No. 847,596. PATENTED MAR. 19, 1907.

A. L. McMURTRY.

NUT WRENCH.

APPLICATION FILED NOV. 14, 1906.

FIG. 1.

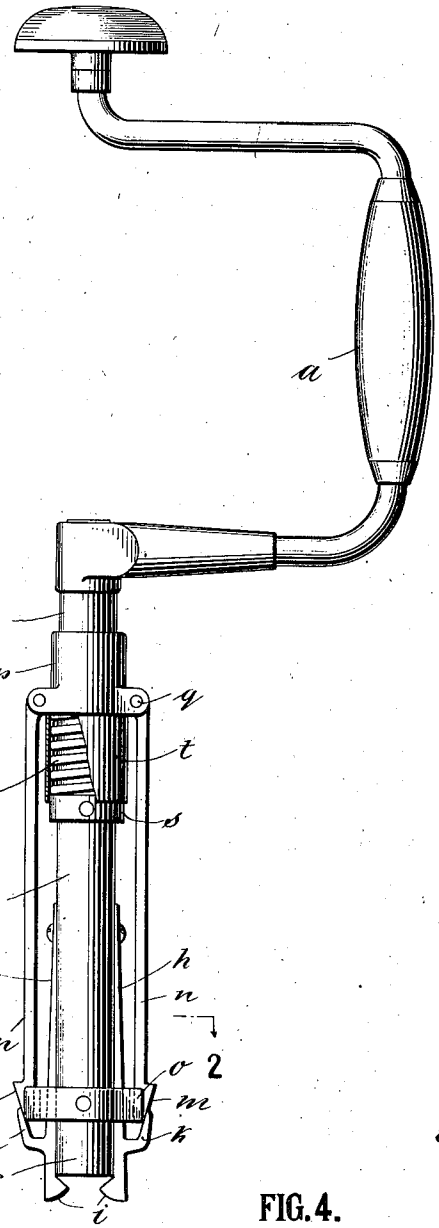


FIG. 2.

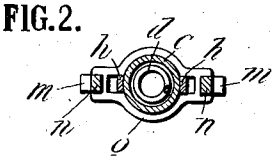


FIG. 3.

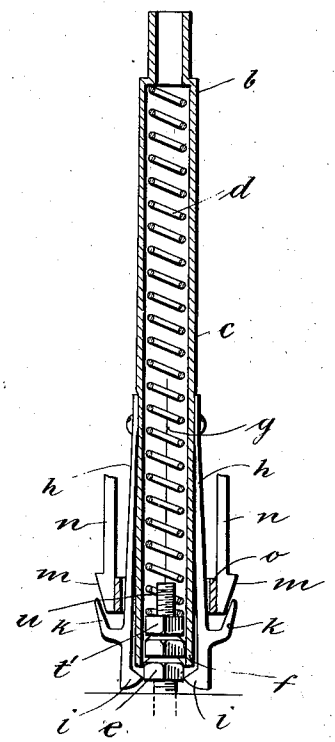


FIG. 5.

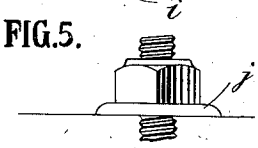
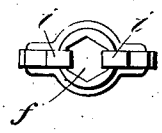


FIG. 4.



Witnesses
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NUT-WRENCH.

No. 847,596. Specification of Letters Patent. Patented March 19, 1907.

Application filed November 14, 1906. Serial No. 343,314.

To all whom it may concern:

Be it known that I, ALDEN L. McMURTRY, a citizen of the United States of America, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Nut-Wrenches, of which the following is a specification.

The object of my invention is to provide a nut-wrench of such construction as to be capable of applying nuts to bolts and withdrawing them therefrom in the usual way, but which, in addition, is provided with a chamber or magazine-socket which receives from the nut-engaging end of the wrench a plurality of nuts which may be applied successively from the socket to the same or different bolts. So far as I am aware a nut-wrench constructed to accomplish these results is entirely new with me.

The accompanying drawing shows one suitable construction convenient for different classes of work.

Figure 1 is an elevation, with a part broken away, of a nut-wrench equipped with my improvements and applied to an ordinary brace; Fig. 2, a transverse section on the line 2 2 of Fig. 1 and looking downward; Fig. 3, a longitudinal section of the wrench with its appurtenances, some parts being omitted in order to better illustrate other parts; Fig. 4, an end view of the nut-engaging portion of the wrench; and Fig. 5, an elevation of a bolt, a washer, and a nut applied thereto.

A wrench constructed in accordance with my invention may be operated in any suitable way. I have shown it applied to an ordinary brace *a*, the upper portion *b* of the wrench being adapted to fit the socket in the brace in the usual manner. The body portion *c* of the wrench is preferably cylindrical and is provided with a chamber adapted to receive a plurality of nuts from the nut-engaging end *f* of the wrench, which is shaped to correspond with the nuts which it receives, and this general shape is preferably maintained throughout a suitable part of the length of the chamber, as indicated by the line *g* in Fig. 3.

When the wrench is applied to a nut on a bolt and is revolved, the nut enters the chamber, and after one nut is withdrawn from a bolt the wrench may be applied to a nut on another bolt to withdraw the nut therefrom, the first-mentioned nut being forced farther into the chamber. In this way a plurality of nuts may be withdrawn and stored. A spring *d* is preferably arranged in the nut-receiving chamber, and the nuts enter the chamber against the force of this spring, which therefore tends to expel them. I preferably employ devices for retaining the nuts in the chamber, but which may be of such construction that they may be operated to release the nuts at the proper times. For this purpose I have in this instance shown spring-arms *h*, terminating in jaws *i*, that overlap the nut-engaging end of the wrench. The end faces of the jaws *i* are preferably curved or inclined, as shown, so that when the wrench is applied to a nut pressure on the end faces of the jaws against the face of the nut will throw the jaws outwardly, permitting the nut to be engaged by the end of the wrench and to enter the nut-receiving chamber. After the nut is thus received the jaws automatically spring back to their normal position to retain the nut in the chamber.

If the bolts are provided with crowned or convex washers *j*, as shown in Fig. 5, pressure of the jaws upon the washer in applying the nut throws the jaws outwardly and permits the nut in being screwed upon the bolt to leave the socket; but to provide for the positive movement of the jaws provision is made for moving them outwardly by hand. Preferably for this purpose the spring-arms *h* are formed with outwardly-inclined parts *k*, against which work the inclined or wedge-shaped faces *m* of rods *n*, attached to a sliding ring *o* and extending therefrom to a sliding collar *t* to projections on which they are hinged at *q*. As shown, a coiled spring *r* within the sleeve *p* abuts at one end against the sleeve and at the other end against a ring *s*, secured to the body *c* of the wrench. By pressing the sleeve *p* toward the nut-engaging end of the wrench the retaining-jaws *i* may be moved outwardly, but will automatically return to normal position when the sleeve *p* is released.

As a base or support for the nuts introduced into the socket there may be employed a nut *t*, secured to a short bolt *u*, which is flush with the outer face of the nut, but which preferably projects for a short distance into the spring, as shown in Fig. 3.

I have shown a simple and efficient way of embodying my invention both broadly considered and as containing such features as will illustrate the best way now known to me of carrying out my invention and of applying

it to different classes of work. The invention may, however, be embodied in other forms and yet retain the capacity or adaptability to the mode of use which is of the gist of the invention, quite aside from any of the specific forms in which the invention may be embodied by those skilled in the mechanical arts.

I claim as my invention—

1. A nut-wrench having a rotatable socket adapted to fit over and revolve nuts adapted to be used with it and of a depth to successively receive and retain a plurality of nuts as they are unscrewed by the wrench from their bolts and means for retaining such a plurality of nuts in the socket and permitting their successive application to bolts by the wrench.

2. A nut-wrench having a nut-engaging socket, a chamber which freely receives a plurality of nuts from the socket and which is provided with devices for holding the nuts in the chamber.

3. A nut-wrench having a chamber which receives a plurality of nuts from the nut-engaging end of the wrench, which is provided with devices for holding the nuts in the chamber and has means for releasing said devices.

4. A nut-wrench having a nut-engaging socket, a chamber which receives a plurality of nuts from the socket, and which is provided with devices engaging a nut in the socket for holding the remaining nuts in the chamber.

5. A nut-wrench having a nut-engaging socket, a chamber which freely receives a plurality of nuts from the socket, devices for holding the nuts in the chamber and means within the chamber tending to force the nuts outward against said holding devices.

6. A nut-wrench having a nut-engaging socket, a chamber which receives a plurality of nuts, means within the chamber tending to force the nuts outward, devices engaging a nut in the socket for holding the nuts in the chamber and means for releasing said holding devices.

7. A nut-wrench having a chamber holding a plurality of nuts, means for retaining the nuts in the chamber and means for automatically forcing the nuts successively into the nut-engaging portion of the wrench as other nuts are withdrawn therefrom.

8. A nut-wrench having a chamber which receives a plurality of nuts as they are withdrawn from bolts by the wrench, and means for supplying the contained nuts successively to the nut-engaging end of the wrench to be applied to bolts thereby.

9. A nut-wrench having a chamber which receives a plurality of nuts, a spring tending to force the nuts outward, nut-retaining jaws normally acting to retain the nuts in the chamber, and means for moving the jaws outwardly to permit the nuts to leave the chamber.

10. A nut-wrench having a chamber which receives a plurality of nuts, means for ejecting the nuts from the chamber, spring-acting jaws for retaining the nuts in the chamber, against the force of said ejecting means, the outer faces of which are inclined for the purpose specified.

11. A nut-wrench having a chamber which receives a plurality of nuts, means tending to eject the nuts from the chamber and spring-acting nut-retaining jaws, the outer faces of which are inclined inwardly while their inner faces are reversely inclined for the purpose specified.

In testimony whereof I have hereunto subscribed my name.

ALDEN L. McMURTRY.

Witnesses:
PERCY L. BARRY,
BRICE A. FREY.