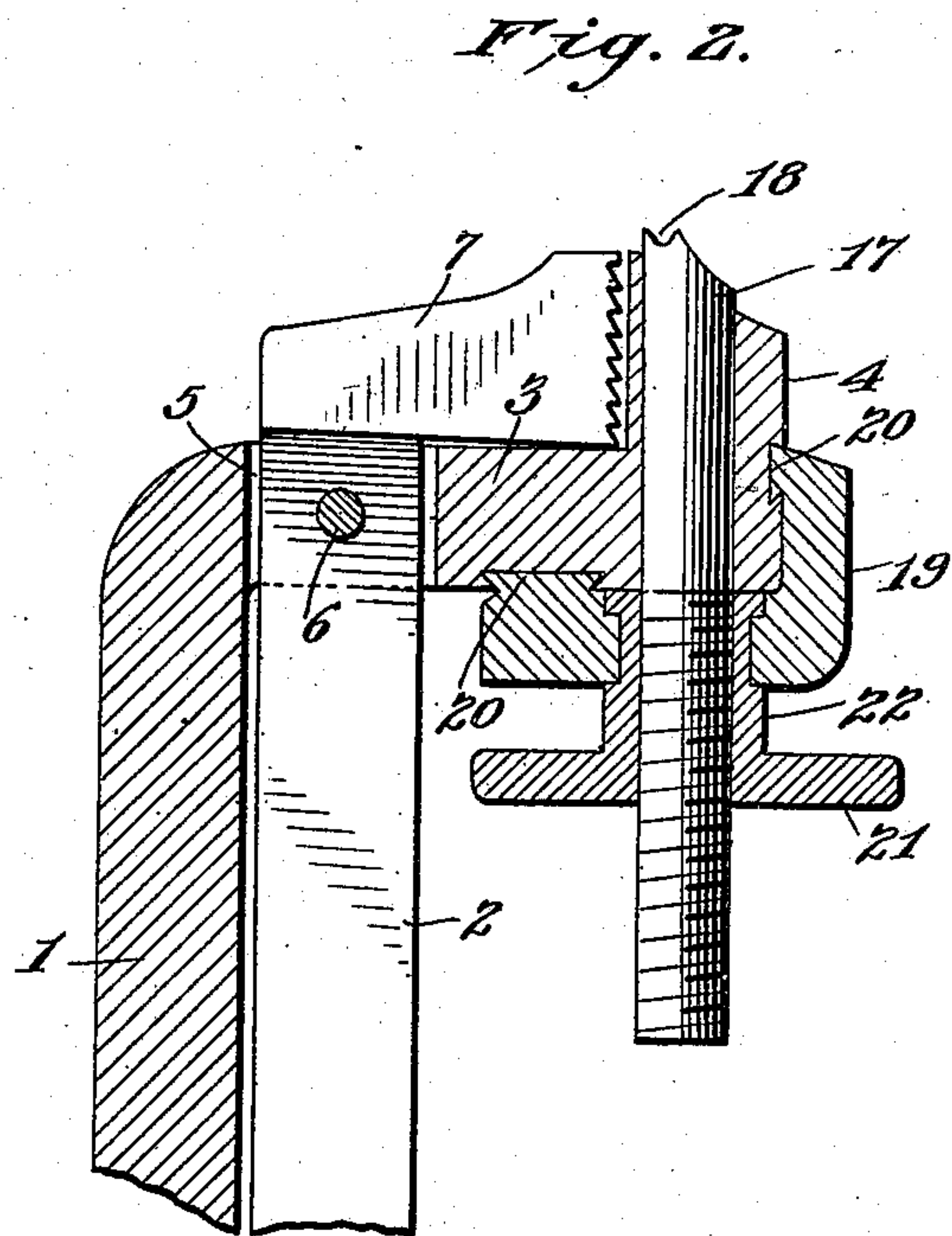
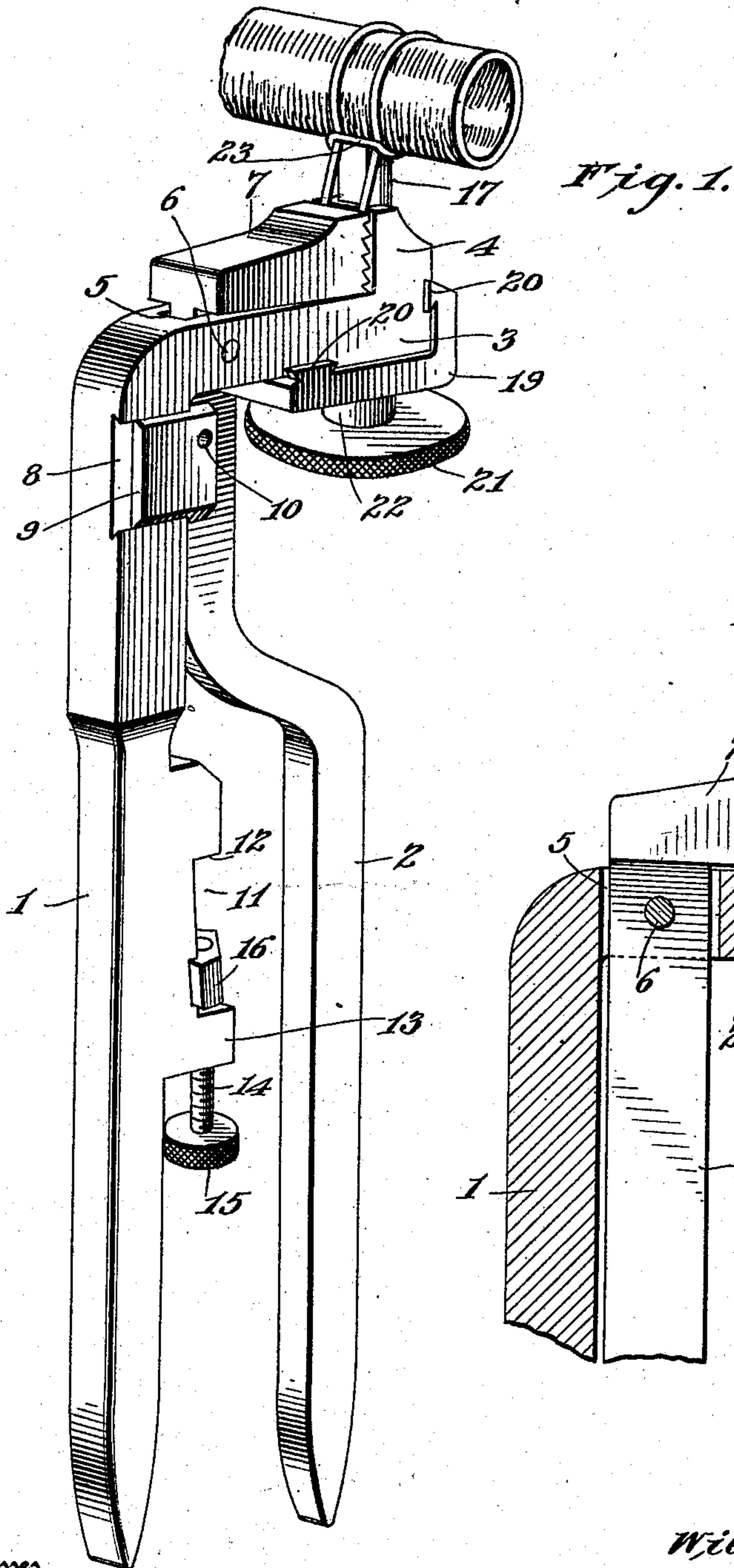


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Patented Apr. 27, 1909.  
2 SHEETS—SHEET 1.



Witnesses  
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Fig. 3.

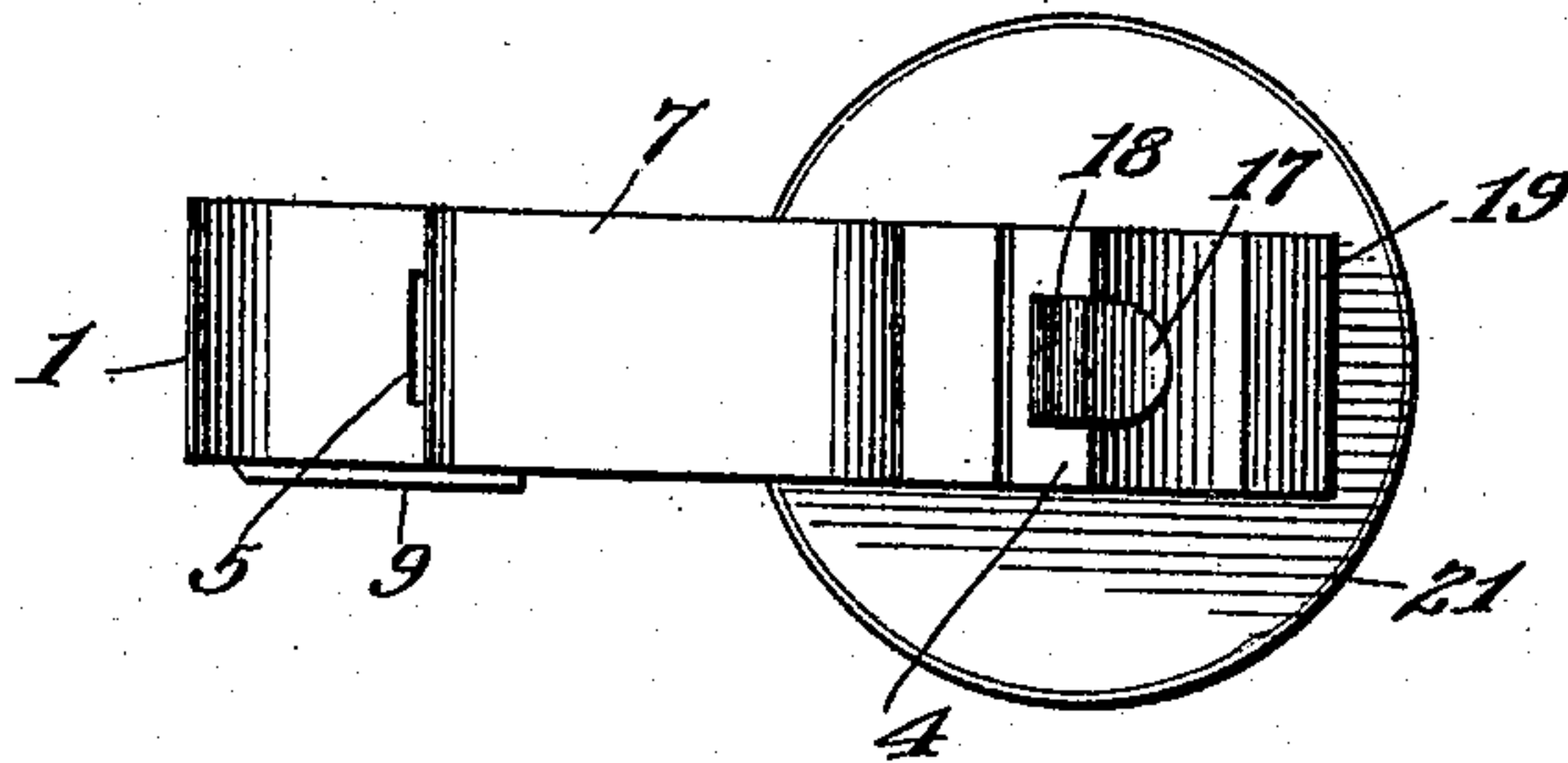


Fig. 4.

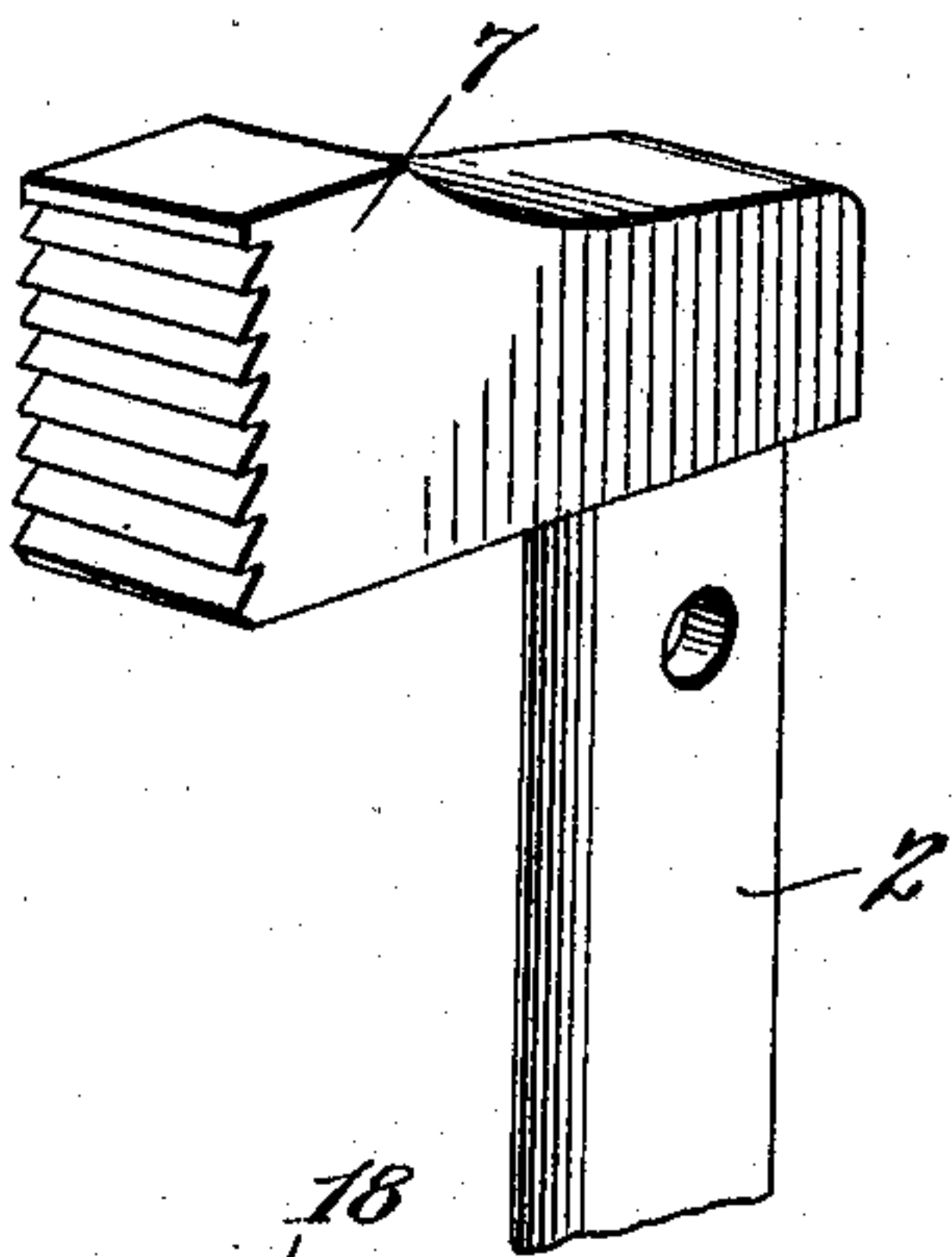


Fig. 5.

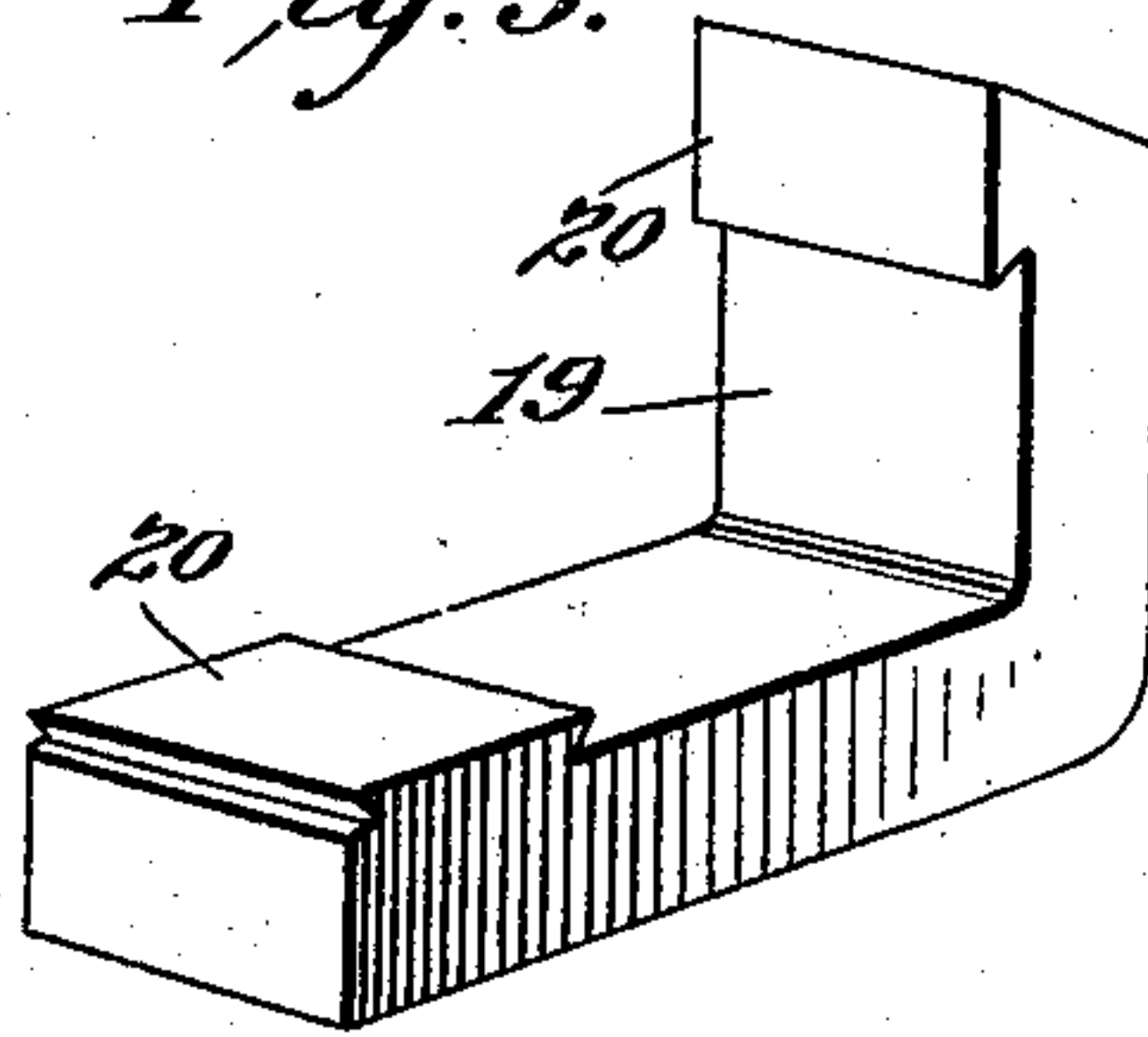


Fig. 6.

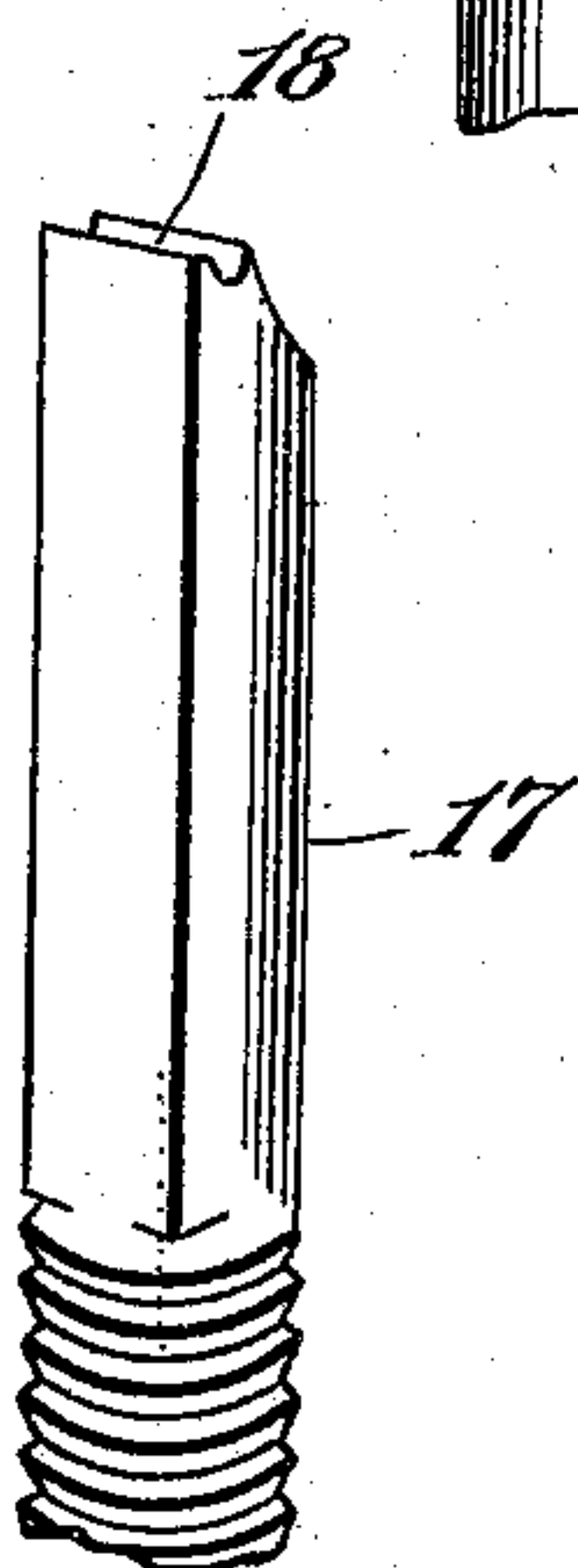
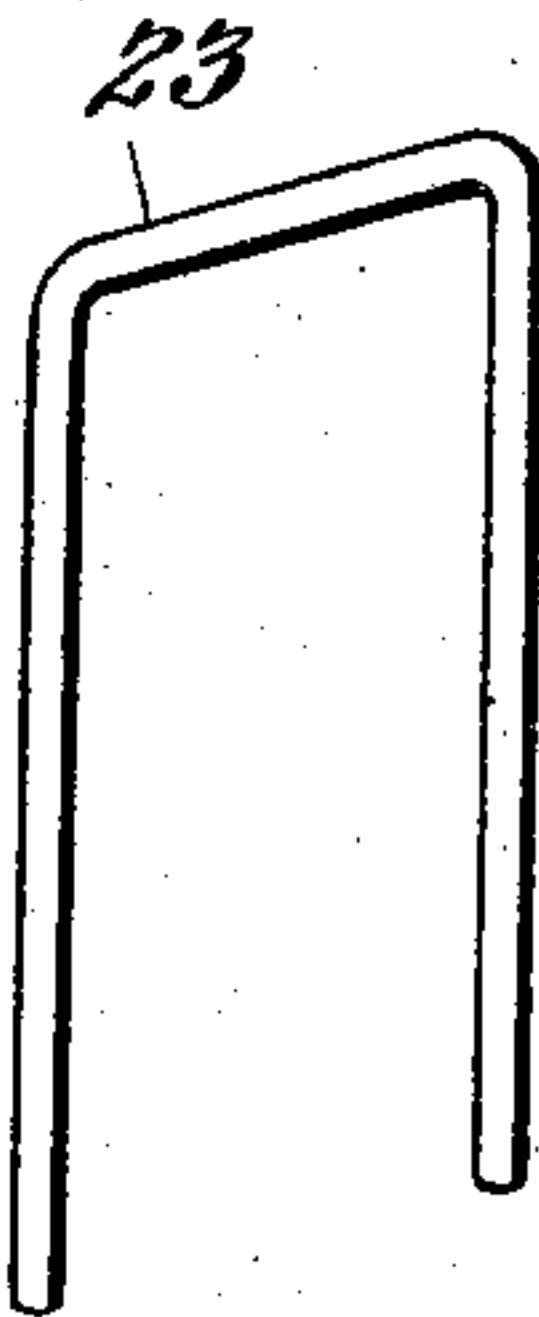


Fig. 7.



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# UNITED STATES PATENT OFFICE.

WILLIAM O. STEIN, OF POTTSVILLE, PENNSYLVANIA.

## HOSE-CLAMP APPLIER.

No. 919,973.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed November 30, 1908. Serial No. 465,111.

*To all whom it may concern:*

Be it known that I, WILLIAM O. STEIN, a citizen of the United States, residing at Pottsville, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Hose-Clamp Appliers, of which the following is a specification.

My invention relates to an improved hose clamp applier, adapted to hold a wire clamp in position on a hose, which can be operated to tighten the clamp to any desired extent, and which can then be operated to bend the wire, and secure the clamp against movement.

With these and other objects in view the invention consists in certain novel features of construction, and combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1, is a perspective view illustrating the application of my improvement. Fig. 2, is a fragmentary view in longitudinal section. Fig. 3, is an end view. Figs. 4, 5 and 6, are perspective views of various details of construction, and Fig. 7, is a view of the wire hose clamp.

My improvements comprise in the main, two members or handles 1 and 2 respectively. The member 1, at one end, extends at right angles to the main portion of the member, as shown at 3, and again extends at right angles forming a clamping jaw 4. The member 1 at the portion 3 is made with a slot 5, through which the handle portion of member 2 projects, and a pin 6 is passed through the members to pivotally secure them together. The member 2 at its end is made with a clamping jaw 7 to cooperate with the jaw 4 and securely clamp wires between them, as will hereinafter appear.

Member 1 is made with a dove-tail recess 8, of general wedge-shape, into which the wedge-shaped steel cutter blade 9 is driven and firmly secured. This cutter blade 9 is made with an opening 10 to receive the wire to be cut, and the cutter blade is close beside the side face of member 2, so as to give a shear cut, when the wire is in position in the opening 10, and the member 2 is moved toward the member 1 to neatly sever the wire.

The member 1 is made with an elongated recess 11 having a shoulder 12 at one end of

the recess and a lug 13 at the other end. This lug 13 is made with a screw threaded opening to receive a screw 14 having a milled enlargement 15 on its outer end. A block 16 is swiveled to the end of the screw and is grooved on its inner face to slide on member 1, and prevent any rotary movement of the block. The block is moved by its screw toward or away from the shoulder 12, and is adapted to clamp a wire against said shoulder. The block is of the proper width, so that when a wire is clamped between it and shoulder 12, and the ends of the wire bent at right angles against the block, the wire will be in the proper shape and of the proper size to form a hose clamp such as shown in Fig. 7, which can be perfectly clamped by my improvements, which will now be described.

The jaw 4 is made with a longitudinal opening extending entirely through the same, and of a shape in cross section to conform to the outline of a plunger 17. The plunger 17 is flat on its upper face and is provided with a transverse groove or notch 18 in its end, and the end is then grooved slightly as shown at 18<sup>a</sup> to conform to the curvature of the end of jaw 4. This curvature permits the tight engagement of the jaw against the curve of a hose.

The inner end of plunger 17 is provided with a long screw which projects rearward from the jaw. A bracket 19 having dove-tailed flanges 20, to dove-tail into similarly shaped grooves in the member 1, is secured to said member at the rear end of jaw 4, and a hand wheel 21 is provided with a hub extension 22 swiveled into this bracket 19 to permit rotary movement of the hand wheel and prevent any longitudinal movement thereof. The hand wheel 21 is internally screw threaded to mesh with the screw threads of the plunger, so that when the wheel is turned, the plunger will be either projected or drawn inwardly as the case may be.

The operation of my improvements is as follows: The wire is cut into the desired lengths by means of the cutter 9. The wire is then placed between the block 16 and shoulder 12 and is securely clamped. The ends of the wire are then bent at right angles against the outer face of block 16 to form a hose clamp as shown in Fig. 7. The ends of the wire are then passed around the hose as shown clearly in Fig. 1, and are projected through the intermediate bent portion 23 of



the wire as is ordinarily done. The ends of the wire are then securely clamped between the jaws 7 and 4, while the plunger 17 is positioned with its grooved end 18 engaging the portion 23 of the wire clamp. While the ends of the wire are securely held by the jaws, the hand wheel 21 is turned to project the plunger 17, which, by reason of its engagement with the portion 23 of the wire clamp will cause the ends of the wire to be drawn tightly through this portion 23 and securely clamp around the hose. When the desired tension is secured the tool with the end of plunger 17 as a fulcrum on the portion 23, is thrown backward across the hose to bend the ends of the wires down upon themselves, and over the portion 23 to securely tie the clamp. The ends of the wire can then be cut off in any desired manner.

Slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not restrict myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. A tool of the character described, comprising two members, one member crossing the other and pivotally secured thereto, a clamping jaw fixed to each member and movable therewith to clamp a wire between them, and one of said jaws having an opening extending through the same, and a longitudinally movable plunger in said opening and supported solely by said jaw.

2. A tool of the character described, comprising two members, one member crossing the other and pivotally secured thereto, a clamping jaw fixed to each member and movable therewith to clamp a wire between them, and one of said jaws having an opening extending through the same, a longitudinally movable plunger in said opening, and a hand wheel on the inner end of said plunger

constructed to move the same longitudinally.

3. A tool of the character described, comprising two members, one member crossing the other and pivotally secured thereto, and carrying fixed clamping jaws at one end, one of said clamping jaws having an opening extending through the same, a longitudinally movable plunger in said opening having a screw threaded inner end, a bracket fixed on said jaw, and a hand wheel swiveled in said bracket and having internal screw threads meshing with the screw threads of the plunger.

4. A tool of the character described, comprising two members one member crossing the other and pivotally secured thereto, and having clamping jaws at one end, one of said jaws having a longitudinal opening, one wall of said opening being flat, a longitudinally movable plunger in said opening having one face flat, screw threads on the rounded inner portion of said plunger, and a hand wheel having screw threads meshing with the threads of the plunger, and constructed to move the same longitudinally.

5. A tool of the character described, comprising two members, one member crossing the other and pivotally secured thereto, and having clamping jaws at one end, one of said jaws having a longitudinal opening, one wall of said opening being flat, a longitudinally movable plunger in said opening having one face flat, screw threads on the rounded inner portion of said plunger, a hand wheel having screw threads meshing with the threads of the plunger, and constructed to move the same longitudinally, and a bracket fixed to said plunger carrying jaw, and in which said hand wheel is swiveled.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM O. STEIN.

Witnesses:

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W. L. OWENS.