

(No Model.)

G. W. McELROY.
WRENCH.

No. 570,856.

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Fig. 1.

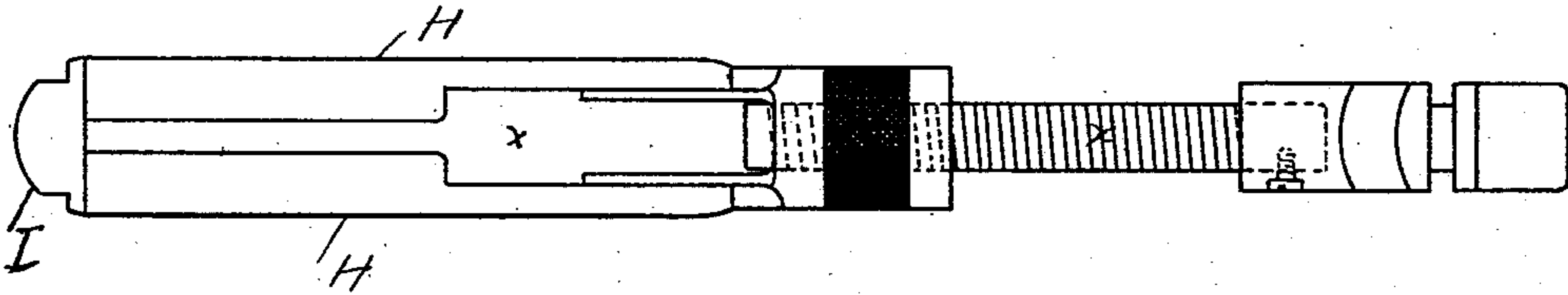


Fig. 2.

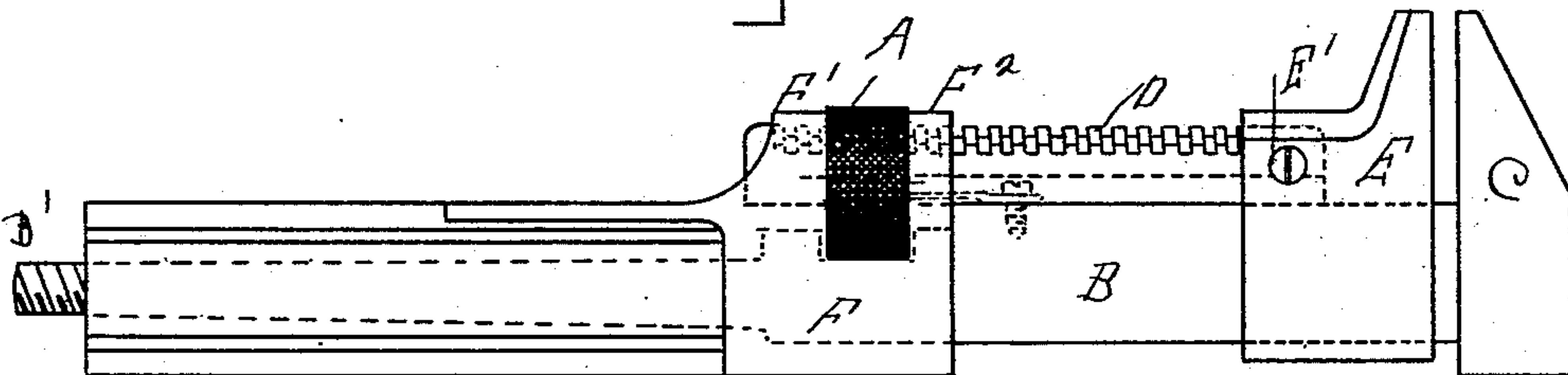


Fig. 3.

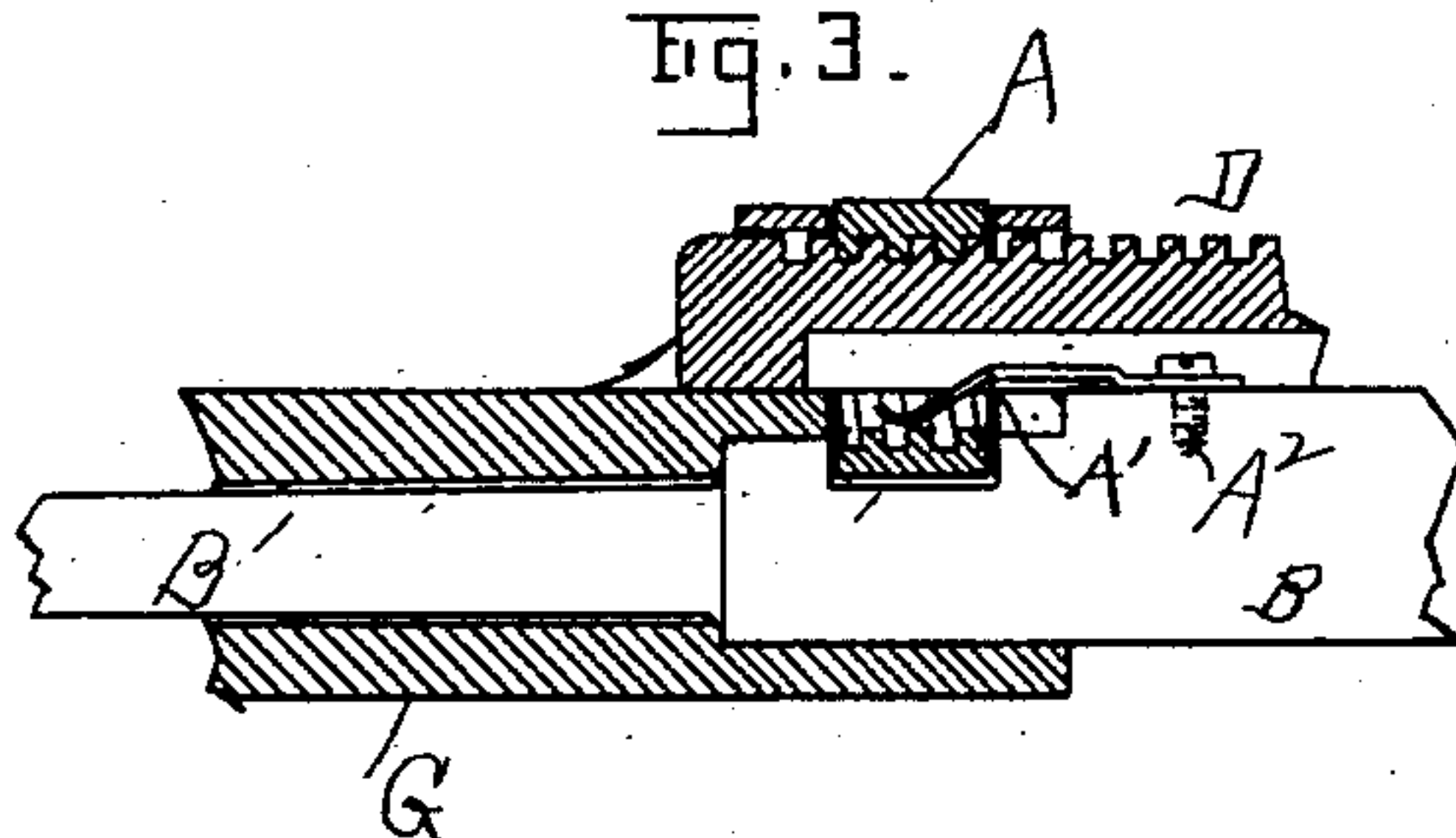


Fig. 4.

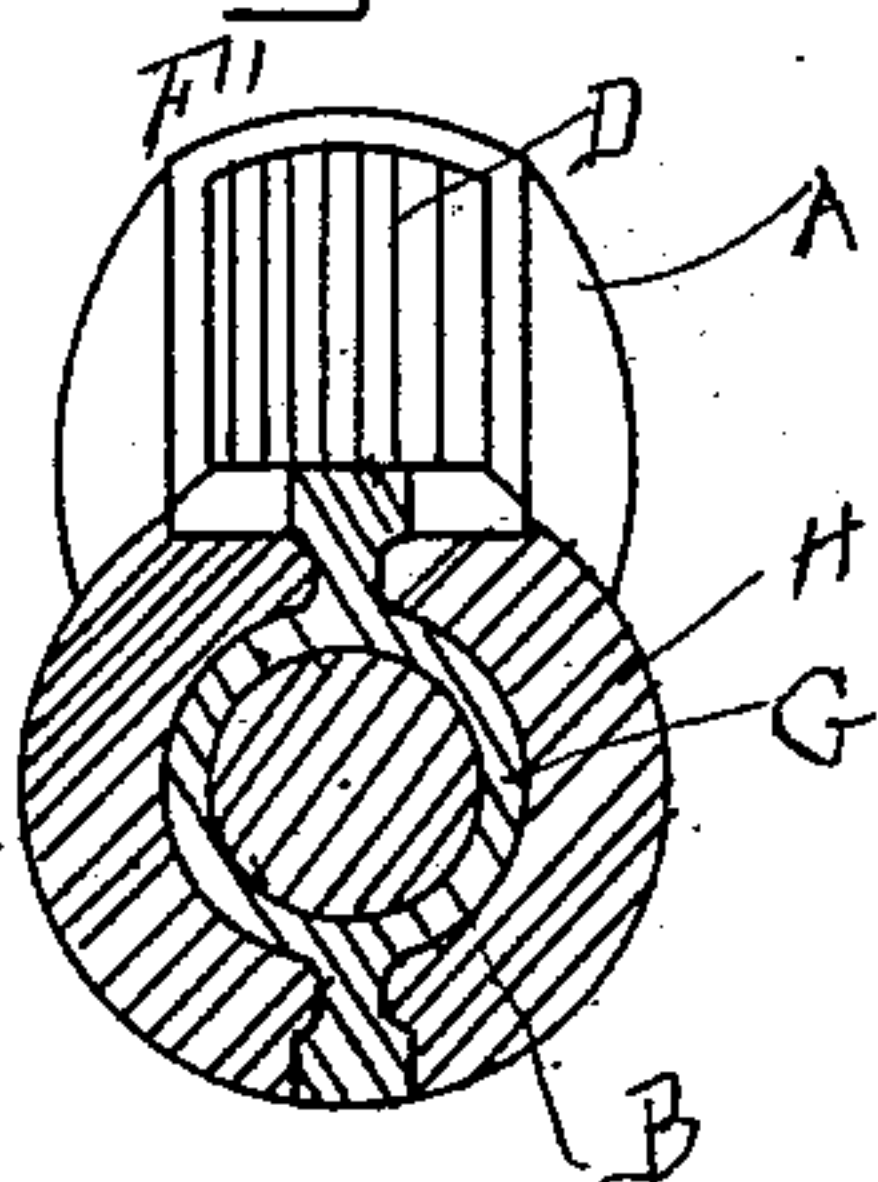
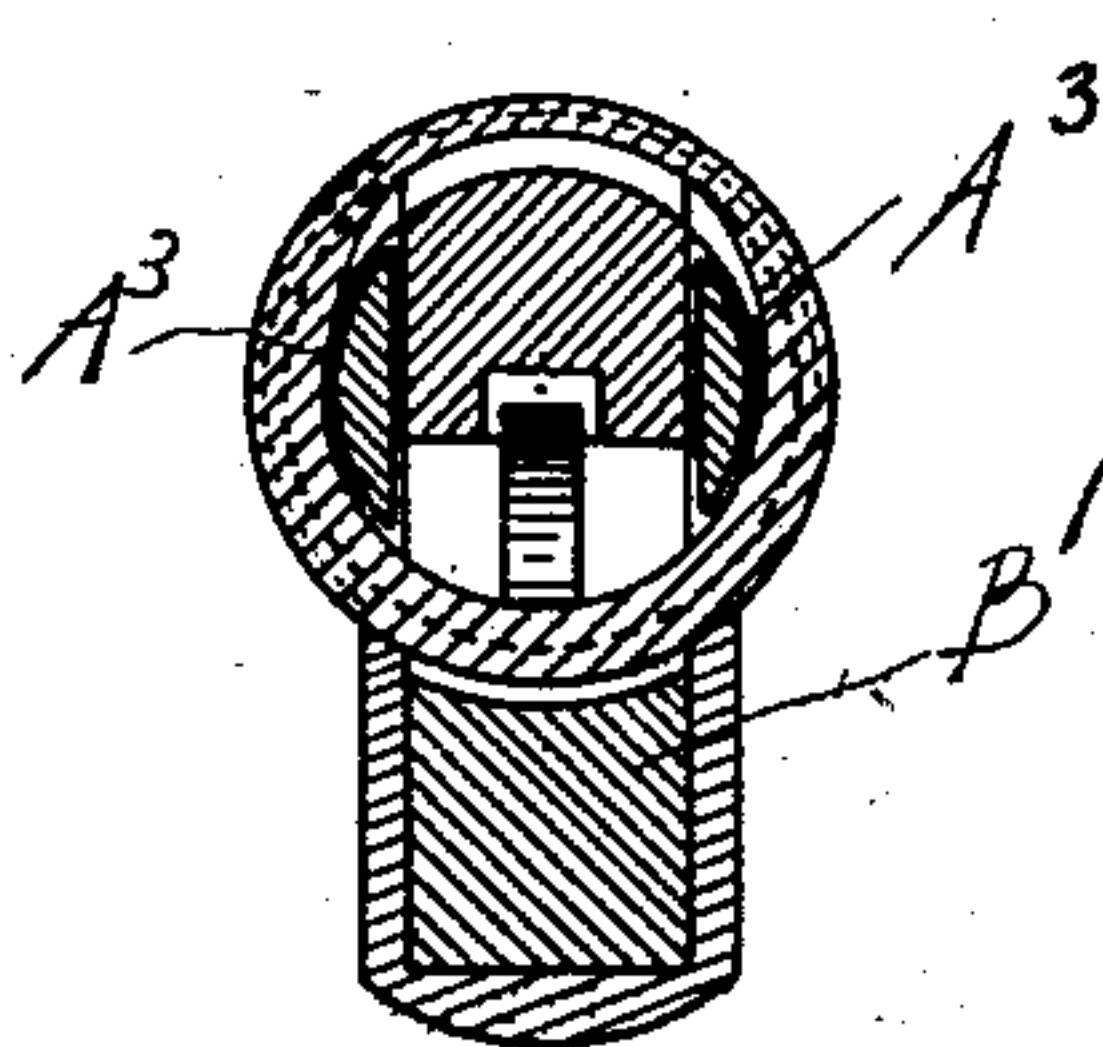


Fig. 5.



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WRENCH.

SPECIFICATION forming part of Letters Patent No. 570,856, dated November 3, 1896.

Application filed March 28, 1896. Serial No. 585,281. (No model.)

To all whom it may concern:

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

This invention relates to improvements in wrenches, and more particularly to wrenches having adjustable jaws.

The object it has in view is the rapid adjustment of the jaws to fit different sizes of nuts, and simplicity and durability of construction.

The invention consists in providing for the movable jaw a screw-and-nut adjustment which may be thrown out of engagement to permit of direct movement forward and back and at any point reengaged.

It further consists in forming a handle from both the movable and stationary parts of the wrench and connecting them in such manner as to draw them together to compensate for wear, and it further consists in providing wooden cheek-pieces for the handle and fastenings for the same in the metal of the handle.

In the drawings, Figure 1 is a plan view of a wrench provided with the invention. Fig. 2 is a side view of a wrench having this invention, the wood sides of the handle being removed. Fig. 3 is a longitudinal section taken on the lines X X. Fig. 4 is a cross-section of the handle, and Fig. 5 is a cross-section of the nut and rack.

I have shown my invention as applied to a wrench of the style known as "monkey-wrenches." At the same time it is evident that it may be applied equally well to other forms of wrenches, such, for instance, as pipe-wrenches. As in the ordinary wrench of this type the shank B is provided with a fixed head or jaw C. Moving on the shank is a movable jaw E, which encircles the shank, as shown. This movable jaw is limited in its throw by the head C and the clip F, which is mounted rigidly on the shank, and has the two wings

F' and F², extended upward and perforated to pass the rack D. It is by this rack that the movement of the jaw E is controlled. The rack is shown in the drawings as connected to the jaw E by means of a screw-pin E'. This may be varied by forming the rack and jaw solidly. Being thus connected, the jaw E may be drawn back and forth by the rack at will when the rack is not restrained. For this purpose the nut A is loosely fitted over the rack and provided with an internal thread to engage the thread on the rack D. The nut A is held between the wings F' F² of the clip F, so that when the rack is engaged by the nut it is only movable by the turning of the same.

As above mentioned, the nut A is loosely mounted on the rack. This is to permit the lifting the nut out of engagement, and while so lifted to permit of free and direct adjustment of the jaw E by the rack. To maintain the nut in an engaged position and return it there upon being released, the small spring A' is provided. This spring is mounted firmly on the shank B, the free end resting inside the nut A and exerting little more force than sufficient to lift the weight of the nut and cause it to engage the threads of the rack.

In practice I form the rack D of square section, the one side being turned and threaded to fit the nut A.

The clip F is hollowed out to receive the nut A, as shown.

In the style of wrench shown in the drawings, wherein the clip F is made integrally with the skeleton, the pin E' is necessary to permit the parts to be separated. When this pin is withdrawn, the rack may be run back through the clip and from out thereof. The rack being withdrawn and the spring A' removed by taking out the screw A², the nut A is freed. To prevent any jamming or lateral movement of the nut on the rack D, I place in the nut the guide-pieces A³ A³, which fit the straight sides of the rack and guide the nut in its movement. While I prefer to use these guide-pieces, they are not a necessity. In fact in small implements I do not use them.

As a matter of construction and for the object of lessening the weight of the implement

the rack is grooved out underneath. By so doing I do not materially lessen the strength of the rack, while I do lighten the construction very much.

5 The handle of this implement consists of four parts—the extension B' of the shank B, the skeleton G, fitting over the extension B' and carrying the clip F, the wood cheek-pieces H, and the set-nut I, screwed on the end of the
10 extension B'. The extension B' is gradually tapered, as shown, and is provided at the end with a screw-thread to receive the set-nut I. The skeleton is of the shape, as shown, to present edges or exposed metal extended through
15 the wood cheek-pieces to receive a blow and protect the wood. This carries the clip F and is mounted on the extension B after the jaw E has been placed in position. At the edge next the handle the clip is cupped out to re-
20 ceive the tapered ends of the wood cheek-pieces H H. The cheek-pieces fit the skeleton snugly. The skeleton and cheek-pieces are driven to place by the screw-nut I, which rests against and forces the skeleton and clip
25 forward solidly into position. In the event of any slackening up of the parts it is compensated for by screwing up the set-nut I until the parts are jammed in position.

30 While I have herein shown the wrench as having the clips F formed integrally with the skeleton, I do not desire to be understood as confining myself to such construction, as in some instances I prefer to form them separately. When they are so formed, the skele-
35 ton bears on the clip and when screwed for-

ward drives the clip forward, thereby compensating for wear.

Having thus described this invention, what I claim is—

1. In a wrench, the combination of the fixed 40 jaw and its handle, the movable jaw and its rack, said handle having seated therein, between wings thereon, the loose ring-shaped nut with internal screw-threads thereon en-
45 gaging said rack, and the spring secured to the fixed-jaw shank, and within a recess in the facing side of the movable-jaw rack and having its free end bearing upon the inner circumference of said nut, normally holding
50 the nut in engagement with said rack, substantially as set forth.

2. In a wrench, the combination of the fixed jaw and its handle, the movable jaw and its rack, the loose ring-shaped nut arranged be-
55 tween wings formed on the handle of said fixed jaw, and engaging said rack the spring secured to the fixed-jaw shank and bearing upon the inner circumference of said nut, said handle proper comprising a skeleton sec-
60 tion fitting over an extension of the fixed-jaw shank and cheek-pieces held in said skeleton section, substantially as specified.

In testimony whereof I have hereunto signed my name in the presence of two witnesses.

GEORGE W. McELROY.

Witnesses:

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