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3,504,579

OPEN END RATCHET WRENCH

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Fig. 1

Fig. 2

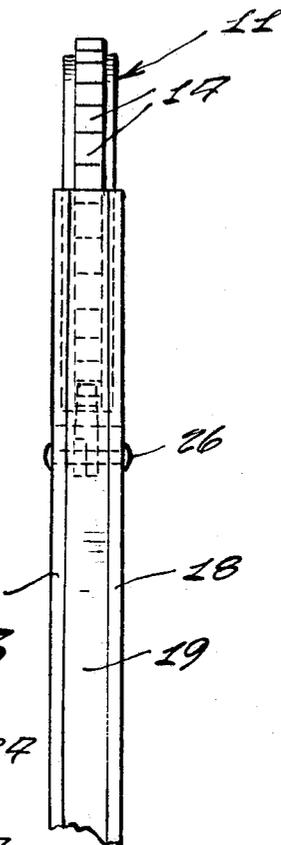
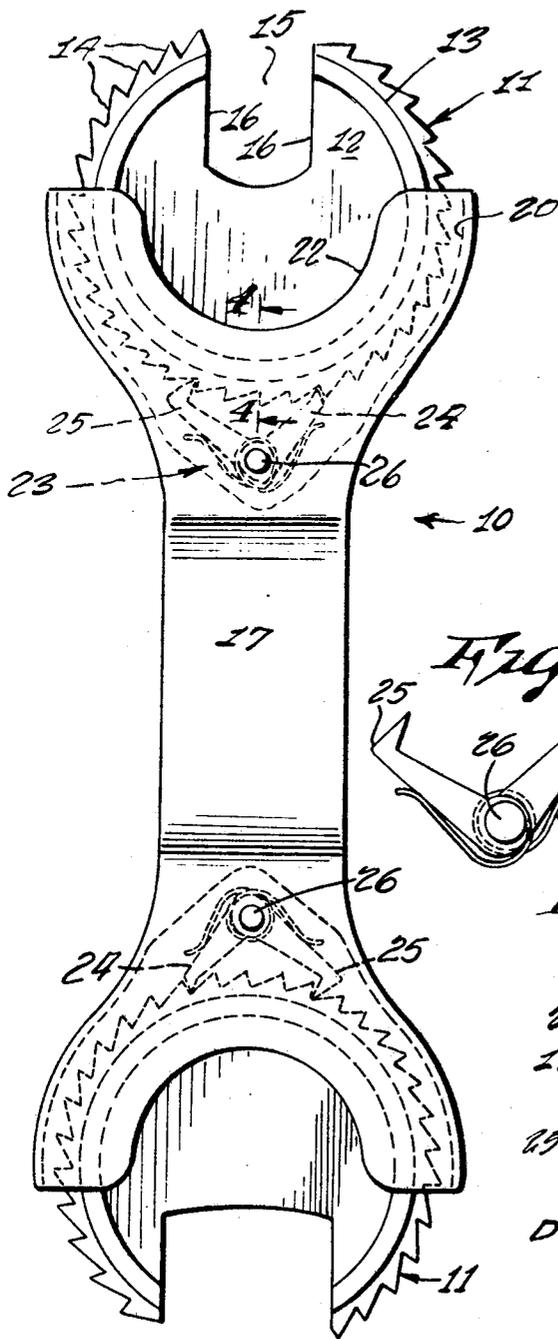
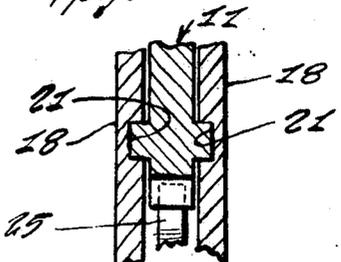


Fig. 3



Fig. 4



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1

3,504,579
OPEN END RATCHET WRENCH
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1 Claim

ABSTRACT OF THE DISCLOSURE

An open end ratchet wrench having a rotatable disk, containing a series of teeth along its peripheral edge, a nut or bolthead receiving slot at one point of the edge, the rotatable disk being supported rotatably free in a handle.

This invention relates generally to open end ratchet wrenches such as are used for tightening boltheads and nuts.

A principal object of the present invention is to provide an improved open end ratchet wrench that is designed particularly to be able to work in very close quarters where only a straight open wrench will serve.

Yet another object of the present invention is to provide an open end ratchet wrench which will work rapidly within very close quarters.

Still another object of the present invention is to provide an open end ratchet wrench which may be reversed by simply turning over.

Yet a further object of this invention is to provide an open end ratchet wrench wherein a different size ratchet wheel may be attached the other end of the handle.

Still a further object is to provide an open end ratchet wrench wherein the handle may be offset straight or extended to any length.

Yet a further object is to provide an open end ratchet wrench which is light in weight and which has a high strength.

Other objects of the present invention are to provide an open end ratchet wrench which is simple in design, inexpensive to manufacture, rugged in construction, easy to use and efficient in operation.

These and other objects are readily evident upon a study of the following specification and the accompanying drawing wherein:

FIGURE 1 is a fragmentary side elevation view of an open end ratchet wrench shown incorporating the present invention;

FIGURE 2 is an end elevation view thereof;

FIGURE 3 is an enlarged detailed view of the double hook mechanism that comprises a part of the present invention;

FIGURE 4 is an enlarged cross sectional view taken on the line 4-4 of FIGURE 1.

Referring now to the drawing in detail, the reference numeral 10 represents an open end ratchet wrench, according to the present invention wherein there is a disk or wheel 11 of relatively flat character having flat opposite sides 12 upon each of which there is a raised, circular tongue 13. While FIGURES 1 and 2 of the drawing show the wheel assembly 11 at one end of a handle, it is to be understood that the opposite end of the handle is provided with a leg wheel assembly which would be made to accommodate a different size use.

2

The wheel or disk 11 has a peripheral edge that is divided into a series of ratchet teeth 14, the peripheral edge having a notch 15 therein at one point, the notch 15 having parallel opposite sides 16 for the purpose of grasping, nut or other object that is to be turned forwardly or in reverse.

The wheel 11 is supported in one end of a handle 17, the handle being comprised of a pair of side plates 18 having a handle core 19 therebetween. The handle core has a semicircular opening 20 in the end thereof for purpose of receiving the wheel 11, and each of the side plates 18 has a groove 21 of semi-circular configuration for purpose of receiving therein the tongue 13, thus allowing the wheel to be slideably engaged therewithin to permit the wheel to rotate. Each of the side plates 18 includes a semi-circular notch 22 in the end thereof so as to provide sufficient clearance for a nut or bolthead during pivotal travel of the wheel.

A pawl assembly 23 is provided for holding the wheel and allow rotation in one direction only thereof, the pawl assembly comprising a pair of hooks 24 and 25 pivotable about a pin 26. A spring 27 coiled around the pin 26 is provided with end legs, one of which bears against each of the hooks 25 so to normally maintain them in alignment for engagement with the teeth 14 of the wheel. It is to be noted that by using a pair of hooks with points of contact greater than the nut opening on the wheel, one hook will always be in contact with the wheel. This will give a greater strength to the device.

The side plates may be drop forged from alloy steel with matching grooves to fit the wrench wheel. The entire device may be assembled together and then secured by a plurality of pins 26 at each opposite end of the handle 17.

While various changes may be made in the detailed construction, it is understood that such changes will be within the spirit and scope of the present invention as is defined by the appended claim.

I claim:

1. In an open end ratchet wrench of ratchet type, the combination of a rotatable wheel supported rotatably free at each end of a handle, each of said wheels comprising a relatively thin circular disk having flat opposite sides with extending tongues on each said side, each said disk having a peripheral edge with a plurality of ratchet teeth, said peripheral edge having a notch at one point therein for purpose of engaging a nut or bolthead, said handle comprising an elongated member having a semi-circular opening in each end thereof for purpose of receiving said wheel, said handle being comprised of a central core member and a side plate member on each side of said core member, said core member having said semi-circular opening, each of said side plate members having a semi-circular depression or groove therewithin for purpose of engaging slideably free said tongue on each side of said wheel, said core member and said side plate members being firmly secured together by a transverse extending pin at each end of said handle, a pawl assembly being provided for allowing rotation of said wheel in one direction only, said pawl assembly comprising a pair of hooks secured pivotally free upon each one of said pins, and a spring coil around said pin, said spring having a terminal end at each end thereof which engages each one of said

3

hooks for urging said hooks into engagement with said teeth of said wheel, and each pair of hooks being comprised of one right angle. L-shaped hook and one straight-line hook.

4

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