

Oct. 22, 1946.

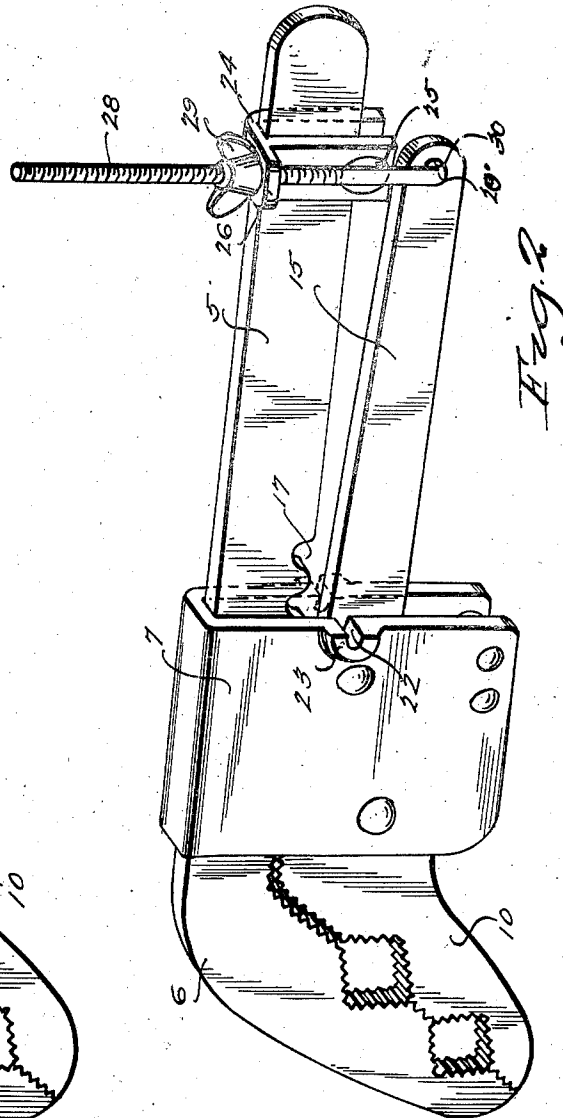
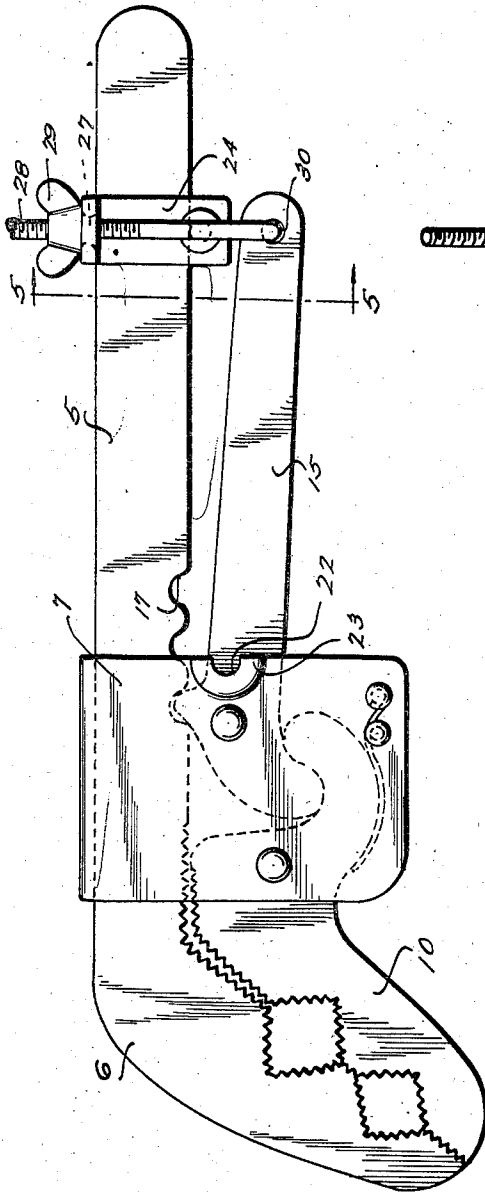
S. HELGESON

2,409,627

WRENCH

Filed April 14, 1944

2 Sheets-Sheet 1



Inventor

STEN HELGESON,

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

Oct. 22, 1946.

S. HELGESON

2,409,627

WRENCH

Filed April 14, 1944

2 Sheets-Sheet 2

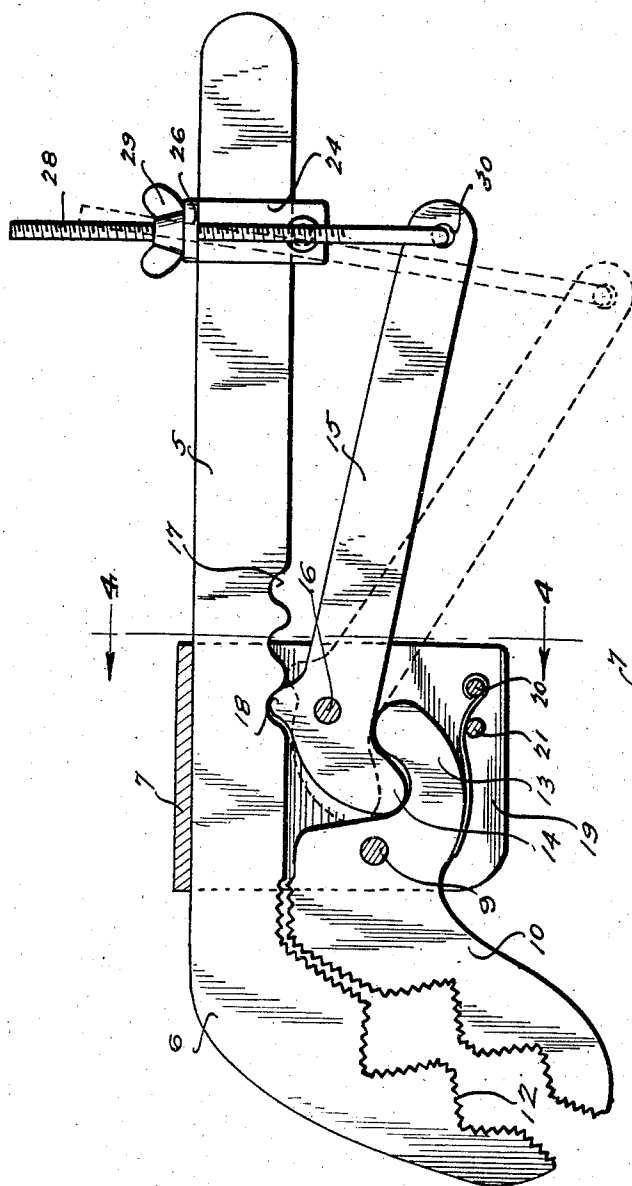


Fig. 3.

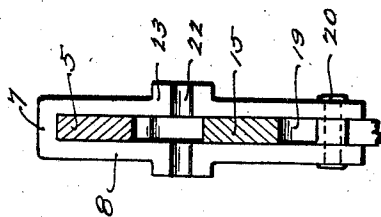


Fig. 4.

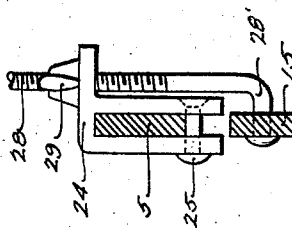


Fig. 5.

Inventor

STEN HELGESON,

By

Chas. A. O'Brien
and Harvey B. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

2,409,627

WRENCH

Sten Helgeson, Renville, Minn.

Application April 14, 1944, Serial No. 531,023

1 Claim. (Cl. 81—78)

1

The present invention relates to new and useful improvements in wrenches adapted for use either as a pipe wrench, or in gripping nuts or other small objects and has for its primary object to provide a quick adjustable wrench of this character and embodying a stationary jaw and a pivoted jaw together with a handle for actuating the pivoted jaw into and out of closed position.

A further object is to provide a wrench of this character of simple and practical construction together with means for locking the pivoted jaw in closed position and which at the same time is efficient and reliable in performance, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout and in which—

Figure 1 is a side elevational view.

Figure 2 is a perspective view.

Figure 3 is a side elevational view with parts shown in section.

Figure 4 is a sectional view taken substantially on a line 4—4 of Figure 3.

Figure 5 is a section on line 5—5 of Figure 1.

Referring now to the drawings in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of my invention, the numeral 5 designates a stationary handle having a jaw 6 fixed at one end thereof and extending at an inclined angle with respect thereto.

A slide 7 is mounted on the handle 5, the slide being of substantially U-shaped formation and including the spaced parallel leg portions 8 and between which the handle 5 is in substantially close-fitting sliding relation.

A pin 9 extends transversely of the leg members 8 and on which is pivotally mounted a movable jaw 10 having its jaw face in cooperating clamping engagement with respect to the jaw face of the fixed jaw 6. The cooperating jaw faces are preferably formed with teeth and are also provided with one or more notches 12 also formed with teeth and adapted to grip a pipe, nut or other objects. An arcuate arm 13 extends from the rear end of the pivoted jaw 10, rearwardly of the pin 9, as shown to advantage in Figure 3 of the drawings, and engaged therewith is a substantially hook-shaped end 14 on the front end of a handle 15 which is pivoted on a pin 16 extending transversely of the legs 8 of the slide,

2

the handle 15 being moved toward and away from the fixed handle 5 whereby to actuate the jaw 10 into its open or closed position.

The lower edge of the handle 5 is formed with longitudinally spaced notches 17 adapted for engagement by a lug 18 formed on the upper edge of the handle 15 in the region of the pivot pin 16. By moving the handle 15 into the position as shown by the dotted lines in Figure 3 of the drawings, the lug 18 will be disengaged from the notches 17 so as to permit free sliding movement of the slide 7 on the handle 5 to provide a quick adjustment for the jaw 10 and the slide is then secured in its adjusted position by the movement of the handle 15 toward the handle 5 in a manner to engage the lug 18 in one of the notches 17.

A leaf spring 19 has one end secured on a pin 20 carried by the lower portion of the slide and a stop pin 21 also carried by the slide adjacent the pin 20 urges the free end of the spring against the lower edge of the arm 13 to move the jaw 10 into its open position.

The rear edge of the legs 8 of the slide 7 are formed with aligned notches 22 adapted to receive a wire, the notches 22 being positioned above the upper edge of the handle 15, when the latter is moved downwardly and adapted for engagement by the upper edge of the handle 15 when the latter is moved upwardly whereby to function as a wire cutter. A flange 23 is formed about the notches 22 to provide an increased bearing surface for the wire.

A locking device is provided for the handle 15 and comprises a U-shaped bracket 24 slidably mounted on the handle 5 and retained in position thereon by a transverse pin 25 extending transversely of the legs of the bracket under the handle 5. The bracket 24 is formed with a shoulder 26 having an opening 27 therein and in which is loosely positioned a screw 28 having a wing nut 29 threaded thereon for engagement with the shoulder 26. One end of the screw 28 is bent angularly as shown at 28' and inserted in an opening 30 in the rear end of the handle 15. Sufficient play is provided for the screw 28 and the opening 27 in order to prevent binding of the screw therein during the movement of the handle 15. The loose movement of the screw 28 in the opening 30 also permits the tilting of the screw to disengage the angular end 28' from the opening 30 in the handle 15, when desired.

In the operation of the tool it will be apparent that the upward movement of the pivoted handle 15 in a direction toward the fixed handle 5 will cause the hook 14 to exert a downward pressure

3

on the arm 13 of the pivoted jaw 10 whereby to cause a closing movement of said jaw with respect to the fixed jaw 6.

It is believed the details of construction, operation and advantages of the device will be readily understood from the foregoing without further detailed explanation.

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

A wrench comprising a handle having a fixed jaw at one end thereof, a slide carried by the handle, a movable jaw pivoted on the slide and having a rearwardly extending arm, a spring carried by the slide and engaging one edge of the arm to urge the movable jaw into its open position, and a handle pivoted on the slide and having its

4

front end engaging the opposite edge of the arm to actuate the movable jaw into its closed position, and a locking device carried by the fixed handle and engageable with the pivoted handle to secure the latter against movement, said locking device comprising a U-shaped bracket slidably mounted on the fixed handle, a lateral shoulder thereon having an opening, a screw slidably mounted in the opening and having one end connected to said pivoted handle, and a nut threaded on the screw against the shoulder and adapted to secure the pivoted handle against movement in a direction which would permit opening of the movable jaw.

STEN HELGESON.