J. MUMFORD.

WRENCH.

APPLICATION FILED OCT. 6, 1919.

1,423,247. Patented July 18, 1922.

Fig. 1.

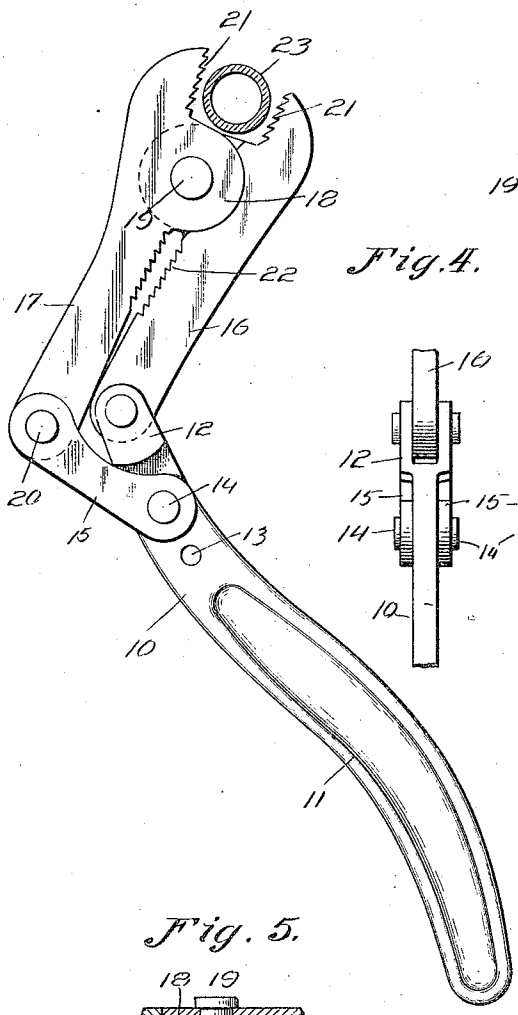


Fig. 3.

Fig. 2.

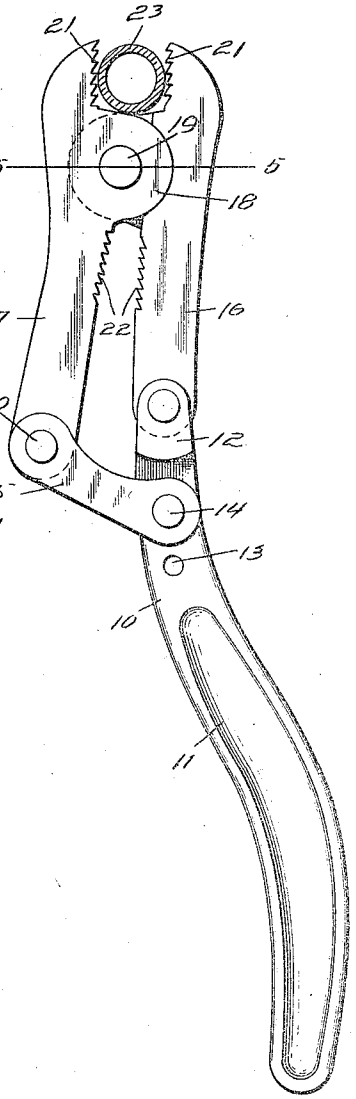
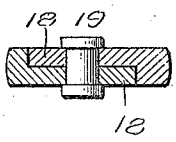


Fig. 4.

Fig. 5.



Inventor
John Mumford.

By Geo. P. Kimmel.
Attorney

UNITED STATES PATENT OFFICE.

JOHN MUMFORD, OF CHILLICOTHE, OHIO.

WRENCH.

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To all whom it may concern:

Be it known that I, JOHN MUMFORD, a citizen of the United States, residing at Chillicothe, in the county of Ross and State of Ohio, have invented certain new and useful Improvements in a Wrench, of which the following is a specification.

The invention relates to a wrench, and more particularly to the class of pivotal lever actuating wrenches.

The primary object of the invention is the provision of a wrench of this character, wherein the jaw members are pivoted together intermediate their ends, and these members are provided with gripping faces on opposite sides of the pivotal connection, so that a piece of work can be gripped by said faces on either side of their pivot connection, the jaw members being operable by a lever and link connection therebetween, thereby enabling a firm gripping action upon the piece of work without possibility of the slipping of the work on the gripping jaws thereon, and avoiding excessive manual exertion on the part of the operator of the wrench.

Another object of the invention is the provision of a wrench of this character, wherein the jaw members and the actuating lever are connected in a novel manner so as to assure positive leverage with minimum exertion and to enable a firm and positive grip upon a piece of work and to maintain this positive grip in the use of the wrench.

A further object of the invention is the provision of a wrench of this character, wherein the same can be actuated in congested places and be readily manipulated as the jaw members will automatically adjust themselves to the piece of work to be engaged, thereby on actuating the lever for the handling of the work.

A still further object of the invention is the provision of a wrench, wherein the jaw members are adjustable, so as to accommodate different sizes of work, to be gripped thereby in the operation of the wrench. The wrench in its entirety being of novel construction to assure reliability and efficiency in its use.

A still further object of the invention is the provision of a wrench of this character, which is extremely simple in construction, strong, durable and inexpensive to manufacture.

With these and other objects in view the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter fully described, illustrated in the accompanying drawing and pointed out in the claims hereunto appended.

In the accompanying drawing:

Fig. 1 is a side elevation of a wrench construction in accordance with the invention with the jaw members in position for receiving a piece of work.

Fig. 2 is a view similar to Fig. 1 showing the jaw members in gripping position relative to the work.

Fig. 3 is an edge elevation.

Fig. 4 is a fragmentary elevation looking toward the opposite edge of the wrench.

Fig. 5 is a sectional view on the line 5—5 of Fig. 2.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail, the wrench comprising an actuating lever 10, preferably of the curvilinear shape as is clearly shown in Figures 1 and 2 of the drawing, and constituting at one end portion a handle 11, while the opposite end portion is bifurcated to form a pivotal fork or yoke 12, the portion of the lever 10 contiguous to the fork or yoke 12 being provided with spaced apertures or holes 13, in any one of which is adapted to be detachably received a pivot 14, for swingingly connecting thereto a double link 15 for a purpose presently described.

Swingingly connected to the fork or yoke 12, of the lever and to double links 15 are jaw members 16 and 17, respectively, the same being of identical construction, yet one jaw member, namely, the member 16 is of slightly less length than the member 17, and these members are formed with overlapped pivot ears 18, which project from their inner edges intermediate the ends thereof and on which is engaged a transverse pivot 19 swingingly connecting the said jaw members 16 and 17 together. The jaw members 16 and 17 are swingingly connected in the fork or yoke 12 and to double links 15 by pivots 20, while formed on said jaw members at their inner edges on opposite sides of the pivot ears 18 are serrated tooth gripping faces 21 and 22 respectively, so that the piece of work introduced between the jaw members and the gripping faces 21 and

22 on opposite sides of the pivot 19 can be firmly and securely gripped by said members for manipulating said piece of work. In Figures 1 and 2 there is shown a pipe section 23 engaged between the gripping surfaces 21 at the outer side of the pivot 19 connecting the jaw members 16 and 17 together.

It will be apparent that to open the jaw members at the outer side of the pivot 19, it is necessary to swing the lever 10 in one direction and on reversed movement a piece of work can be gripped thereby.

Now to swing the jaw members to open position for the engagement of a piece of work between the gripping surfaces 22 the lever 10 is swung in a direction to close the outer ends of said members 16 and 17, whereby the gripping surfaces 22 are separated and the work can be introduced therebetween, then on reverse movement of the lever 10 the said piece of work can be gripped and firmly held between the jaw members 16 and 17, at the inner side of the pivot 19 connecting the same.

On adjustment of the double links 15 by changing the position of the pivot 14, it will be noted that the jaw members can be opened or closed to a larger or smaller degree thereby accommodating various sizes of work, to be manipulated thereby.

It will also be obvious that when pressure is applied upon the lever 10 in a direction to grip the work maximum leverage is had and a more positive grip action upon the work is obtained.

From the foregoing it is thought that the construction and manner of operation of the wrench will be clearly understood and therefore a more extended explanation has been omitted.

What is claimed is:

A wrench comprising a pair of substantially straight, elongated jaw members one of a greater length than the other, said jaw members having their opposed flat faces arranged substantially parallel one with respect to the other and formed with serrated gripping faces arranged in pairs, one pair of such faces being formed at the outer end of said jaw members and the other pair at a point intermediate the length of the latter, pivot connections between the parallel faces of said jar members and between the pairs of said gripping faces, an operating handle pivotally connected to the lower end of the shorter of said jaw members, and a link pivotally connecting the lower end of the longer of said jaw members with said operating handle, the pivotal point of said link with said handle being disposed at a distance below the pivotal point of the latter with said shorter jaw member.

In testimony whereof, I hereunto affix my signature.

JOHN MUMFORD.