

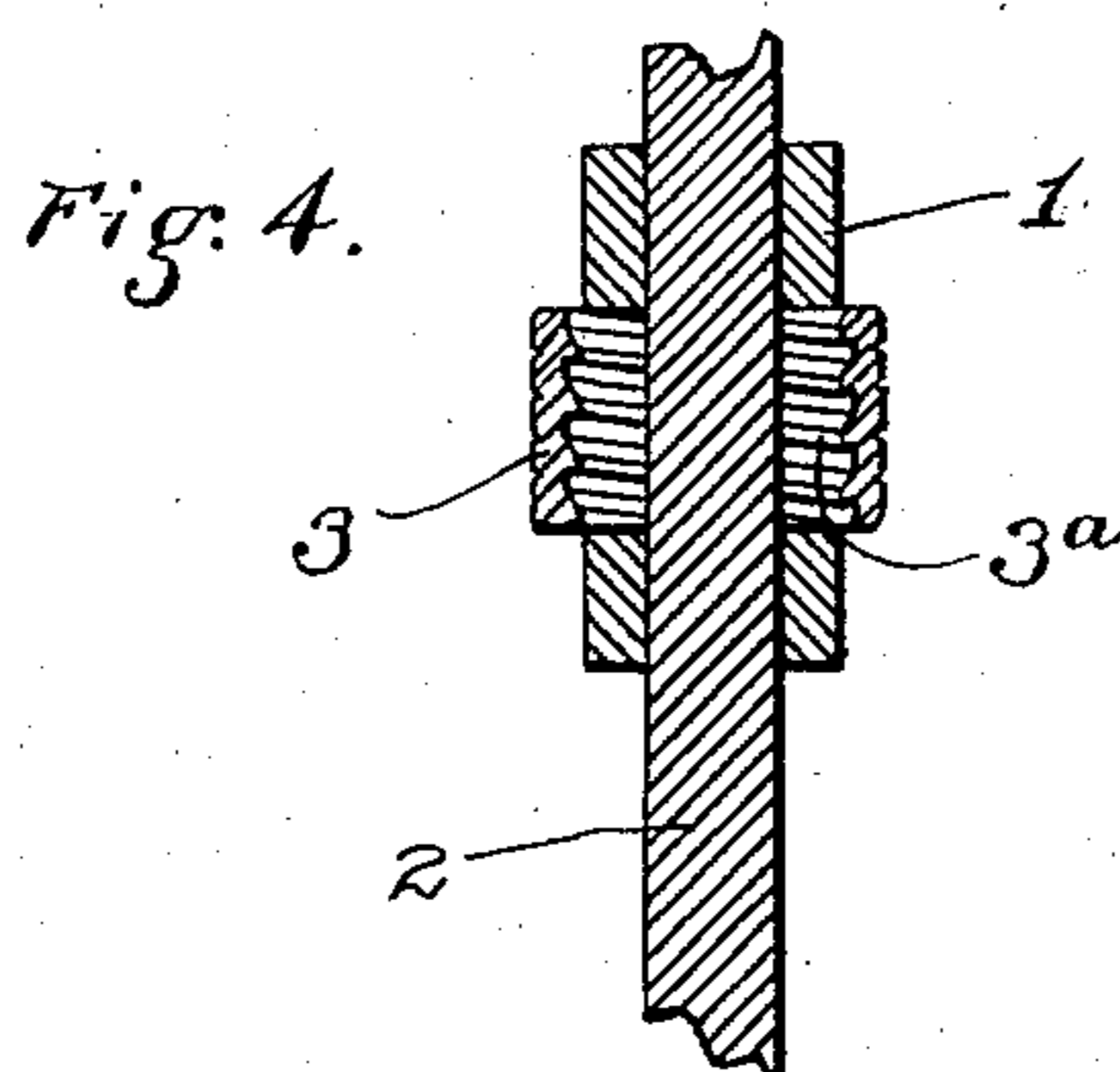
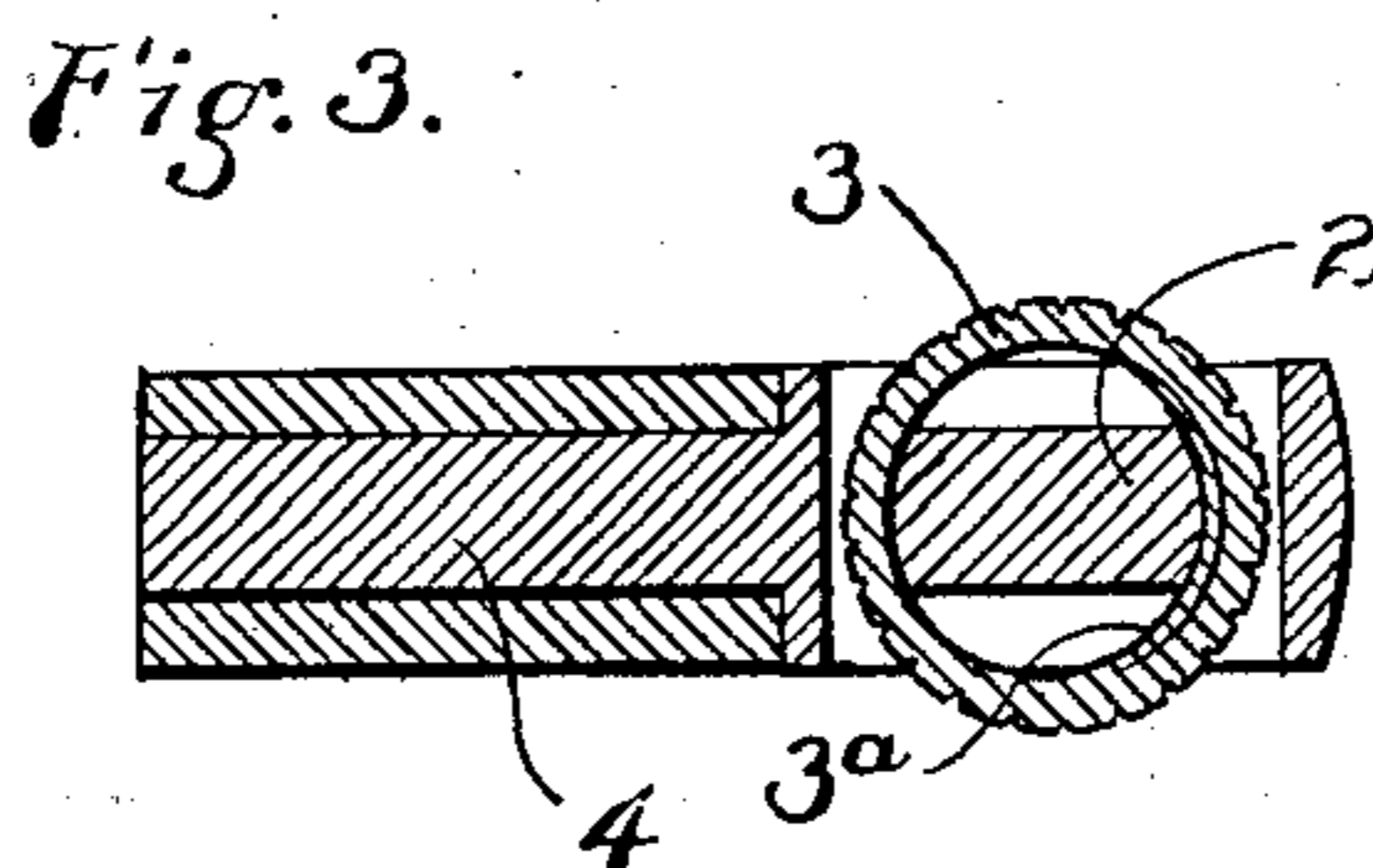
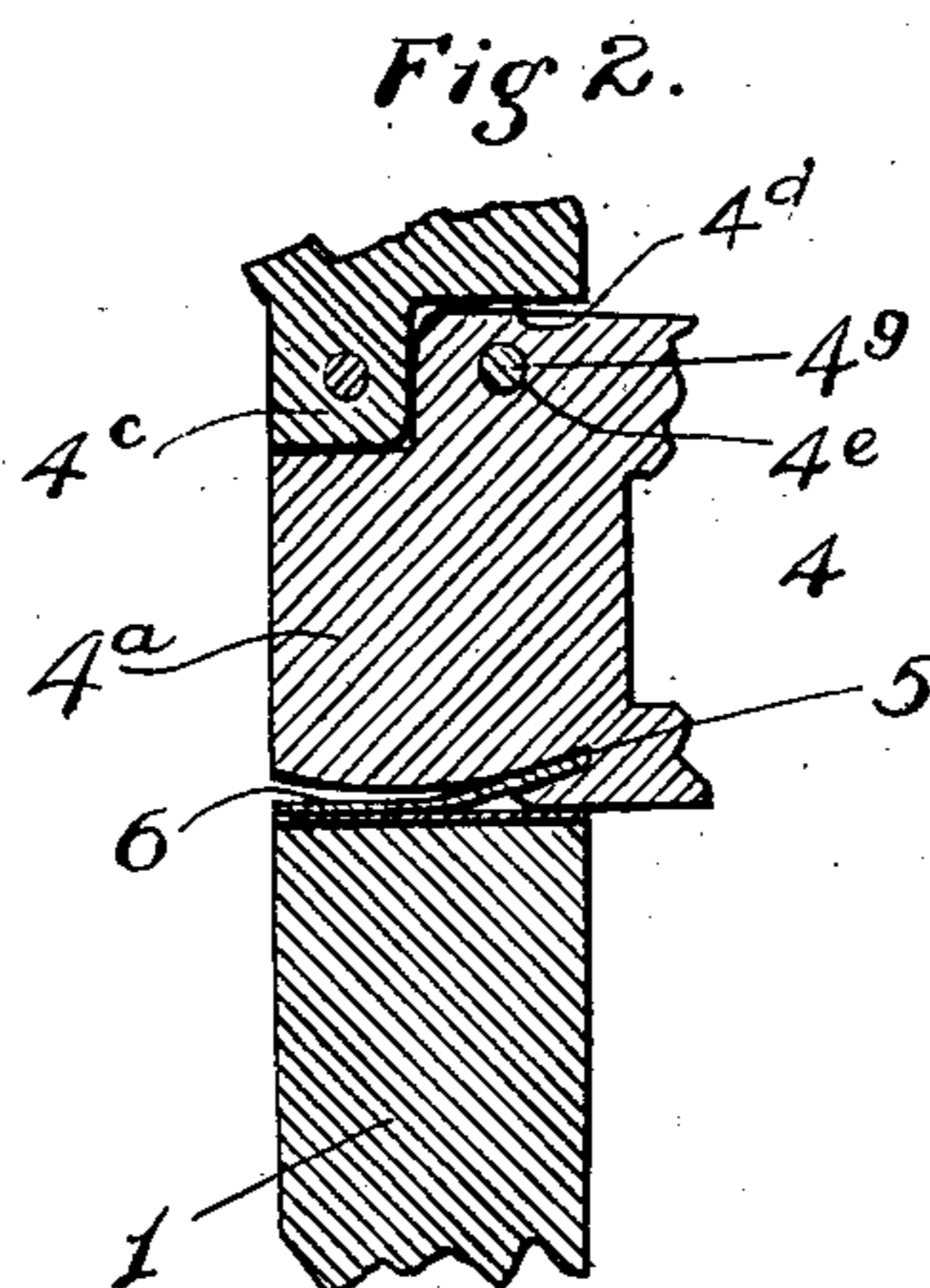
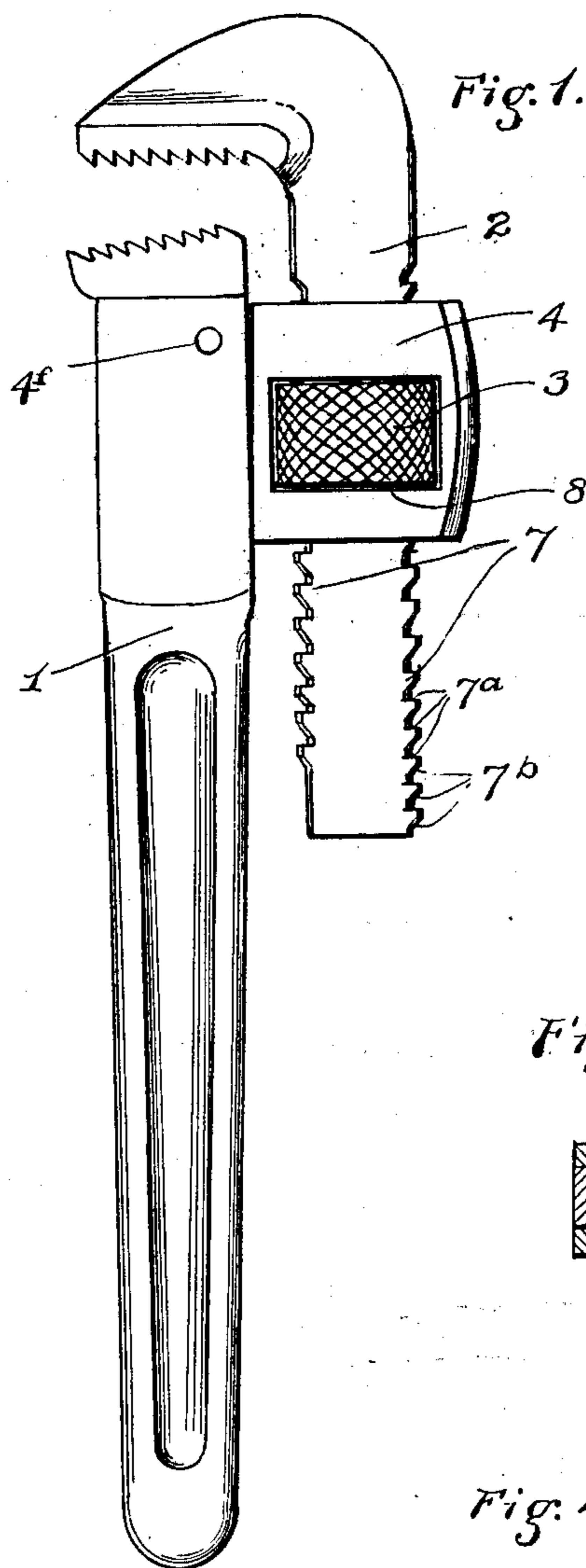
No. 753,725.

PATENTED MAR. 1, 1904.

G. McKERCHER.
PIPE WRENCH.

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NO MODEL.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE McKERCHER, OF JACKSON, MICHIGAN.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 753,725, dated March 1, 1904.

Application filed April 25, 1903. Serial No. 154,313. (No model.)

To all whom it may concern:

Be it known that I, GEORGE McKERCHER, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Pipe-Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain improvements more particularly in pipe-wrenches.

It has for its object to provide compactness of construction, strength or durability, and cheapness of manufacture.

Further objects of the invention are to provide for the jaws of the wrench standing normally out of forcible contact when applied to the article or pipe engaged and to effect the automatic engagement of said jaws with the article or pipe as the wrench is manually manipulated.

The nature of said invention consists of the combination of parts, including their construction and arrangement, substantially as hereinafter more fully disclosed, and specifically pointed out by the claims.

It is understood that latitude is allowed herein as to details, as the same may be changed as circumstances suggest without departing from the spirit of my invention and the same yet remain intact and be protected.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a side elevation. Fig. 2 is a vertical section of part of the handle and the socket member, showing the socket structure, the rest of the wrench being broken away. Fig. 3 is a cross-section through the middle of the socket member; and Fig. 4 is a vertical sectional view taken through the middle of the movable jaw, disclosing more particularly the construction of the teeth on the interior of the nut.

In the carrying out of my invention I preferably employ a fixed jaw having a handled member 1, a movable jaw 2, adapted to slide relatively to said fixed or stationary jaw, and a nut or actuating member 3, engaging said movable jaw and having internal notches 3^a engaging the teeth of said movable jaw. Said

handled member has the jaw proper separable therefrom, being applied at the forward end thereof, preferably as shown, or otherwise. Said handled member or jaw is provided with a separable socket portion or member 4, having, preferably, a reduced lower portion or extension 4^a, fitting within a corresponding socket 4^c of the handle member, with its stepped or notched portion adapted to rest upon a seat or shoulder 4^d, arranged in the forward bottom end of said socket. The upper arm of said stepped portion is provided with an orifice or aperture 4^e, adapted to stand in alinement with registering orifices or apertures 4^f in the handled member, said orifices receiving a pin or pivot 4^g to aid in the retention of said socket member in place in said handled member, said pin also serving as a pivot or fulcrum as the wrench is manually actuated in applying the jaws to the article or pipe acted upon, as will be readily understood. The opposite edge of said socket member extension has inserted into a slot 5 therein a preferably-flat spring 6, standing normally at a slight angle to said extension to provide for putting said socket member under pressure when in position in the handled member and whereby the said socket member, together with the movable jaw, is adapted to rock in effecting the engagement between the jaws of the article or pipe acted upon and whereby automatic engagement is thus effected between said parts during such actuation or manipulation.

It will be noted that the relative arrangement of parts and the pressure of the spring is such as to enable the jaws to stand normally forcibly out of contact with the pipe or article acted on. In this respect, as also in others, as will presently be seen, my invention differentiates from wrenches gotten up on a like principle, whereby the effectiveness of the teeth are retained for a greater length of time as has been found in practical experience in the use of the wrench. Said movable jaw has its horizontal arm provided upon its upper and lower surfaces with series of teeth or ratchets 7, the construction of which is peculiar in that they are perpendicular upon their resisting or forward surfaces or edges, as at 7^a, and inclined or sloping upon their rear

surfaces or edges, as at 7^b, while the bottoms of the throats or notches between said teeth, together with the outer edges of said teeth, are flat, the notches in the actuating-nut of course being of a corresponding construction, the purpose of which is to render said teeth and the points of engagement therewith of the nut more durable and stronger than any like construction of this character of wrenches.

10 The actuating-nut of course works in a transverse opening 8 in said socket member 4, so that the finger or hand may be applied laterally to the external cylindrical portion of said nut in effecting the movement of the sliding

15 jaw, as in applying said jaw to and removing it from the article or pipe being engaged. This arrangement or construction of parts also, as will be observed, is solid and compact, and thus further promotes strength and dura-

20 bility.

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

1. A wrench having a fixed jaw, a rocking

25 spring-engaged socket member and a movable jaw arranged in said socket member, and means for actuating said movable jaw, said socket member having a reduced extension, a spring attached thereto and housed within the fixed

30 jaw, said spring standing at an angle from said extension and holding the movable jaw normally out of forcible contact with the article engaged.

2. A wrench comprising a stationary or fixed

35 jaw having its handled member provided with a socket having in its lower forward edge a seat or shoulder, a jaw-carrying member having a reduced extension adapted to engage said

socket, with its forward stepped edge engaging said seat and pivoted to said handle member, and a spring housed within said fixed jaw and adapted to permit of the automatic retention of the movable jaw normally out of forcible contact with the article or pipe engaged.

3. A wrench comprising a handled member

45 having its socket provided at its forward lower edge with a seat, a movable jaw-carrying member having a notch or stepped lower forward edge engaging said seat and pivotal connection with said handled member, said extension having, at its rear edge, a spring adapted to stand at an angle thereto and engage the rear edge or wall of said socket, said spring thus holding the movable jaw normally out of forcible contact with the article or pipe en-

55 gaged.

4. A wrench comprising a handled member provided with a seat in its forward edge, coinciding or registering apertures or orifices through its sides, directly above said seat a

60 movable jaw-carrying member having a reduced extension provided with a stepped lower forward edge adapted to engage said seat and having an orifice or aperture adapted to stand in alinement with said registering orifices, a

65 pin or pivot engaging said orifices, and a spring applied to the rear edge of said extension and standing at an angle therefrom, and engaging the opposite wall of the handled-member socket.

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

GEORGE MCKERCHER.

Witnesses:

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PETER E. ULRICKSON.