

J. M. SCOTT.
RAILWAY RAIL STAY.
APPLICATION FILED MAY 8, 1909.

983,939.

Patented Feb. 14, 1911.
3 SHEETS—SHEET 1.

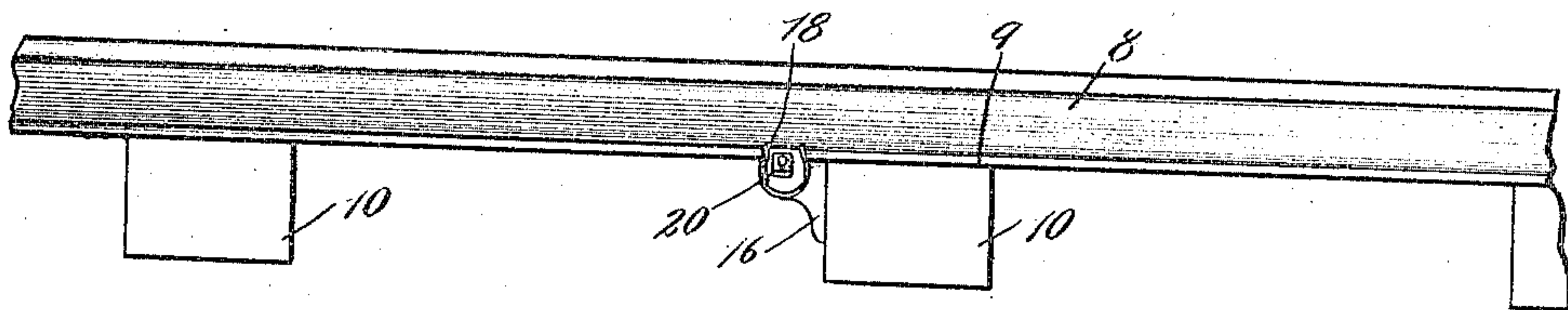


Fig. 2.

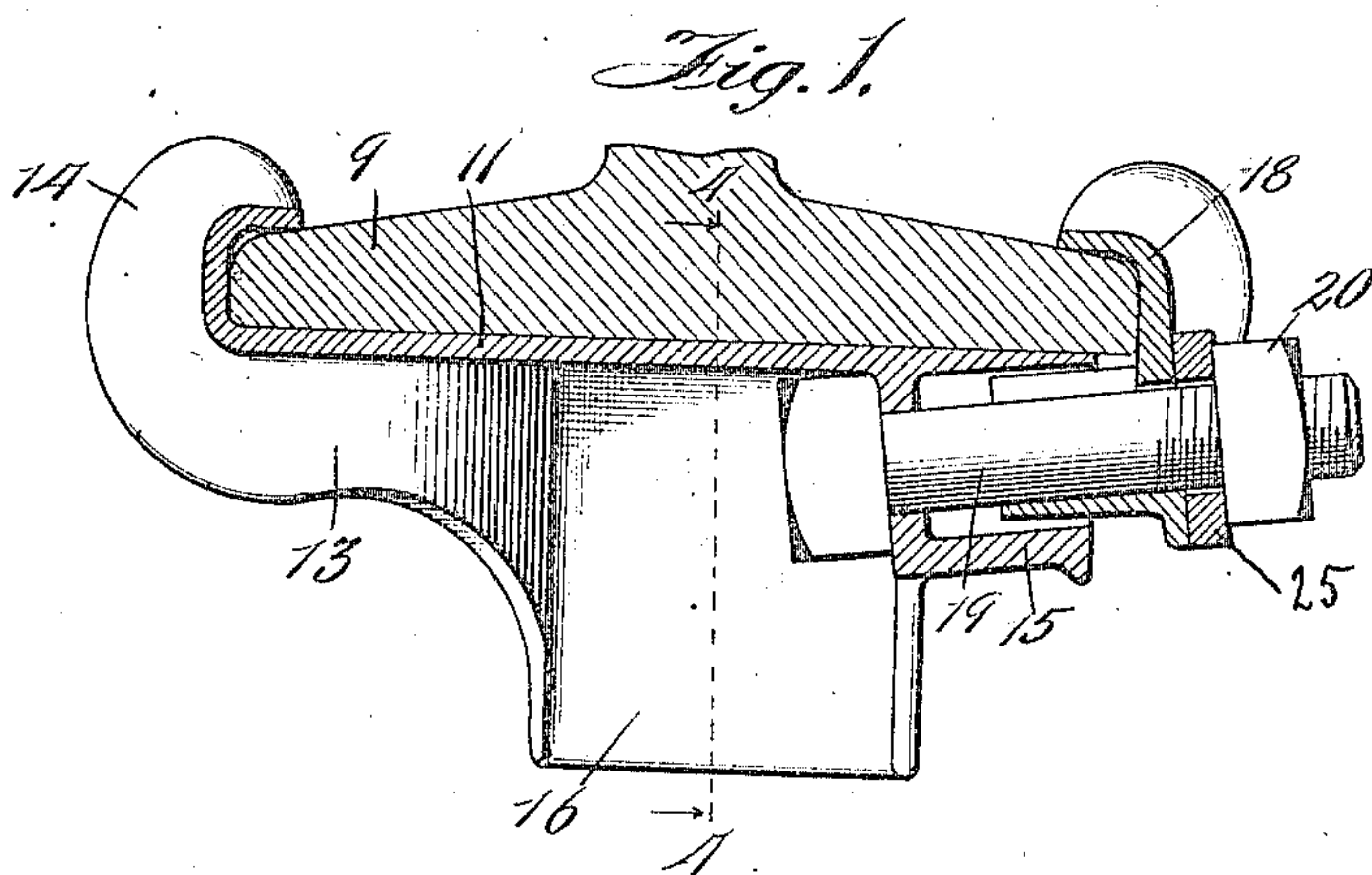


Fig. 1.

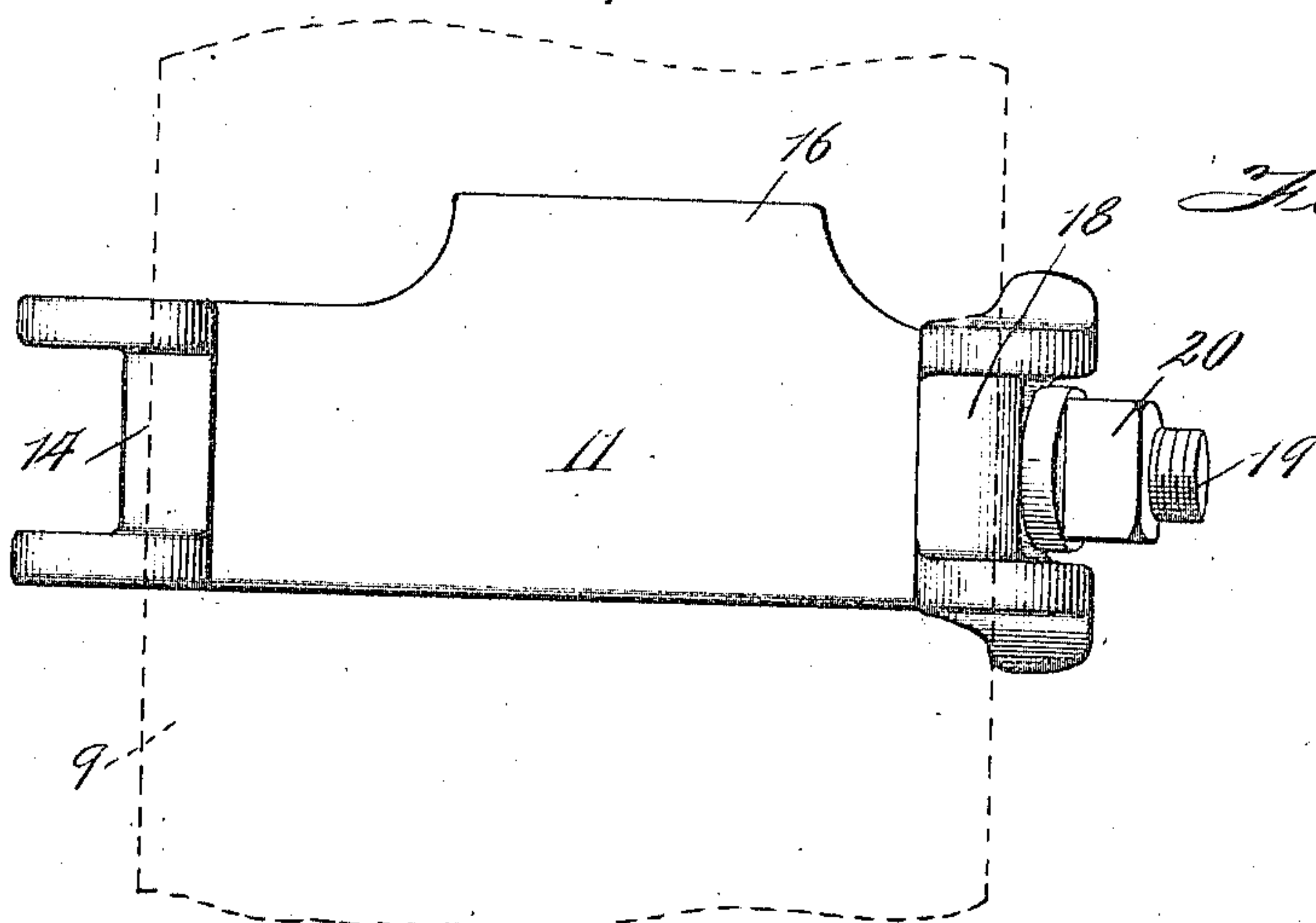


Fig. 3.

Witnesses:

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3 SHEETS—SHEET 2.

Fig. 4.

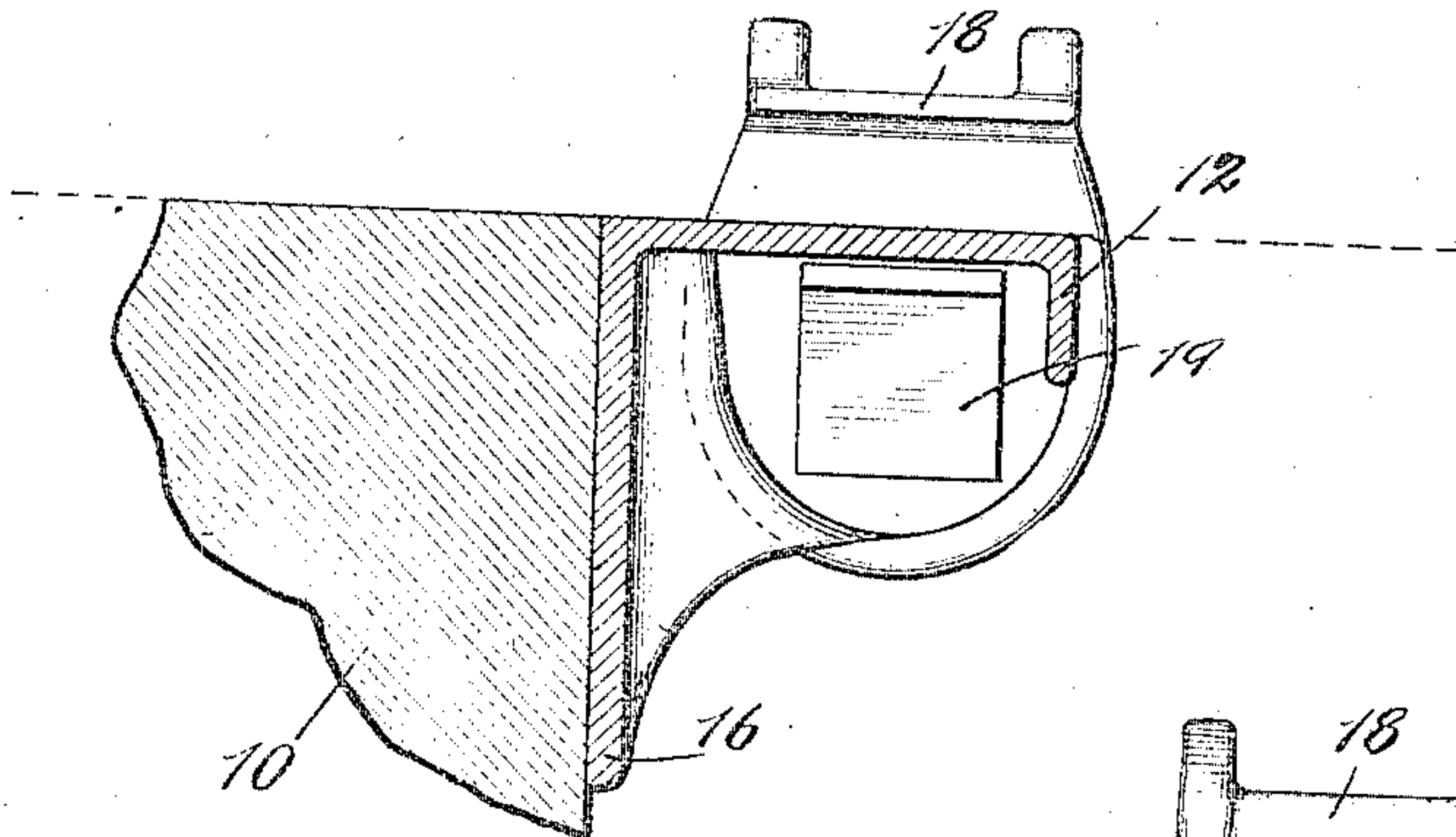


Fig. 5.

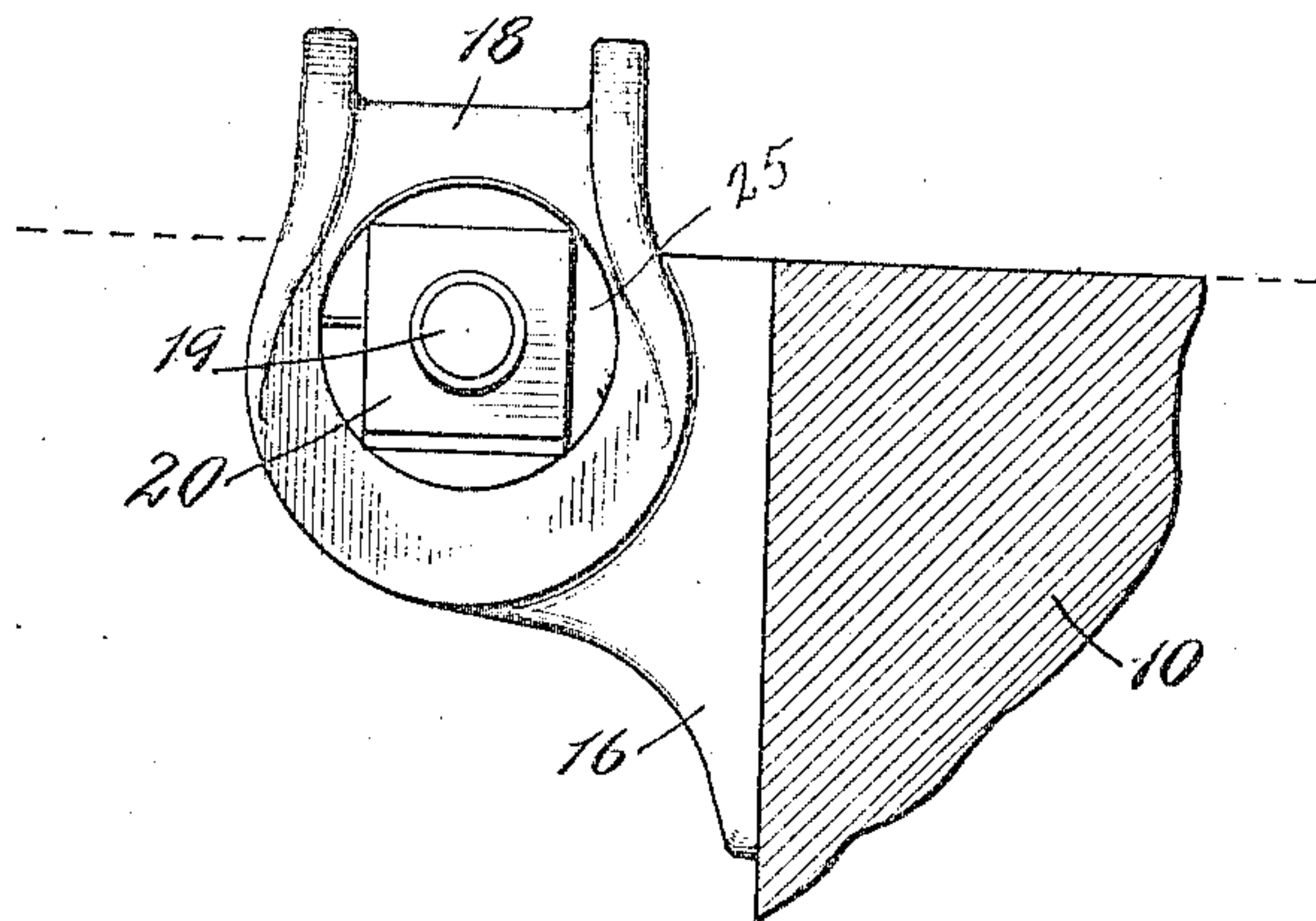


Fig. 6.

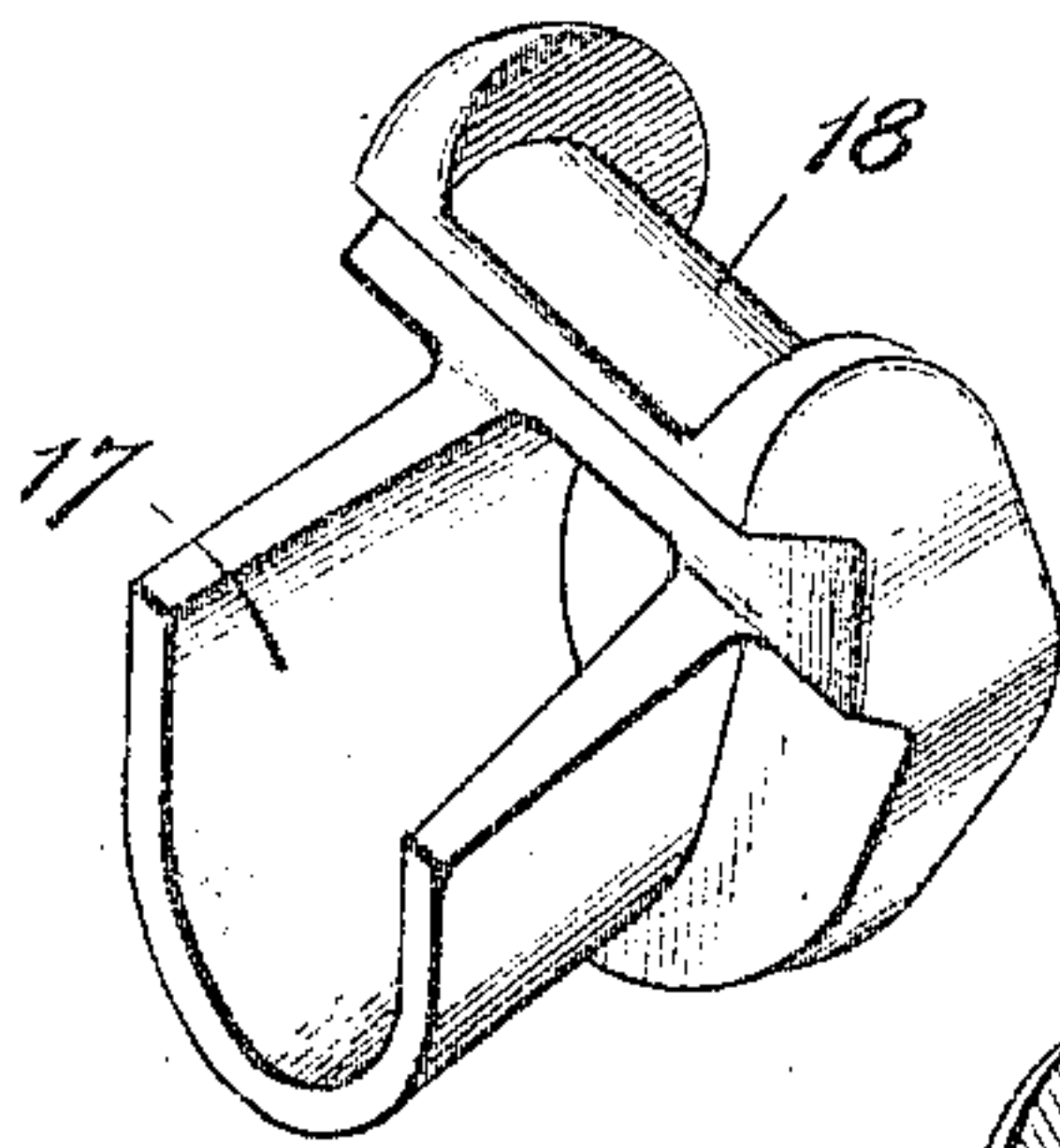
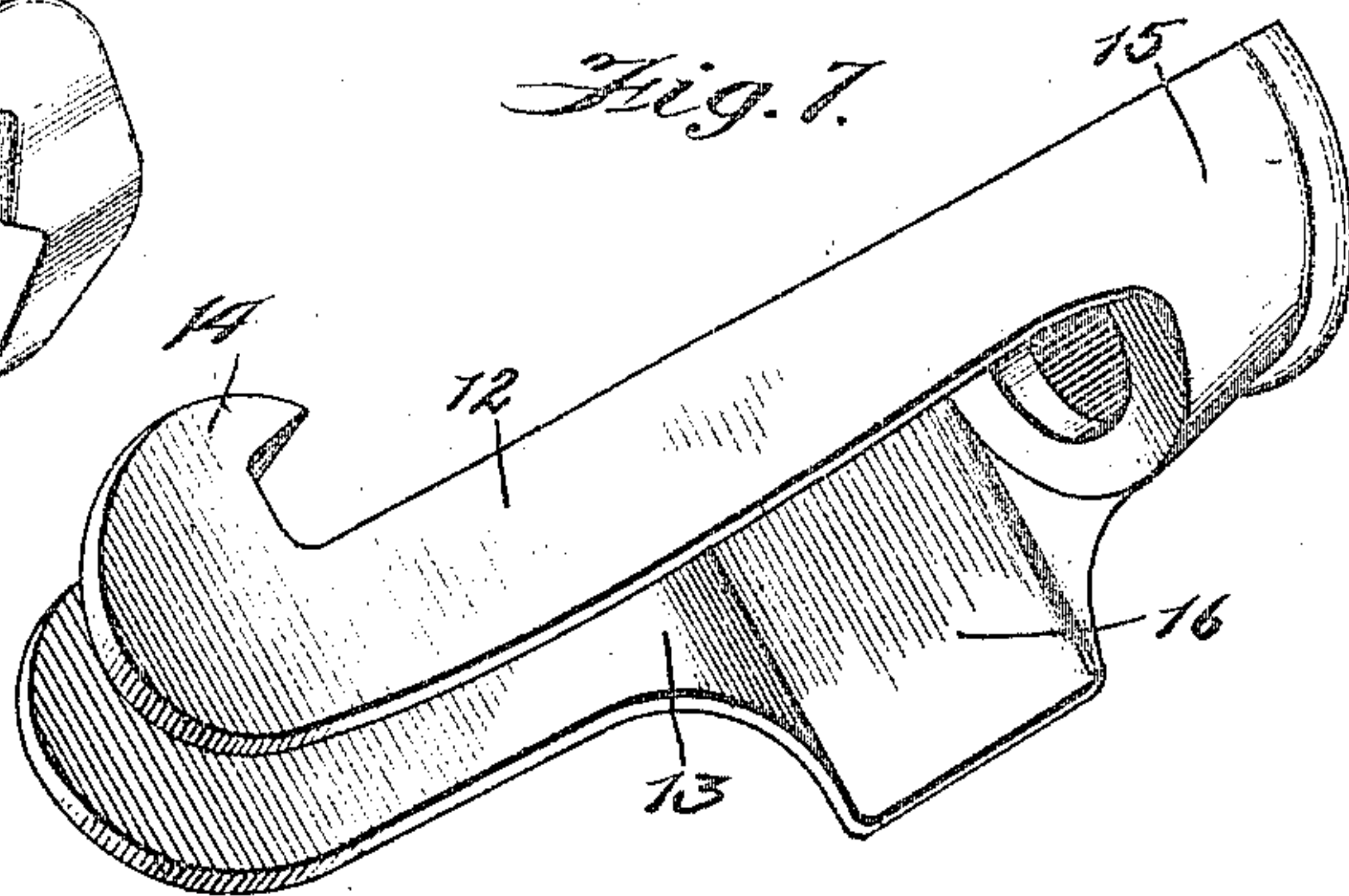


Fig. 7.



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3 SHEETS—SHEET 3.

Fig. 8.

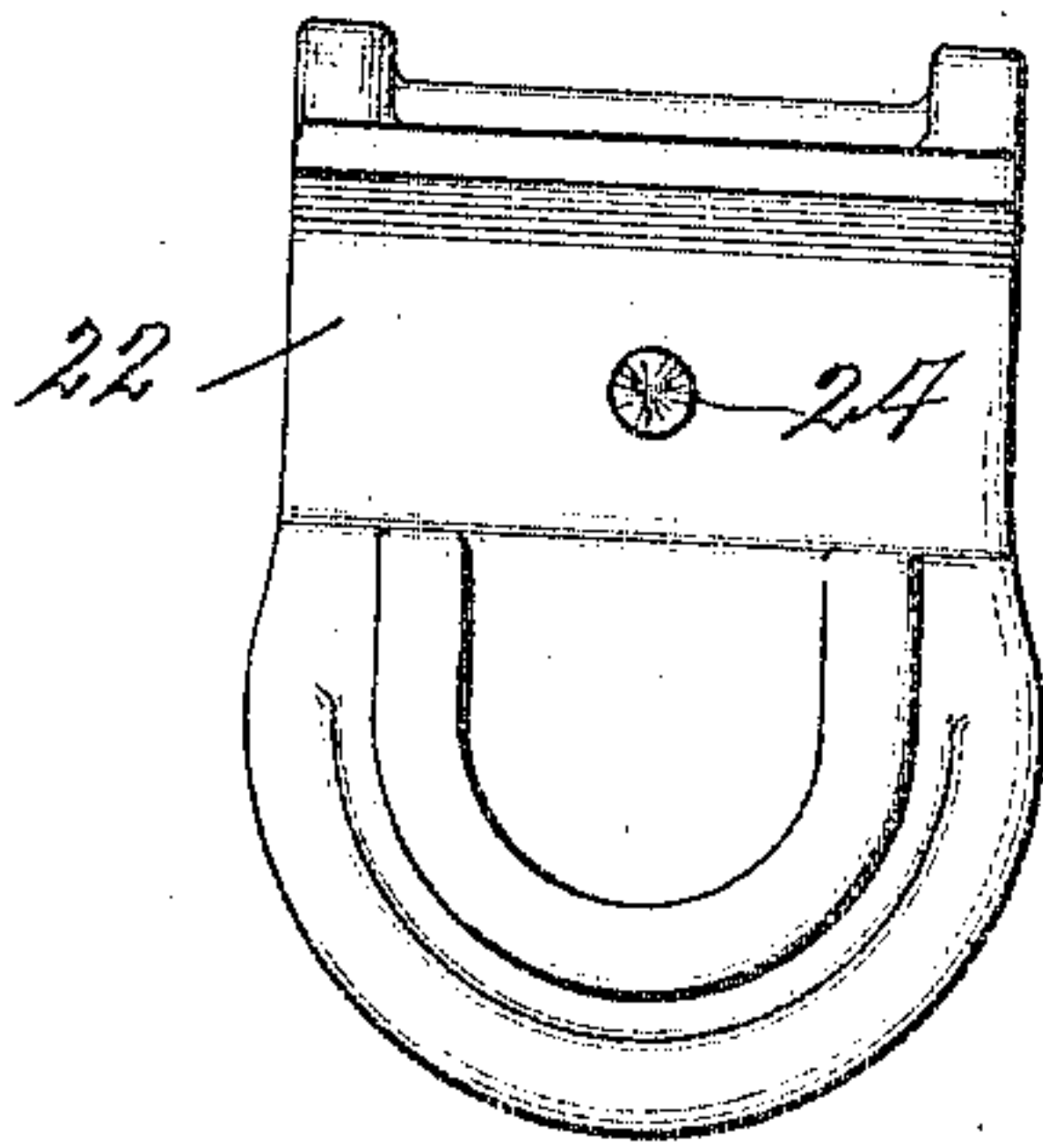
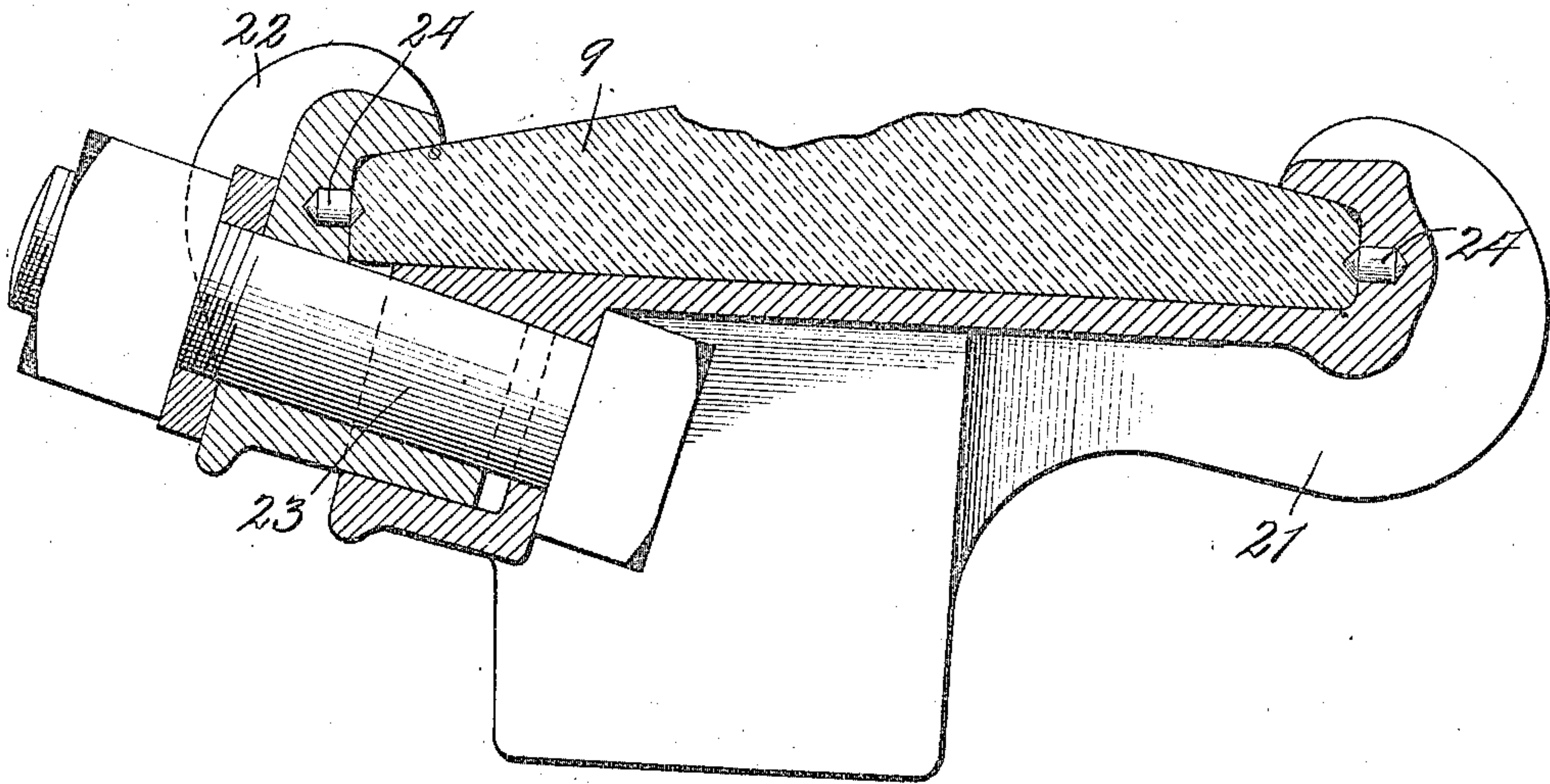


Fig. 9.

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UNITED STATES PATENT OFFICE.

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RAILWAY-RAIL STAY.

983,939.

Specification of Letters Patent.

Patented Feb. 14, 1911.

Application filed May 8, 1909. Serial No. 494,917.

To all whom it may concern:

Be it known that I, JOHN M. SCOTT, a citizen of the United States, residing at Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Railway-Rail Stays, of which the following is a specification.

My invention relates to a rail stay or anchor to prevent the longitudinal creeping of railway rails and has for its object to provide a simple and effective device of that character which shall at once be very strong and durable and small, compact and economical of metal.

The improvements of this invention relate particularly to the type of rail stay in which two jaw-carrying members are clamped upon the rail base by means of a bolt and nut or equivalent means.

It is one of the objects of my invention to provide an arrangement of parts by means of which one or both of the jaws may be drawn down upon and against the rail base obliquely, so that the clamp of the jaw against both the edge and the top of the rail base is increased with the turning of the nut.

A further object of my invention is to provide a reinforcement around the clamping-bolt, so as to strengthen the device.

The invention has for a further object to provide a form of device which will utilize a relatively short clamping bolt, thus economizing metal and adding to the strength of the device and the effectiveness of its grip upon the rail.

The invention further contemplates arranging the abutment for the tie substantially centrally of the gripping jaws, so that the strains upon the device will be balanced. It may be said that this form of device is designed particularly for heavy rails where the strains are relatively great.

The invention further contemplates the use of hardened bits or studs in the jaws of the clamping members which engage with and bite into the edges of the rail base.

The invention has for further objects such new and improved constructions and arrangements in rail stays as will be described in the accompanying specification and particularly set forth in the claims appended thereto.

The invention, in a preferred embodiment, is illustrated in the accompanying drawings, wherein—

Figure 1 shows the device in vertical cross section. Fig. 2 is a side elevation of a rail with the rail stay in position. Fig. 3 is a plan view. Fig. 4 is a section on the line 4—4 of Fig. 1, looking in the direction of the arrows. Fig. 5 is an end view of the bolt end of the device. Figs. 6 and 7 are perspective views of the jaw-carrying members; Fig. 8 is a cross section of the modified form of device; and Fig. 9 is an elevation of the inside of the movable jaw-carrying member of the modification shown in Fig. 8.

Like characters of reference indicate like parts throughout the figures of the drawings.

In the drawings, the rail is indicated by the numeral 8 and its flange by 9.

10 is a tie against which the stay abuts. The stay is shown as consisting of two jaw-carrying members, a clamping bolt and a nut for the latter. One of the jaw-carrying members is provided with the abutment for the tie. The device might obviously be constructed of a greater number of parts, suitably secured together, without departure from my invention.

One of the jaw-carrying members consists of a bar or seat 11, which extends under the rail and which is preferably reinforced by the depending ribs 12 and 13. At one end of this bar is the jaw 14, preferably formed integral therewith and which grips one edge of the rail base. At the other end of the bar is formed a socket 15, which is preferably oblique to the seat 11, as shown in Fig. 1. Between the socket and the jaw is a depending web 16, which forms an abutment for the tie. The other jaw-carrying member consists preferably of a sleeve 17, which telescopes into socket 15, as is shown in Fig. 1, and preferably integral therewith a jaw 18. The two jaw-carrying members are clamped together by a clamping bolt 19, having a nut 20.

It will be seen that the telescoping socket 15 and sleeve 17 together form a reinforcement for the clamping bolt which takes some of the strain from the bolt and strengthens the connection between the two jaw-carrying members. The jaw carrying members tele-

scope together on a line oblique to the seating part of the device, that is, oblique to the rail seat, so that, when nut 20 is screwed down, jaw 18 is drawn down upon the top of the rail, and, at the same time, laterally against the edge of the rail. The bolt used can be very short and consequently can be made strong without being bulky. The arrangement of the abutment 16 substantially midway between the jaws balances the strains upon the device when in use.

In Figs. 8 and 9 I have shown a modified form of device in which the clamping bolt is given a greater angle of inclination and in which the jaws are provided with hardened pointed studs which bear onto the edges of the rail base. The jaw-carrying members in this form of device are represented by the numerals 21 and 22 being clamped together by the bolt 23 in the manner described excepting that the parts are so constructed as to give a greater inclination to the bolt. In the jaws are set pointed studs 24 or similar devices of some sort of hard metal. Ordinarily rail anchors are made of malleable iron which of course is softer than the rails. The studs 24 take a bite upon the edges of the rail which increases the effectiveness of the grip of the anchor. The studs may be securely embedded in the rail by striking the jaws with a hammer. It will be seen that the inclination of the clamping bolt results, when the parts are drawn together, in producing a stress upon the rail base from beneath, above and at the edges.

I wish it to be understood that I do not limit myself to the exact forms and constructions shown and described, as obvious modifications might be designed which would come within the scope of my invention. For example, the arrangement of the movable, telescoping jaw might be duplicated on the other side of the device. Any suitable means may be used, if desired, for hindering the turning of the nut 20. I have shown a split, spring washer 25 against which the nut is driven.

I claim:

1. A rail stay, comprising jaw-carrying members, and means for drawing one of said members toward the other and against the rail in a line oblique to the plane of the base of the rail.

2. A rail stay, comprising a jaw-carrying member having a tie abutment, a jaw-carrying member movable in respect thereto, and means for drawing the movable jaw-carrying member toward the other and against the rail in a line oblique to the plane of the base of the rail.

3. A rail stay, comprising jaw-carrying members, and a clamping bolt for the same under the rail base and oblique to the plane thereof.

4. A rail stay, comprising jaw-carrying

members movable one upon the other in a line oblique to the plane of the base of the rail, and clamping means for the same.

5. A rail stay, comprising jaw-carrying members which telescope one within the other, and a clamping bolt extending through the telescoping parts arranged obliquely to the plane of the rail base.

6. A rail stay, comprising jaw carrying members provided respectively with a socket and a sleeve, both socket and sleeve being on the same side of the stay relative to the longitudinal axis of the rail, and a clamping bolt extending through the socket and sleeve.

7. In a rail stay the combination with a jaw-carrying member provided with a jaw at one end and a socket at the other, of a second jaw-carrying member having a sleeve extending into said socket, both socket and sleeve being on the same side of the stay relative to the longitudinal axis of the rail, and means for drawing said jaw-carrying members together.

8. In a rail stay the combination with a jaw-carrying member provided with a jaw at one end, a socket at the other end, and a tie abutment between the same, of a second jaw-carrying member having a sleeve extending into said socket, both socket and sleeve being on the same side of the stay relative to the longitudinal axis of the rail, and means for drawing said jaw-carrying members together.

9. The combination with jaw-carrying means provided at adjacent ends one with a socket and the other with a sleeve oblique to the rail base, of clamping means for drawing said jaw-carrying members together.

10. The combination with jaw-carrying means provided at adjoining ends with telescoping parts and at opposite ends with rail-gripping jaws, of an abutment substantially midway between said jaws when in gripping position on a rail and a clamping bolt which is oblique to the plane of the rail base.

11. The combination with a jaw-carrying member comprising a flat rail seat having an integral jaw at one end and a socket at the other formed beneath said seat, of a second jaw-carrying member comprising a jaw and a sleeve, the latter extending into the socket of the other member, and a clamping bolt for said jaw-carrying members.

12. The combination with a jaw-carrying member comprising a flat rail seat having an integral jaw on one end, a socket on the other formed beneath said seat and a tie abutment between the same, of a second jaw-carrying member comprising a jaw and a sleeve, which latter extends into the socket of the other member, and a clamping bolt for said jaw-carrying members.

13. The combination with a jaw-carrying member comprising a seat having an in-

tegral jaw on one end, a socket on the other and a tie abutment, said socket being oblique to the seat, of a second jaw-carrying member comprising a jaw and a sleeve, which latter extends into the socket in the other member, and a clamping bolt for said jaw-carrying members.

14. A rail anchor comprising a movable clamping member and a clamping bolt arranged obliquely to the plane of the base of the rail for drawing said member down upon and against the rail base.

15. A rail anchor comprising relatively movable members one of which extends under the rail base and around one edge thereof and the other one above and around the other edge of said rail base and means for clamping the members together on a line oblique to the plane of the rail base.

16. A rail anchor comprising a movable clamping member with a clamping bolt ar-

ranged obliquely to the plane of the base of the rail for drawing said member down upon and against the rail base and a hard metal bit on said clamping member adapted to bite into said rail base.

17. A rail anchor comprising jaw-carrying members movable one upon the other in a line oblique to the base of the rail, clamping means for the same, and hard metal studs in the jaws of said members.

18. A rail anchor comprising clamping members, a clamping bolt arranged obliquely to the plane of the rail base for drawing said members together, jaws on said clamping members extending along the edges of the rail base and hard metal studs in the jaws which bite into the edges of the rail base.

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Witnesses:

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