

J. W. HURLEY.
WRENCH.
APPLICATION FILED JAN. 18, 1908.

909,799.

Patented Jan. 12, 1909.

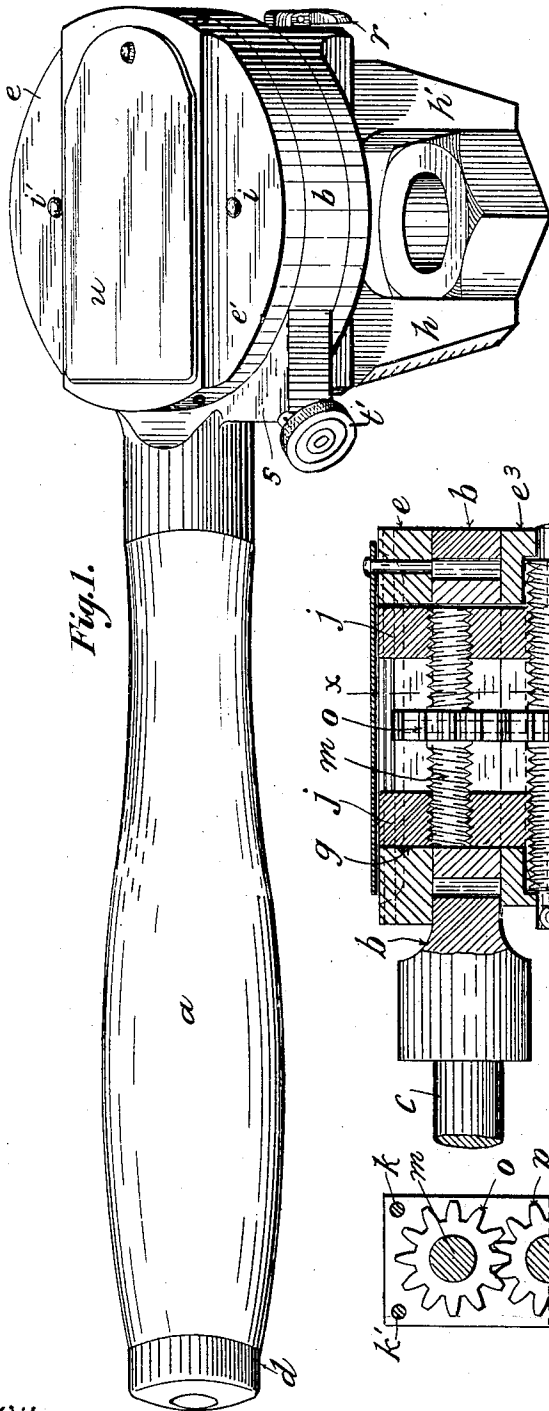


Fig. 1.

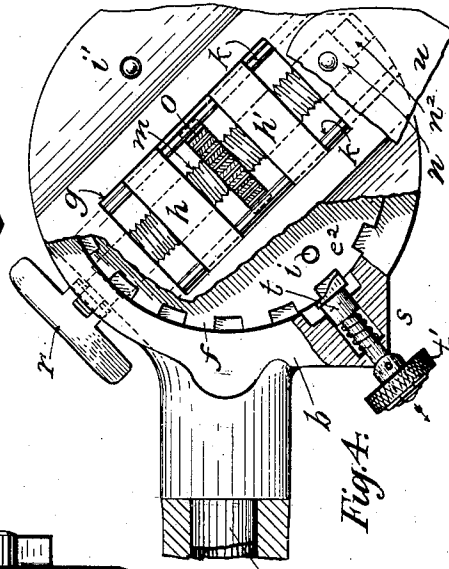


Fig. 4.

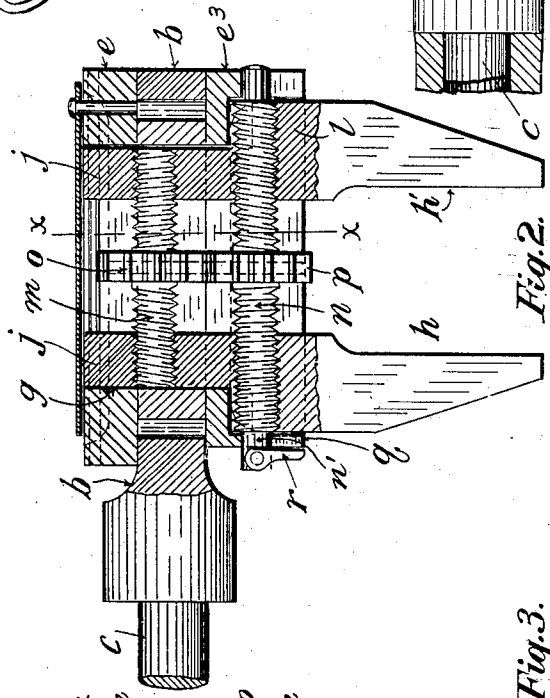


Fig. 2.

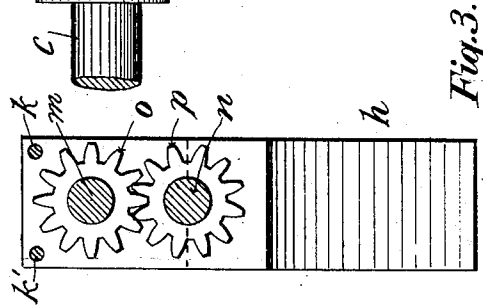


Fig. 3.

Witnesses:
Cecil Long
A. D. Gerking.

Inventor:
John W. Hurley
by F. J. Seisler Att'y.

UNITED STATES PATENT OFFICE.

JOHN W. HURLEY, OF PORTLAND, OREGON.

WRENCH.

No. 909,799.

Specification of Letters Patent.

Patented Jan. 12, 1909.

Application filed January 18, 1908. Serial No. 411,530.

To all whom it may concern:

Be it known that I, JOHN W. HURLEY, a citizen of the United States, and a resident of Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Improvement in Wrenches, of which the following is a specification, reference being had to the accompanying drawings as constituting a part thereof.

This invention relates to wrenches which are adapted to be fitted over the nuts of bolts from above, and provided with ratchet means to enable the wrench to be operated in close quarters, and it has for its object to obtain a strong, simply constructed device embodying the specific features and improvements described and claimed below.

In the drawings, Figure 1 is a perspective of my wrench; Fig. 2 is a longitudinal section of the head; illustrating the means for adjusting the jaws; Fig. 3 is a cross-section showing one of the jaws and the screws and cog-wheels thereon for adjusting the jaws; and Fig. 4 is a partial top view of the head of my wrench, part of the top piece being broken away, and the cover of the cavity in which the jaws slide being turned aside so as to disclose the arrangement of the cooperating parts.

The letters designate the parts referred to.

The handle *a* has rigidly affixed to its head-end a ring *b*; the latter being made with an integral rod *c* extending through a cavity therefor made in the handle *a*, and the extremity of the rod *b* being threaded, to receive a tightening nut *d*. In the ring *b* is secured the head *e*. The latter consists of three pieces: *e*¹ the top-piece, *e*² the middle piece made with a ratchet periphery *f*, *e*³ the bottom piece. Said three pieces of the head are respectively made with a central elongated rectangular cavity *g*, in which to slidably receive the shanks *f* of the jaws *h*, *h'*, and the three pieces *e*¹, *e*², *e*³ are united by vertical pins *i*, *i'*. The jaws *h*, *h'* are retained in place by longitudinal pins *k* extending through cavities therefor made in the shanks *j* of the jaws and the top head-piece *e*¹. To give strength to the parts the portions *l* of the jaws *h*, *h'* are shouldered, and the lower piece *e*³ of the head is made to conform. The shanks *j* of the jaws *h*, *h'* are made with threaded cavities to receive the ends of screws *m*, *n*. On the center of the screws are rigidly fastened meshing toothed

wheels *o*, *p*. The lower screw *n* is made with journal ends *n'*, *n*², extending through bearing-cavities *q*; and on the journal extension *n'* of the screw *n* is hinged a pendent handle-bar *r*. The ring *b* is made with a projecting portion *s* constituting a box in which is contained a spring-controlled pawl. By pulling the pawl *t*, as indicated by the arrow in Fig. 4, the pawl *t* may be disengaged and reversed. For this purpose the head *t'* of the pawl *t* is preferably milled. By adjusting the pawl *t*, as described, the wrench may be operated by moving the handle in either direction as convenient. The cavity *g* in which the shanks of the jaws *h*, *h'* are slidably contained is closed by a pivoted cover *u*. The jaws are adjusted to the size of the head by lifting the pendent handle-bar *r* and rotating the lower screw *n*, and therewith, through the medium of the meshing cog-wheels *o*, *p*, the upper screw *m*.

I claim:

1. In a wrench, a handle, a ring rigidly affixed to one end, a head secured in said ring, said head comprising a plurality of pieces, means uniting said pieces, jaws having their shanks slidably received in said pieces, longitudinal pins extending through the shanks of said jaws and the top piece, screws threaded into the shanks of said jaws, toothed wheels rigidly secured to said screws in the central cavity of said head and meshing with each other, one of said screws being extended through the lower piece and provided with a hinged pendent handle bar, the center one of said pieces being toothed peripherally, and a spring actuated pawl sliding through said ring and engaging said toothed periphery.

2. In a wrench, a handle, a ring rigidly affixed to one end, a head secured in said ring, said head comprising a plurality of pieces, means uniting said pieces, jaws having their shanks slidably received in said pieces, longitudinal pins extending through the shanks of said jaws and the top piece, screws threaded into the shanks of said jaws, toothed wheels rigidly secured to said screws in the central cavity of said head and meshing with each other, one of said screws being extended through the lower piece and provided with a hinged pendent handle bar, the center one of said pieces being toothed peripherally, and a spring actuated pawl sliding through said ring and engaging said

toothed periphery, the shanks of said jaws being shouldered and the lower piece of said head correspondingly formed.

3. In a wrench, a handle, a ring rigidly
5 affixed to one end, a head secured in said ring, said head comprising a plurality of pieces, means uniting said pieces, jaws having their shanks slidably received in said
10 pieces, longitudinal pins extending through the shanks of said jaws and the top piece, screws threaded into the shanks of said jaws, toothed wheels rigidly secured to said screws in the central cavity of said head and mesh-

ing with each other, one of said screws being extended through the lower piece and provided with a hinged pendent handle bar, the center one of said pieces being toothed peripherally, a spring actuated pawl sliding through said ring and engaging said toothed periphery, and a movable cover on the upper
15
20 piece of said head covering the cavity in which said shanks are received.

JOHN W. HURLEY.

Witnesses:

J. J. HORNBERGER,
CECIL LONG.