base plate formed with a depending flange, each flange comprising a bottom edge and upwardly and  
5 laterally inclined side edges, a brace consisting of a head engaging the bottom edges of the flanges and diverging arms terminating in hooks which engage the joint members,

and bolts passing through the arms and engaging the joint members. 10

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

MADISON E. BETHURUM.

Witnesses:

IRVING ISELIN,

JOHN T. KUHN.