Nov. 6, 1923. 1,473,436

G. O. LEOPOLD

HANDLE FOR SOCKET WRENCHES

Filed July 7, 1922

Fig. 2.

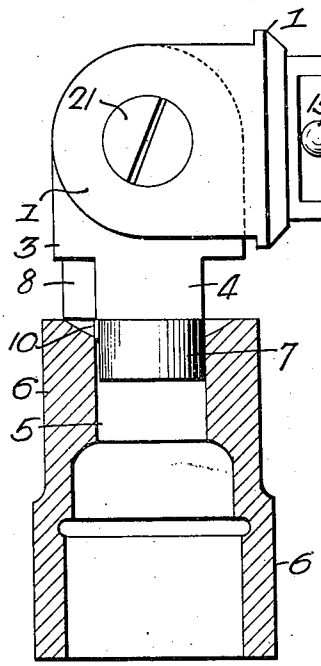


Fig. 1.

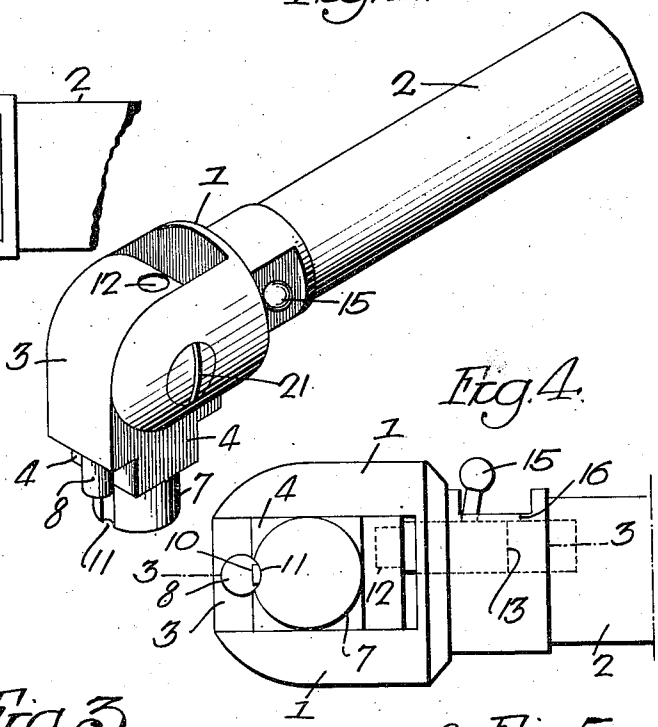


Fig. 4.

Fig. 3.

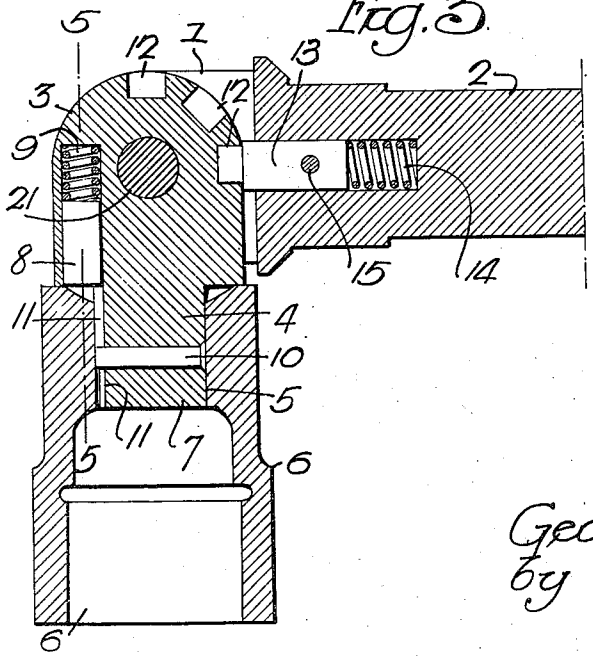
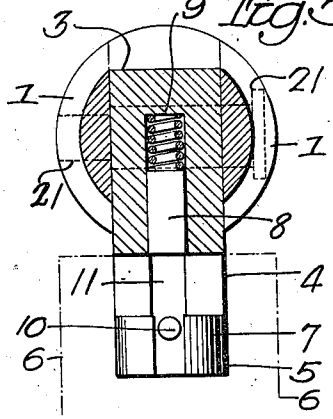


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE O. LEOPOLD, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO NORTH BRO'S M'F'G CO., OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

HANDLE FOR SOCKET WRENCHES.

Application filed July 7, 1922. Serial No. 573,420.

To all whom it may concern:

Be it known that I, GEORGE O. LEOPOLD, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Handles for Socket Wrenches, of which the following is a specification.

My invention relates to certain improvements in detachable handles for socket wrenches.

The object of my invention is to provide means for ejecting the engaging portion of the handle from the socket wrench as soon as pressure is released so that the handle can be turned to a position to re-engage the wrench, which enables the operator to turn the wrench intermittently on the reciprocation of the handle.

The invention also relates to certain details of construction, which will be described hereinafter.

In the accompanying drawings:

Fig. 1 is a perspective view of my improved handle for socket wrenches;

Fig. 2 is a side view of the handle in position to be forced into the opening in a socket wrench, the wrench being in section;

Fig. 3 is a sectional view on the line 3—3, Fig. 4;

Fig. 4 is an inverted plan view of the handle; and

Fig. 5 is a sectional view on the line 5—5, Fig. 3.

1 is a head having an extension 2 forming a hand hold by which the handle is turned. Pivoted to the head 1 is an engaging member 3 having a rectangular portion 4 arranged to enter a rectangular opening 5 in the socket wrench 6 of the ordinary construction. These wrenches are made in different sizes to fit nuts or bolts of different sizes, but the opening for the handle is the same size in wrenches of all sizes so that one handle can be used to turn the wrenches of a set.

Projecting from the rectangular portion 4 is a cylindrical portion 7, which is of a diameter to turn freely in the opening in the wrench 6.

Located in the engaging member 3 is an ejecting plunger 8 back of which is a spring 9. This plunger rests in the end of the socket wrench and the spring is compressed when the handle is forced in engagement with the wrench, as in Fig. 3. When the handle is released from pressure, the spring 9 projects the plunger, as in Figs. 1 and 2. The plunger is limited in its movement by a stop pin 10, which projects into a groove 11 formed in the portions 4 and 7.

The pivot 21 is a screw pin having a reduced threaded portion shown by dotted lines in Fig. 5. This construction allows the engaging member to turn freely on the pin. In the engaging member are three openings 12. Mounted in the head 1 is a bolt 13 arranged to enter one of the openings 12 when an opening is in line with the bolt, as in Fig. 3. Back of the bolt is a coiled spring 14. The bolt 13 has a handle 15, which projects through a slot 16 in the head. When the bolt is withdrawn, the handle can be turned on the engaging member and, when properly adjusted, it can be locked by the bolt.

When the handle is in position to engage the socket wrench, with the cylindrical portion 7 located in the opening in the wrench, Fig. 2, the handle is forced down by the operator so that the rectangular portion 4 engages the socket wrench, Fig. 3, forcing the plunger into its opening and compressing its spring. The wrench can then be turned by the handle.

When the wrench is to be moved intermittently in one direction on reciprocating the handle, then the pressure on the handle is relaxed, and, immediately, the plunger will force the handle away from the wrench, as in Fig. 2, so that the rectangular portion is free of the wrench. Then the handle can be turned without turning the wrench so that it can be moved to a position to re-engage the wrench.

By the construction hereinbefore described, the socket wrench can be moved forward intermittently without the use of pawls and ratchet wheels.

While the portion 4 is described as "rectangular," the shape may be varied to correspond with the opening in the socket wrench.

I claim:

1. The combination in a handle for wrenches, of a head having an extension forming a handhold; an engaging member pivoted to the head; and means for locking the engaging member to the head, said engaging member having a rectangular portion to fit an opening in a wrench so that it can be turned by the handle and also having

a cylindrical portion of a diameter to turn freely in the opening in the wrench, when the handle is raised.

2. The combination in a handle for wrenches, of a handhold; an engaging member connected to the hand hold, said engaging member having a rectangular portion and a cylindrical portion beyond the rectangular portion; an ejecting plunger within the engaging member at one side of the rectangular portion; a spring back of the plunger; and a transverse stop pin in the cylindrical portion to limit the outward movement of the plunger.

3. The combination in a handle for socket wrenches, of a hand hold; an engaging member connected to the hand hold, said engaging member having a rectangular portion to engage and turn the wrench; a cylindrical portion arranged to turn freely in the wrench, the two portions having a longitudinal groove therein; a spring-pressed plunger in the engaging member arranged to slide in said groove; and a transverse stop pin extending into the groove to limit the movement of the plunger.

4. The combination in a handle for a socket wrench, of an engaging member having a rectangular portion arranged to fit the opening in the socket wrench and to turn the wrench and having a cylindrical portion beyond the rectangular portion arranged to turn freely in the socket of the wrench when the engaging member is raised; a spring-pressed plunger in the engaging member to raise said member; a head pivoted to the engaging member and having a handhold; and a spring-pressed bolt in the head, the engaging member having a series of openings, into any one of which the bolt may be projected to secure the head to the engaging member.

GEORGE O. LEOPOLD.