July 26, 1949. L. E. ISELE 2,477,335

TWO-PLY JAW FOR LOCK GRIP PLIER WRENCHES

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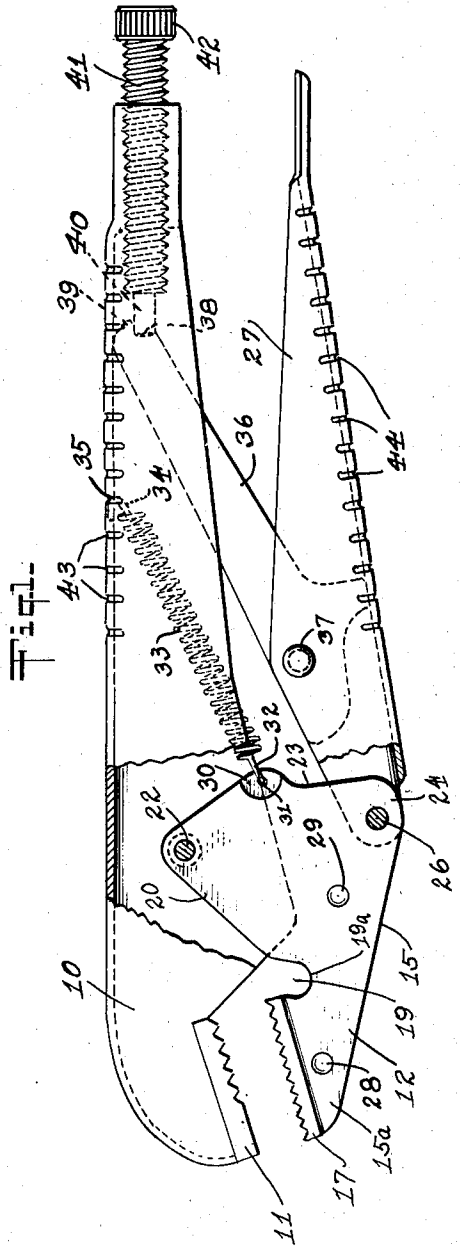


Fig. 1.

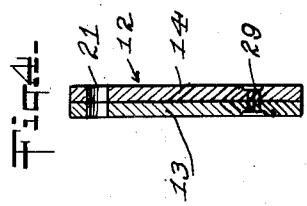


Fig. 4.

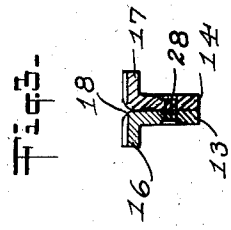


Fig. 5.

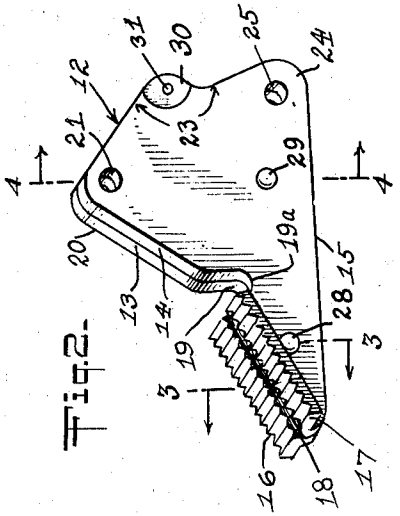


Fig. 2.

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TWO-PLY JAW FOR LOCK GRIP PLIER WRENCHES

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1 Claim. (Cl. 81—186)

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This invention relates to lock grip plier wrenches, and more particularly to a device of this character having a fixed work-engaging jaw to which is pivoted a movable work-engaging anvil comprising a pair of rigidly connected abutting strip metal members.

One object of the present invention is to provide a lock grip plier wrench of the above nature in which the movable anvil is constructed of a pair of substantially triangular stampings having outwardly-extending ribbed work-engaging flanges.

The present type of lock grip plier wrench is so constructed that it will avoid the necessity of exerting the muscles of the fingers for holding the jaws in closed position when used as a wrench or as a clamp for holding one or more parts together for drilling, welding, or grinding.

A further object is to provide a lock grip plier wrench anvil of the above nature which is simple in construction, inexpensive to manufacture, easy to install and manipulate, compact, ornamental in appearance, and very efficient and durable in use.

With these and other objects in view, there has been illustrated on the accompanying drawing one form in which the invention may conveniently be embodied in practice.

In the drawing,

Fig. 1 represents a side view shown partly in section of a lock grip plier-wrench embodying the invention.

Fig. 2 is a perspective view of the movable work-engaging anvil shown by itself.

Fig. 3 is a sectional view of the same, taken along the line 3—3 of Fig. 2, looking in the direction of the arrows.

Fig. 4 is a sectional view of the same, taken along the line 4—4 of Fig. 2.

Referring now to the drawing, in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates a stationary channel-shaped handle having a work-engaging jaw 11 rigidly secured to the end thereof. The jaw 11 has cross ribs at the rear portion of its surface to increase the frictional grip upon the work. The jaw 11 is adapted to cooperate with a movable work-engaging jaw or anvil 12 having cross ribs throughout its length and being constructed of a pair of side abutting members 13, 14 which are substantially triangular in shape, as shown in Fig. 2.

The jaw or anvil 12 is provided with a straight bottom edge 15 and a forward angular wedge-

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shaped work-engaging section 15a, the upper edges of which are bent outwardly to form a pair of opposed ribbed flanges 16, 17, lying in a common plane. The flanges 16, 17 are separated by a V-shaped groove 18 having curved convex edges, as clearly shown in Fig. 3. The groove 18 serves to increase the gripping action of the anvil 12 upon the work.

Adjoining the work-engaging section 15a, the movable anvil 12 has a depending undercut slot 19 provided with a curved bottom 19a, and adjacent said slot 19 provision is made of an upstanding angular section 20 having a cylindrical aperture 21 for receiving a pivot pin 22 which serves to attach the movable anvil 12 to the stationary handle 10.

The movable anvil 12 is also provided with a downwardly inclined angular rear edge 23 having a curved bottom corner 24 within which is a concentric cylindrical aperture 25 for receiving a pivot pin 26 which serves to connect said movable anvil 12 to the movable handle 27 of the lock grip plier wrench.

The abutting ply sections 13, 14 of the movable anvil 12 are rigidly connected together permanently by a pair of spot welds 28, 29. The intermediate corner of the inclined edge 23 is provided with a flattened section 30 of reduced thickness which has a small aperture 31 for receiving a front hook 32 of a strong coiled spring 33 which has a rear hook 34 for engaging in an aperture 35 in the stationary handle 10.

In order to detachably connect the movable handle 27 to the stationary handle 10, provision is made of a toggle link 36 which is connected by a pivot pin 37 to said movable handle 27. The toggle link 36 has a rear concave socket 38, and an overhanging lip 39 adjacent thereto which extends rearwardly therefrom for engagement with a reduced convex pin 40 formed on the front end of a screw bolt 41. The screw bolt 41 is also provided with a knurled rear handle knob 42 to facilitate the manual adjustment of the tool.

In order to enhance the frictional grip of the user's hands upon the stationary handle 10 and the movable handle 27, provision is made of a plurality of transverse grooves 43, 44 on the upper and lower surfaces of said handles, respectively, as clearly shown in Fig. 1.

Operation

When it is desired to use the tool as a pliers or ordinary wrench, it is merely necessary to place

the object to be gripped between the jaw 11 and the anvil 12.

To use the tool as a gripping wrench or vise the handle knob 42 will be adjusted so that when the movable handle 27 is pressed upwardly the pivot pin 37 will pass beyond the dead center to produce a powerful locking grip action upon the work piece. The spring 32 will then serve to hold the toggle link 36 in contact with the pin 40.

While there has been disclosed in this specification one form in which the invention may be embodied, it is to be understood that this form is shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosure, but may be modified and embodied in various other forms coming within the scope of the following claim.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

In a work-engaging jaw for a tool, an anvil comprising a pair of opposed abutting strips of metal secured together and having wedge-shaped work-engaging sections provided with a pair of outturned integral flanges lying in a common plane, each flange forming a work-engaging face, the abutting surfaces of said opposed strips diverging outwardly from a line below the common plane of the work-engaging faces of said flanges, whereby a longitudinal work-gripping groove is formed between said flanges.

LOUIS E. ISELE.

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