July 29, 1930. I. C. SAUNDERS 1,771,692

WRENCH

Filed March 28, 1928

Fig. 1.

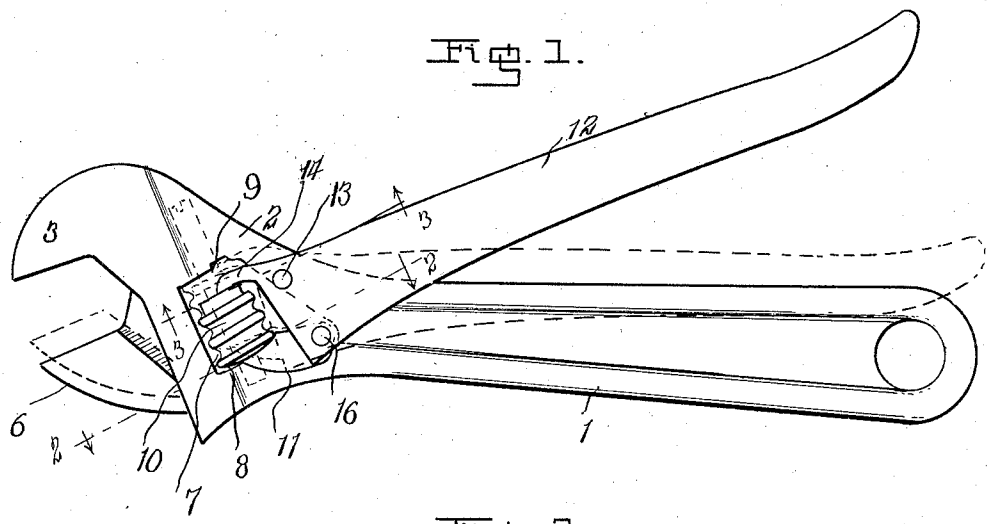


Fig. 2.

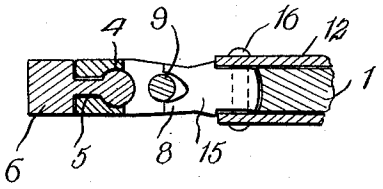


Fig. 3.

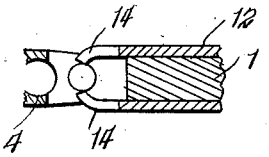
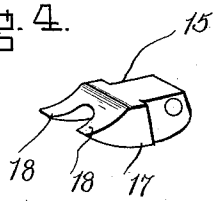


Fig. 4.



Inventor

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UNITED STATES PATENT OFFICE

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WRENCH

Application filed March 28, 1928. Serial No. 265,454.

The present invention is directed to improvements in wrenches.

The primary object of the invention is to provide a device of this character so constructed that the movable jaw of the wrench may be adjusted independently after the same has been initially adjusted by the feed nut.

Another object of the invention is to provide a wrench so constructed that the same can function in the manner of a pair of pliers in order that a nut or other element may be firmly gripped for removal or replacement.

Another object of the invention is to provide a wrench having connected thereto an auxiliary pivotally mounted handle so arranged that when grasped with the usual handle the sliding jaw of the wrench may be adjusted after the adjustment thereby through the medium of the feed nut.

While the drawing illustrates a preferred embodiment of the invention, it is to be understood that in adapting the means to meet specific needs and requirements, the design may be varied and such other changes in the minor details of construction may be resorted to within the scope of the invention as claimed, without departing from the spirit thereof.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and the drawing hereto attached, in which—

Figure 1 is a side elevation of the device.

Figure 2 is a sectional view on line 2—2 of Figure 1.

Figure 3 is a sectional view on line 3—3 of Figure 1.

Figure 4 is a detail perspective view of the jaw.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawing by like reference characters.

Referring to the drawing, 1 designates the handle having formed integral therewith the head 2, said head carrying a fixed jaw 3. The head is provided with a longitudinal groove 4 in which is slidable the guide web 5 of the movable jaw 6, said web being provided with teeth 7.

The head 2 is provided with an opening 8 which is bridged by the shaft 9 and upon which is slidably and rotatably mounted the feed nut 10, said nut having spiral ribs for engagement with the teeth 7 of the guide web. It will be observed that the opening 8 is of such length that the nut may slide in either direction upon the shaft 9. Obviously, upon rotation of the nut the jaw 6 may be moved toward or away from the fixed jaw 3.

One end wall of the opening 8 is formed with a curved surface 11, the purpose of which will be later explained.

An auxiliary handle 12 is employed and is formed from sheet metal and bent into channel form so as to accommodate the handle 1 as said handles approach each other.

The auxiliary handle 12 is pivotally connected to the handle 1 by a pin 13, said handle being provided adjacent its pivotal connection with a pair of spaced fingers 14 which span the shaft 9 in order to engage the adjacent end of the feed nut 10.

A dog 15 is provided and is pivotally connected to the handle 12 by a pin 16, said dog having a curved face 17 for engaging the curved portion 11 of the opening 8 in order that the same will be effectively guided in its movement. The dog is provided upon its free end with spaced projections 18 which span the shaft 9 and engage the adjacent end of the feed nut 10 in opposition to the fingers 14.

As shown in full lines in Figure 1 the jaw 6 has been adjusted upon rotation of the feed nut 10, after which both handles are grasped which causes the handle 12 to approach the handle 1, whereupon the dog 15 will slide so that the projections 18 will move the jaw 6 towards the jaw 3 owing to the fact that said projections engage the adjacent end of the feed nut, thereby causing the jaw 6 to firmly grip the nut or other article in the manner of a pair of pliers. Obviously, when the handle 12 is swung away from the handle 1 the fingers 14 will move the nut 10 in a reverse direction and with it the jaw 6.

Having thus described the invention, I claim:

A wrench comprising a handle having a

head and fixed jaw at one end, the head having a transverse opening and an outwardly extending groove, the lower wall of the opening being formed on the arc of a circle, a movable jaw slidable in the said groove, a nut in threaded engagement with the movable jaw, a shaft extending across the said transverse opening and passing loosely through the nut which is free to rotate and slide thereon, an auxiliary handle pivoted to the head concentric with the beforementioned curved wall and provided with forwardly spaced fingers spanning the said shaft and engaging over the upper end of the nut, and a dog pivoted to the auxiliary handle and having its lower side curved and slidable on the said curved wall, and having its end in contact with the lower end of the said nut.

In testimony whereof I affix my signature.

IRA C. SAUNDERS. [L. S.]