W. VAN WIE.

WRENCH.

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916,507. Patented Mar. 30, 1909.

Fig. 1.

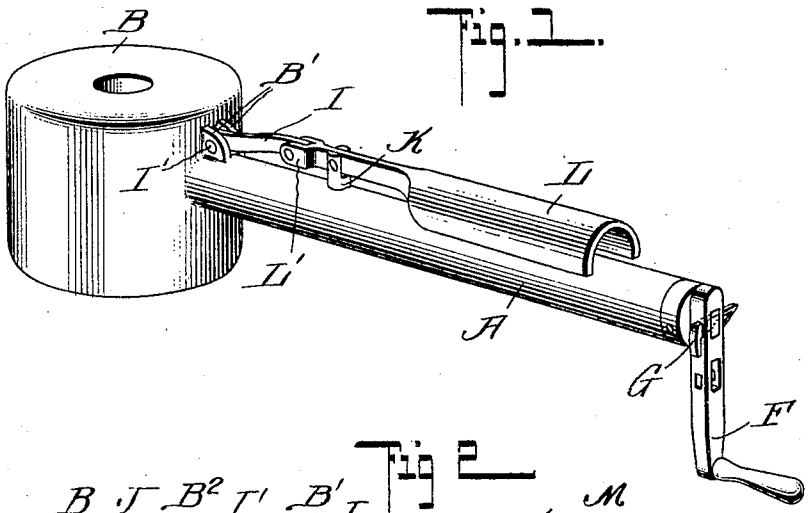


Fig. 2

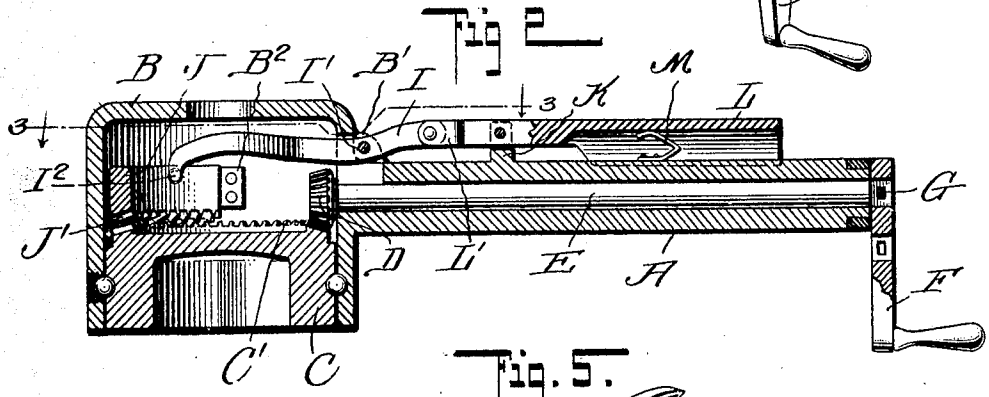


Fig. 5.

Fig. 3.

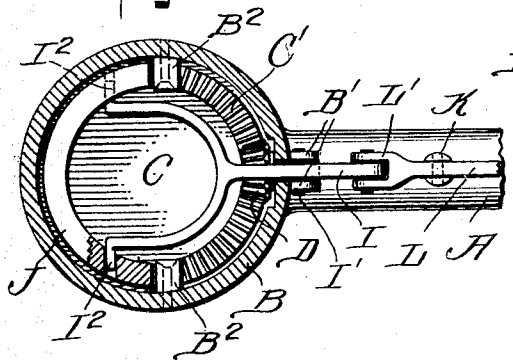
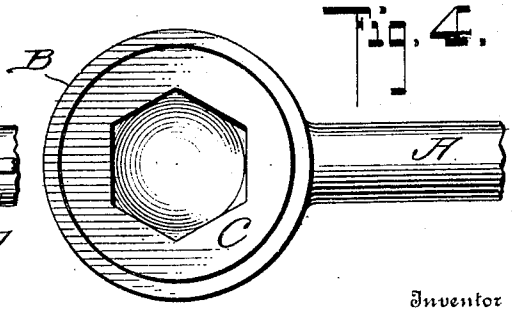


Fig. 4.



Witnesses

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WRENCH.

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To all whom it may concern:

Be it known that I, WALTER VAN WIE, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

This invention relates to wrenches, the object being to provide a wrench with a revoluble jaw which can be operated without turning the handle so that a nut can be readily taken off after loosened or screwed on.

A further object of my invention is to provide a wrench which is exceedingly simple and cheap in construction, and one which is provided with very novel means for locking the revoluble jaw so that the wrench can be operated by the handle.

With these objects in view, the invention consists in the novel features of construction, combination and arrangement of parts hereinafter fully described and pointed out in the claims.

In the drawing forming a part of this specification:—Figure 1 is a perspective view of my improved wrench. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a section taken on lines 3—3 of Fig. 2. Fig. 4 is an inverted plan view of the wrench, the handle being partly broken away, and Fig. 5 is a perspective view of a cotter pin used for locking the crank-arm to the shaft.

In the drawing A indicates a hollow handle provided with a cylindrical head B which is provided with an external annular groove adjacent its open end, in which are mounted balls which work in the annular groove of a circular jaw C which is provided with a nut-receiving opening. The balls being placed in the run-way formed by the co-acting grooves of the head and jaw, through an opening formed in the head which is normally closed by a plug, as shown in Fig. 2.

The upper edge of the jaw is provided with beveled-gear-teeth as shown at C′ which mesh with a beveled gear D secured on the end of the shaft E mounted in the hollow-handle, the end of the shaft E being formed oblong in cross-section, as shown, over which is adapted to fit one of the oblong openings of a crank-arm F which is locked thereon by a cotter-pin G, as clearly shown in Fig. 1, and it will be seen that by operating the crank-arm, the jaw can be caused to revolve in either direction which will enable the jaw to be turned so that it can be readily placed over a nut when using the wrench in close quarters, and by continually turning the crank, the jaw will be caused to revolve and screw up or unscrew the nut as the case may be. The crank-arm being provided with spaced openings, whereby the arm can be adjusted so as to change the leverage.

The upper end of the cylindrical head being provided with an inwardly projecting flange as shown, which incloses the same and formed in one wall of the head, over the handle is an opening, to each side of which are arranged apertured lugs B′ in which is mounted a lever I on a pin I′, the lever being provided with a forked end, the arms of which are angled as shown at I^2 which are adapted to fit in a semi-circular member J provided with teeth J′ in its lower edge, which are adapted to engage the beveled gear C′ of the jaw C, to prevent the same from rotating, the member J being held in position by guide-members B^2. An apertured lug K is formed on the upper end of the handle A, in which is mounted a handle L provided with a bifurcated end L′, between which is pivotally mounted the outer end of the lever I. The other end of the handle is formed semi-circular in cross-section as shown, under which is arranged a spring M, adapted to normally hold the handle up in position as shown in Fig. 2, whereby the member J will be normally held out of engagement with the revoluble jaw and allowing it to rotate freely, and it will be seen that by grasping the handle A and pressing on the handle L, the member J will be thrown into engagement with the teeth of the jaw C, so as to lock the jaw and prevent the same from turning.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A wrench comprising a hollow handle provided with a cylindrical head, a jaw revolubly mounted in said head provided with beveled gear teeth on its upper face, a shaft mounted in said handle carrying a beveled gear meshing with said gears of the jaw, a crank-arm secured on the end of said shaft, and a sliding member arranged in the head provided with teeth adapted to engage the teeth of the jaw.

2. A wrench comprising a hollow handle provided with a cylindrical head, a jaw provided with a beveled gear on its upper face revolubly mounted in said head, a shaft

mounted in the handle carrying a gear meshing with the teeth of the jaw, a lever mounted in the head carrying a locking member adapted to engage the teeth of the jaw, and a handle mounted on the first mentioned handle connected to said lever.

3. A wrench comprising a hollow handle provided with a cylindrical head, a circular jaw revolubly mounted in said head provided with beveled gear teeth on its upper edge, a shaft mounted in the handle provided with a beveled gear meshing with the teeth of the jaw, a crank arm secured on the outer end of said shaft, a semi-circular member slidably mounted in said head over said jaw provided with teeth on its lower edge, said member being carried by a pivoted lever, and a spring actuated handle connected to said lever for normally holding said member out of engagement with the teeth of the jaw.

WALTER VAN WIE.

Witnesses:
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