July 24, 1928. 1,678,216

B. J. GREER

WRENCH

Filed March 12, 1927

Fig. 1.

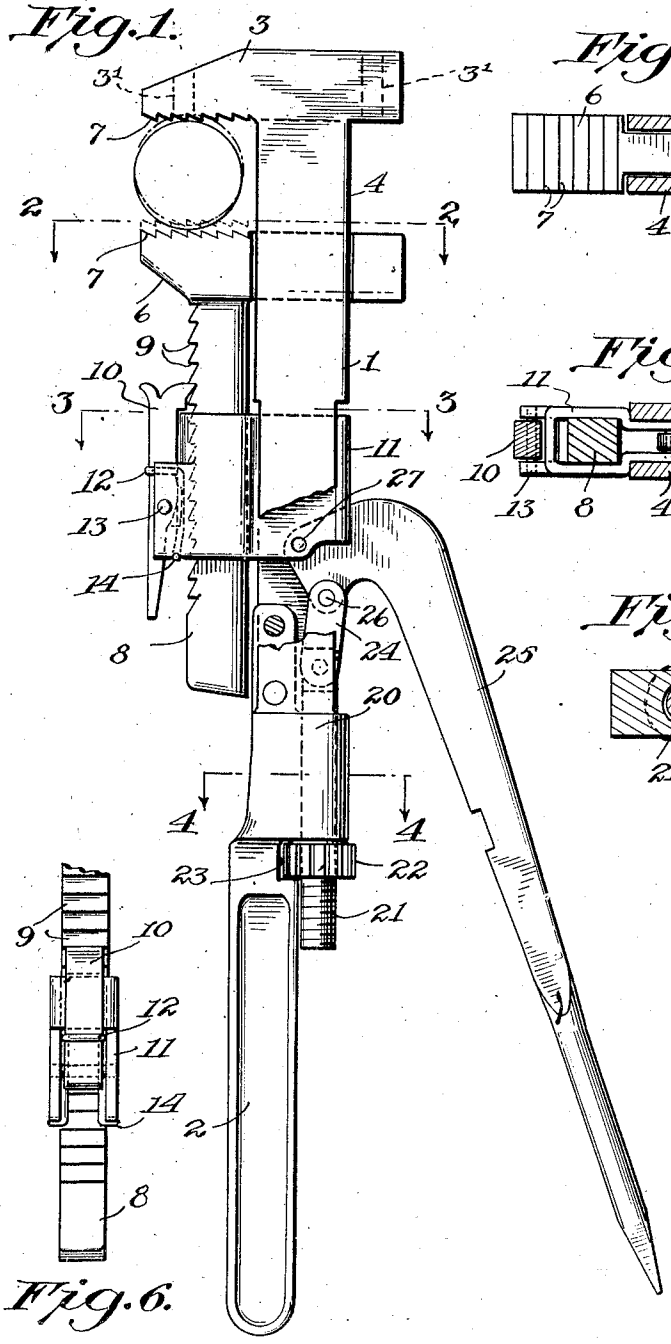
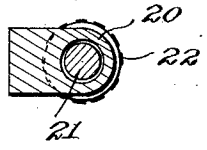


Fig. 2.

Fig. 3.

Fig. 4.



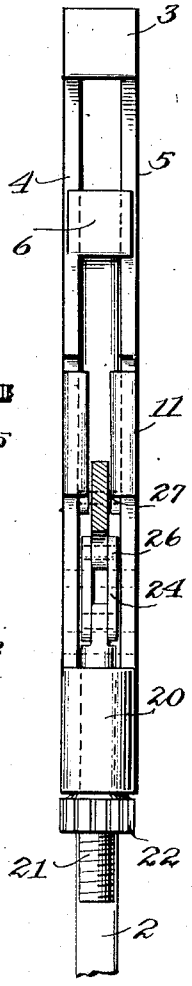


Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

BENJAMIN J. GREER, OF ATHENS, TEXAS, ASSIGNOR OF ONE-HALF TO MERRIOTT A. JACKSON, OF ATHENS, TEXAS.

WRENCH.

Application filed March 12, 1927. Serial No. 174,835.

This invention relates to wrenches and has for its object to generally improve the construction and operation of such devices. More especially it is an object of the present invention to provide a wrench which may be readily and more quickly adjusted to the work on which it is to operate, and by means of which a finer adjustment may be made thereby giving rise to attendant advantages not found in the types of wrenches now on the market.

Other objects and advantages of the invention will be apparent from the following description when taken in connection with the accompanying drawings; in which

Figure 1 is a plan view of the improved wrench.

Figure 2 is a section taken on line 2—2 of Figure 1.

Figure 3 is a section taken on line 3—3 of Figure 1.

Figure 4 is a section taken on line 4—4 of Figure 1.

Figure 5 is a rear edge view of the wrench; and

Figure 6 is an enlarged detail of the latch and spring for operating it.

Referring to the drawings in greater detail the numeral 1 indicates the body portion of the wrench which is provided with a hand grip 2 on one end and a fixed jaw 3 on the other end. The body portion is provided with two spaced-apart side portions 4 and 5 which permit the positioning therein of a movable jaw 6.

The jaw 3 is provided with apertures 3' by which the device may be bolted to the brace of a work bench for use as a vise.

Each of the jaws 3 and 6 is provided with serrations or teeth 7 for gripping an article placed therebetween, and the jaw 6 has a depending arm or rod 8 on which is formed a ratchet 9 for cooperation with a pawl 10. The pawl 10 is pivotally mounted on a bracket 11 which encircles the depending rod 8 and is slidably mounted between the side plates 4 and 5 of the body of the wrench. For the purpose of normally urging the pawl 10 into engagement with the ratchet 9, a spring 12 is provided which encircles the pawl above its pivot point 13 and has its ends anchored at the base of the bracket as indicated by numeral 14.

Extending through a boss 20 on the body portion of the wrench is a screw bolt 21 on which is threaded a knurled nut 22 having a portion thereof extending into a notch 23 in the body portion of the wrench and which forms a bearing for the nut 22 and prevents longitudinal movement thereof; it being obvious that rotation of the nut 22 will cause the screw 21 to be moved longitudinally of the boss 20 depending upon the direction of rotation of the nut.

Pivoted to the upper end of the screw bolt 21 is a link 24 which is in turn pivoted to the arm 25 as indicated at 26. It will be noted that this portion of the arm 25 is made of a substantial width, the purpose being to provide a pivot point 27 by which the arm may be also pivoted to the bracket 11 thereby forming, in effect, a second link which in conjunction with the link 24 provides a toggle connection between the screw 21 and the bracket.

In operation the movable jaw 6 being in open position is moved by means of the plunger 8 to a position best suited for gripping the article to be operated upon. This gives a crude adjustment of the jaws, and the nut 22 is then rotated so as to give a final adjustment and bring the parts into such relation that a movement of the arm 25 into parallel relation with the handle 2 will cause a tight gripping of the articles placed between the jaws 6 and 3 and thereby permit the article gripped to be operated upon in the well known manner.

It will be readily understood by those skilled in the art that the construction just described permits a rapid and accurate adjustment of the wrench to the work, and that the toggle connection permits a very secure grip to be applied to the work. Furthermore, it will be apparent that by reason of the fact that adjustments can be made so that arm 25 can be moved into parallel relation with the grip portion 2 of the wrench that the device may be employed to function as a vise inasmuch as it is unnecessary to continue to hold the arm in parallel relation with the part 2 after the toggle is moved to its dead center position.

In accordance with the patent statutes I have described what I now believe to be the best embodiment of the invention but I do

not wish to be understood thereby as limiting myself or the scope of the invention, as many changes and modifications may be made without departing from the spirit of the invention; all such I aim to include in the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent is:

1. A wrench including a body portion, fixed and movable jaws on said body portion, means for permitting a coarse adjustment of said movable jaw, a toggle for moving said jaw to clamping position, and threaded means having a non-yielding connection with said toggle for giving a finer adjustment to said movable jaw prior to moving the same to clamping position.

2. A wrench including a body portion, fixed and movable jaws on said body portion, means for permitting a coarse adjustment of said movable jaw, a toggle for moving said jaw to clamping position, a threaded bolt non-yieldably connected with said toggle, a nut threaded to said bolt, and means for preventing movement of said nut longitudinally of said body portion, whereby a fine adjustment of said movable jaw prior to moving the same to clamping position may be made by rotating said nut.

3. A wrench including a body portion, fixed and movable jaws on said body portion, a sleeve slidably mounted on said body portion, a pawl and ratchet operatively associated with said sleeve and said movable jaw for providing a coarse adjustment of the latter, a toggle connected with said sleeve, a threaded bolt associated with the body portion of the wrench, and a non-yielding connection between said bolt and said toggle, whereby a finer adjustment is provided for said movable jaw prior to moving the same to clamping position.

BENJAMIN J. GREER.