

M. H. TERRY,
 RATCHET WRENCH.
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1,415,731.

Patented May 9, 1922.

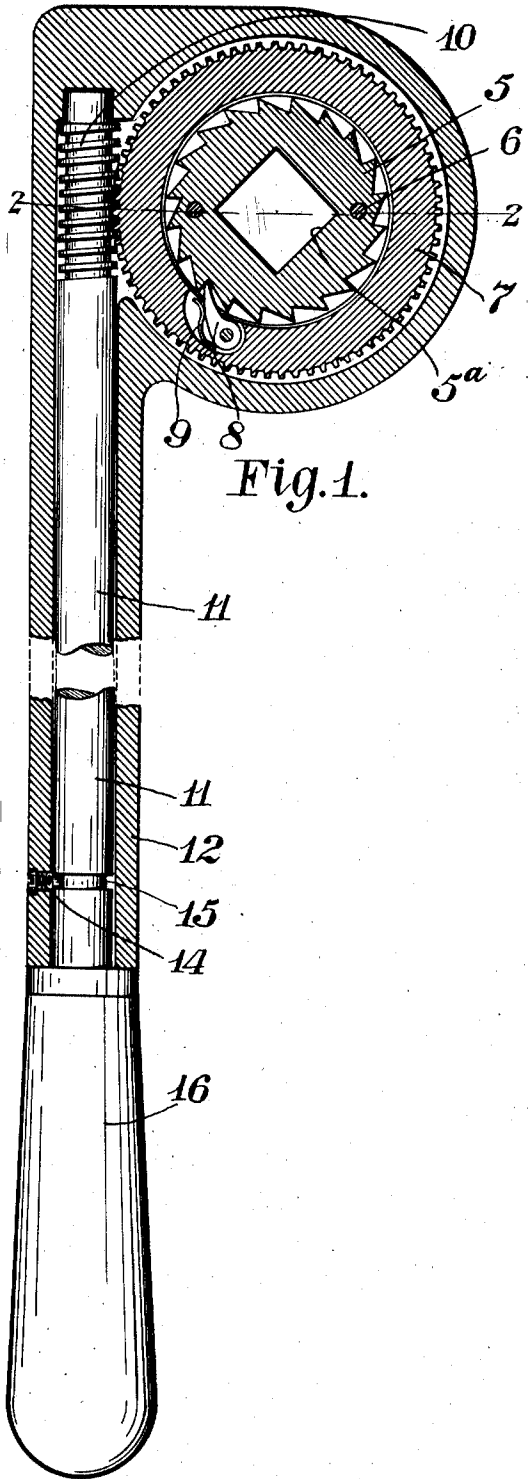


Fig. 1.

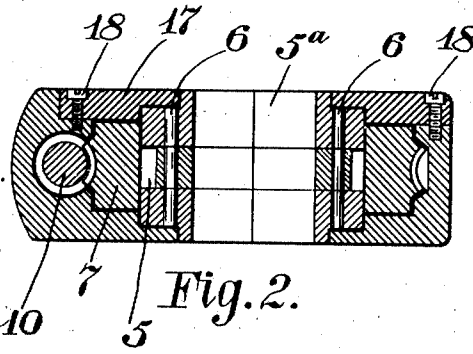


Fig. 2.

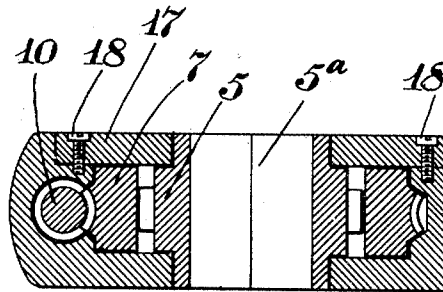


Fig. 3.

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RATCHET WRENCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MERRILL H. TERRY, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Ratchet Wrenches, of which the following is a specification.

It oftentimes occurs that there is very little room for oscillating the handle of a ratchet wrench in turning a nut or bolt. The object of the present invention is to provide an improved construction whereby the bolt or nut may be turned even where there is no room for oscillating the handle. Other objects may be gathered from the following description.

The invention is embodied in the example herein shown and described.

In the accompanying drawing—

Figure 1 is a longitudinal section partly broken away.

Fig. 2 is a cross-section on the line 2—2 of Fig. 1, and

Fig. 3 is a section like Fig. 2, of a modification of the construction.

In the views 5 is the ratchet member provided with teeth at its rim and with a central orifice 5^a to engage the head of a bolt or nut or to receive a socket member (not shown) for engaging the head of a bolt or nut, as usual. In Fig. 2 the ratchet member, for possible convenience in manufacture, is composed of three principal parts pinned together by pins 6, the intermediate part being the toothed or ratchet portion and the other two formed to provide bearings in the walls of the head. In Fig. 3 the ratchet member is composed of a single piece, the teeth being formed in a projecting rim whereas in Fig. 2 the teeth by reason of the overlapping top and bottom bearing pieces are virtually in an annular recess.

The ratchet member is inclosed in a ring 7 carrying a pivotal pawl 8 pressed by a spring 9 to insure engagement of the teeth. The ring 7 has its rim made as a worm gear to be engaged by a worm 10 on the end of a shaft 11 extending through a hollow handle 12. A screw pin at 14 in the handle properly engages a groove 15 in the shaft 11 to permit rotation but prevent longitudinal movement of the latter.

The shaft 11 is equipped with a hand piece 16 for turning the worm so that the gear ring 7 may be operated in either direction, but the worm and gear are shown as made irreversible, that is the worm cannot be turned by operating the gear.

The mechanism of the wrench head is enclosed by a cap 17 held in place by set screws 18.

The forms of the parts can be changed without departing from the gist of the invention as claimed.

What I claim is:

1. A wrench including, in combination, a ratchet member, a worm-gear ring surrounding the ratchet member and provided with a pawl to engage the ratchet member, and a worm engaging the worm-gear ring.

2. A wrench including, in combination, a handle, a ratchet member, a worm-gear ring surrounding the ratchet member and provided with a pawl to engage the ratchet member, a worm engaging the worm gear, and a shaft within said handle for turning said worm.

3. A wrench including, in combination, a ratchet member, a worm-gear ring surrounding the ratchet member and provided with a pawl to engage said ratchet member, and a worm engaging the worm gear, said worm and gear being irreversible.

MERRILL H. TERRY.