J. S. COLLISON & W. A. WRIGHT.

WRENCH.

APPLICATION FILED JUNE 8, 1918.

1,280,405. Patented Oct. 1, 1918.

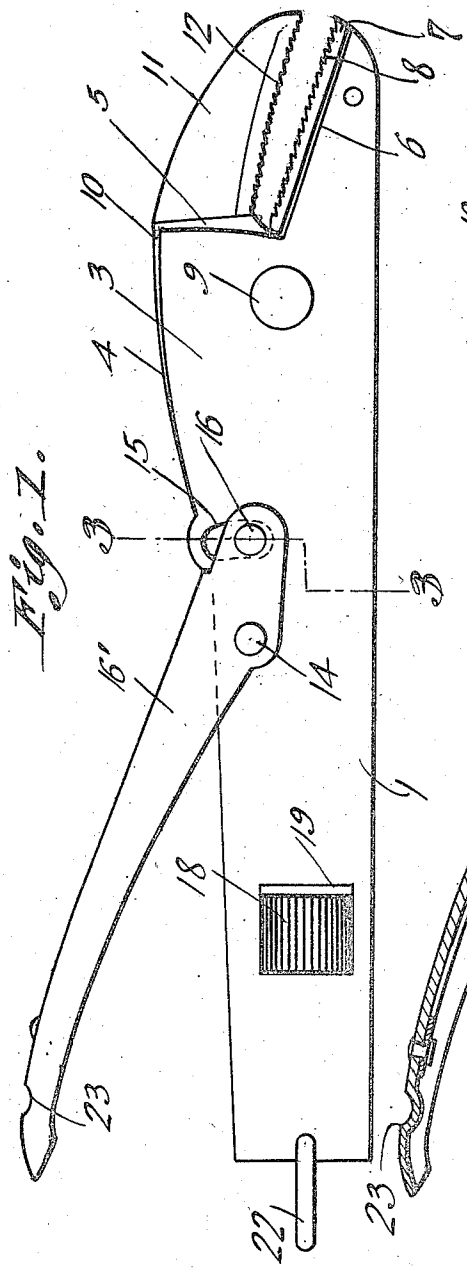


Fig. 1.

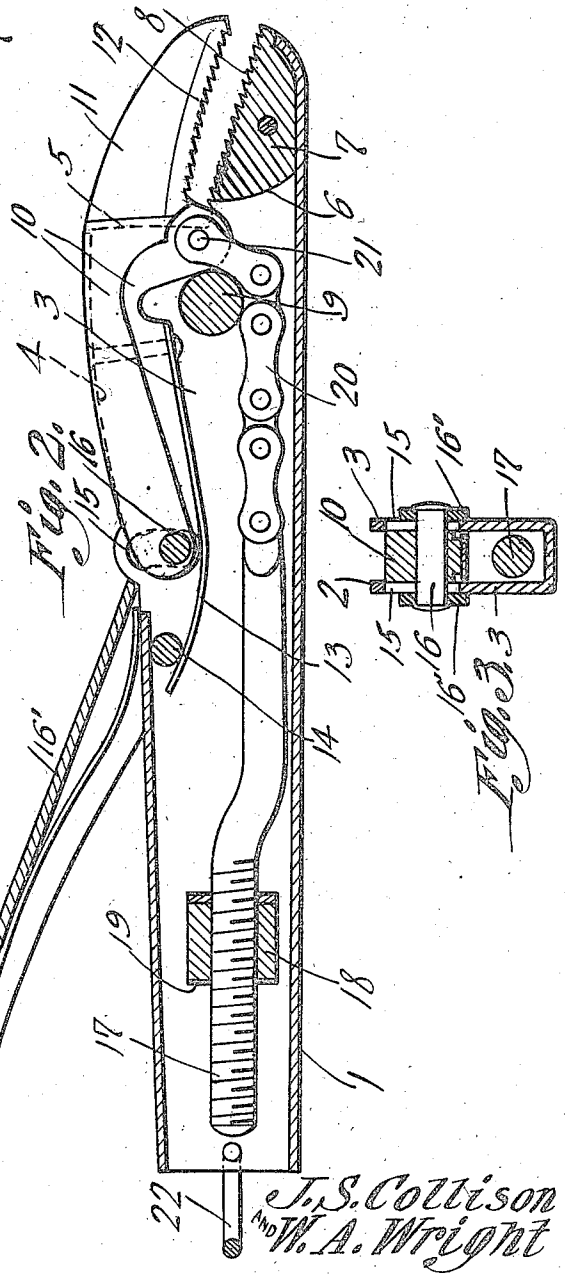


Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN S. COLLISON AND WILLIAM A. WRIGHT, OF ORD, NEBRASKA.

WRENCH.

1,280,405. Specification of Letters Patent. Patented Oct. 1, 1918.

Application filed June 8, 1918. Serial No. 239,004.

To all whom it may concern:

Be it known that we, JOHN S. COLLISON and WILLIAM A. WRIGHT, citizens of the United States, residing at Ord, in the county of Valley, State of Nebraska, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to wrenches and is designed more especially as an improvement upon the device disclosed in Patent Number 1,010,479 issued to us on December 5, 1911.

One of the objects of the invention is to provide improved means whereby a minute adjustment of the movable jaw can be effected, there being a lever connected to said jaw by means of which it can be caused to grip the engaged object with increased pressure while in use.

Another object is to provide adjusting mechanism which is compact and durable and will not readily get out of order.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims, it being understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention within the scope of the appended claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings—

Figure 1 is a side elevation of the wrench.

Fig. 2 is a longitudinal section therethrough.

Fig. 3 is a section on line 3—3, Fig. 1.

Referring to the figures by characters of reference, 1 designates the shank of the wrench which is preferably formed of cold rolled steel bent to form a tube angular in cross section, the top of the shank being cut away along one end portion, as shown at 2, to leave side flanges 3 the longitudinal free edges of which are inclined, as shown at 4. The free end portions of these side flanges are cut away as at 5, leaving tapered side flanges 6 forming a portion of one end of the shank. A block 7 is secured between these flanges 6 and has a toothed portion 8 projecting over and between the edges of the flanges 6, this block forming the fixed jaw of the wrench.

Connecting the flanges 3 is a bearing pin 9 on which rests the forward portion of the shank 10 of the movable jaw 11. The shank is movably located between the flanges 3 and the jaw projects beyond the ends 5 of said flanges and has a toothed face 12, preferably curved from end to end as shown. A spring strip 13, which is under stress at all times, extends under and is secured to the shank 10, one end of the strip engaging a cross pin 14 extending transversely of the shank 1 and projecting beyond the sides thereof. This spring tends to press the jaw 11 away from the block 7. Formed within the sides of the shank 1 or handle 1 are short slots 15 concentric with the pin 14 and projecting through and slidable within these slots are the end portions of a pin 16 which is seated in the back end portion of the jaw shank 10. A hand lever, preferably formed of cold rolled steel, straddles the shank or handle 1, this lever being shown at 16. The lever is fulcrumed on the pin 14 and its forward end is secured to the ends of the pin 16.

Slidably mounted in the shank or handle 1 is a threaded stem 17 engaged by an adjusting nut 18 which is mounted for rotation in said shank or handle and has diametrically opposed portions projecting into side openings 19 formed in the shank 1. A short chain 20 is connected at one end to the forward end of the stem 17 and extends under the bearing pin 9, the other end of the chain being attached to the shank 10 at the inner end of its jaw 11, as shown at 21.

Pivotally connected to the free end of the handle or shank 1 is a loop 22 adapted, when the lever 16 is pressed against the shank 1, to swing over the end of the lever and become seated in a notch 23 therein, thus to lock the lever to the shank.

In using the wrench, the nut 18 is rotated in one direction, thus to feed the stem 17 and chain 20 toward the jaw 7. Spring 13, which is constantly under stress, will swing the jaw 11 and its shank 10 upwardly about the pin 16 as a fulcrum, thus drawing on the chain and taking up slack therein. When the jaws are far enough apart to receive therebetween the object to be gripped, the rotation of the nut is reversed so as to move the stem 17 in the opposite direction and pull, through chain 20, upon the jaw 11 and

cause the two jaws to grip the object, either loosely or tightly, as preferred. By then pressing the lever toward the shank or handle 1 the pin 16 can be caused to move upwardly, swinging the shank 10 therewith and causing the jaw 11 to more firmly engage the gripped object, the pin 9 at this time serving as the fulcrum for the shank 10. Lever 16 can be locked to the shank or handle 1 while the object is thus gripped, by swinging the loop 22 into engagement therewith.

What is claimed is:

1. A wrench including a hollow shank, a fixed jaw at one end thereof, a movable jaw having a shank tiltably and bodily movable relative to the fixed jaw, a flexible element connected to the movable jaw, a bearing member extending between the shank of the movable jaw and the flexible element, longitudinally adjustable means for taking up and paying out said flexible element, and yieldable means for pressing the shank of the movable jaw outwardly.

2. A wrench including a shank, a fixed jaw at one end thereof, a movable jaw having a shank tiltably and bodily movable relative to the fixed jaw, a flexible element connected to the movable jaw, a bearing member extending between the shank of the movable jaw and the flexible element, longitudinally adjustable means for taking up and paying out said flexible element, a spring for pressing the shank of the movable jaw outwardly, and a lever fulcrumed on the shank of the fixed jaw and connected at one end to the shank of the movable jaw.

3. A wrench including a shank, a fixed jaw at one end thereof, a movable jaw having a shank tiltably and bodily movable relative to the fixed jaw, a bearing pin for the shank of the movable jaw, a spring strip secured to said movable shank, a bearing for one end of the spring strip, a longitudinally adjustable stem within the shank of the fixed jaw, a chain connection between said stem and the movable jaw and slidably engaging and guided by the bearing pin, and a lever pivoted on the shank of the stationary jaw and pivotally connected to one end of the shank of the movable jaw.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

JOHN S. COLLISON.
WILLIAM A. WRIGHT.

Witnesses:
ROY TATLOW,
RUDOLPH COLLISON.