

C. E. WATERWORTH.
 RATCHET WRENCH.
 APPLICATION FILED DEC. 26, 1911.

1,057,903.

Patented Apr. 1, 1913.

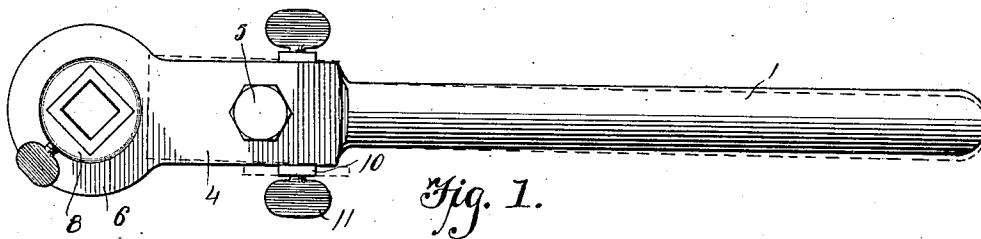


Fig. 1.

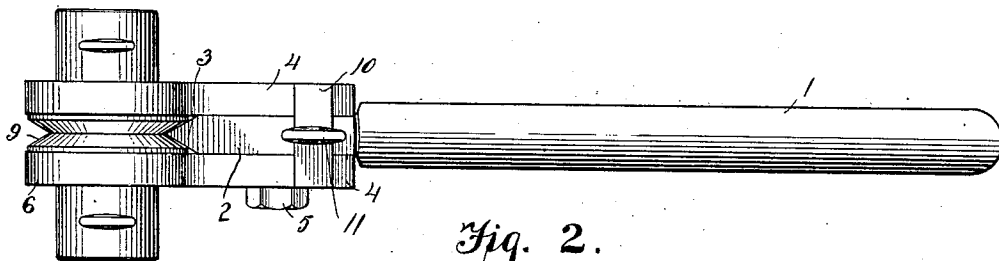


Fig. 2.

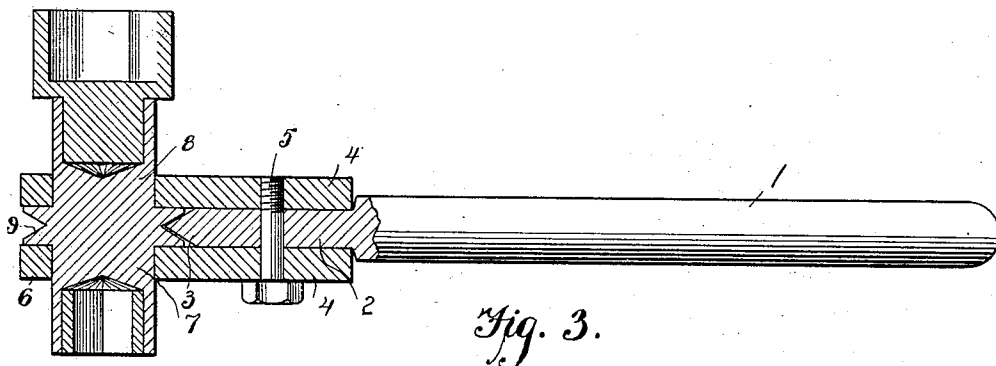


Fig. 3.

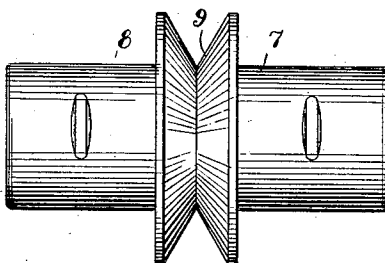


Fig. 4.

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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, CHARLES E. WATERWORTH, a citizen of the United States, residing at Las Cascadas, Canal Zone, have invented new and useful Improvements in Ratchet-Wrenches, of which the following is a specification.

This invention relates to ratchets and more particularly to that type which are used in connection with ratchet wrenches or drills.

The object of this invention is to provide a novel gripping arrangement which avoids the necessity of using pawls and toothed wheels which are constantly becoming broken.

Further objects of this invention will appear as the following specific description is read in connection with the accompanying drawing which forms a part of this application, and in which:—

Figure 1 is a side elevation. Fig. 2 is an edge elevation. Fig. 3 is a longitudinal sectional view. Fig. 4 is a detail elevation of the ratchet head removed.

Referring more particularly to the drawing, 1 represents the shank which is provided with a flattened head 2 having a wedge-shaped outer edge 3. The head is entered between two pivoting plates 4 which are pivoted to the head by means of a bolt 5 and which are provided with circular apertured heads 6 adapted to surround the cylindrical extensions 7 on the ratchet head 8. This head 8 is provided with a circumferential V-shaped groove 9 which the wedge 3 fits. The head 2 is of equal width with the legs of the plates 4 and when its edges are alined with the edges of the plates 4, the wedge 3 will be free of the walls of the groove 9. However, when the handle is thrown to one side or the other, the head will be tilted between the plates and the wedge 3 will be forced into engagement with the groove binding upon the walls thereof and preventing rotation of the ratchet head and the extensions 7.

In order to prevent the head swinging past alinement with the edges of the plates

in one movement of the handle and whereby the ratchet head may be rotated free when the handle is turned in this direction, the plates 10 are pivoted upon thumb screws 11 which bind the plates against the head in such a manner that they may be turned across the plates 4, as shown, or alined with the head 2. When both of the plates are positioned across the edges of the plate 4, the head 2 has no relative movement with relation to the plates 4 and when both plates 10 are alined with the head, the head 2 has relative movement in both directions with relation to the plates 4. It will therefore be seen when one of the plates is alined with the head and the opposite plate turned across the head and the plates 4, the head 2 will have relative movement only in one direction so that the plates 4 may be rotated idly around the ratchet head 8 in one direction and the wedge 3 positively engaging the same in the opposite direction of movement. Each extension 7 is provided with a socket which may either be adapted to receive a nut or a drill or any other similar tool and each head has a set screw 12 for locking the tool in the socket.

Having thus described the invention, what I claim as new, is:—

1. A device of the class described comprising a pair of plates, a member rotatably mounted therein, a head on the member arranged between the plates and having a V-shaped groove, an operating handle pivoted to the plates, means carried by the handle and adapted to wedge in the groove upon movement of the handle in either direction, means pivoted on the handle for preventing relative movement of the handle and plates in either direction and means for locking the last named means in operative or inoperative position.

2. A device of the class described comprising a pair of plates, a socketed receiving member journaled therein, a circular head on the member arranged between the plates and having a V-shaped groove, an operating handle pivoted upon the plates, an extension thereon having a straight wedge

shaped end adapted to engage the groove,
turn buttons pivotally mounted upon the
opposite sides of the extension and adapted
to project across the plates to one side of
5 the pivotal pin of the handle, and set screws
for clamping the turn buttons in adjusted
position.

In testimony whereof I affix my signature
in presence of two witnesses.

CHARLES E. WATERWORTH.

Witnesses:

ANDREW N. NAYLOR,
JAMES E. BARNEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
