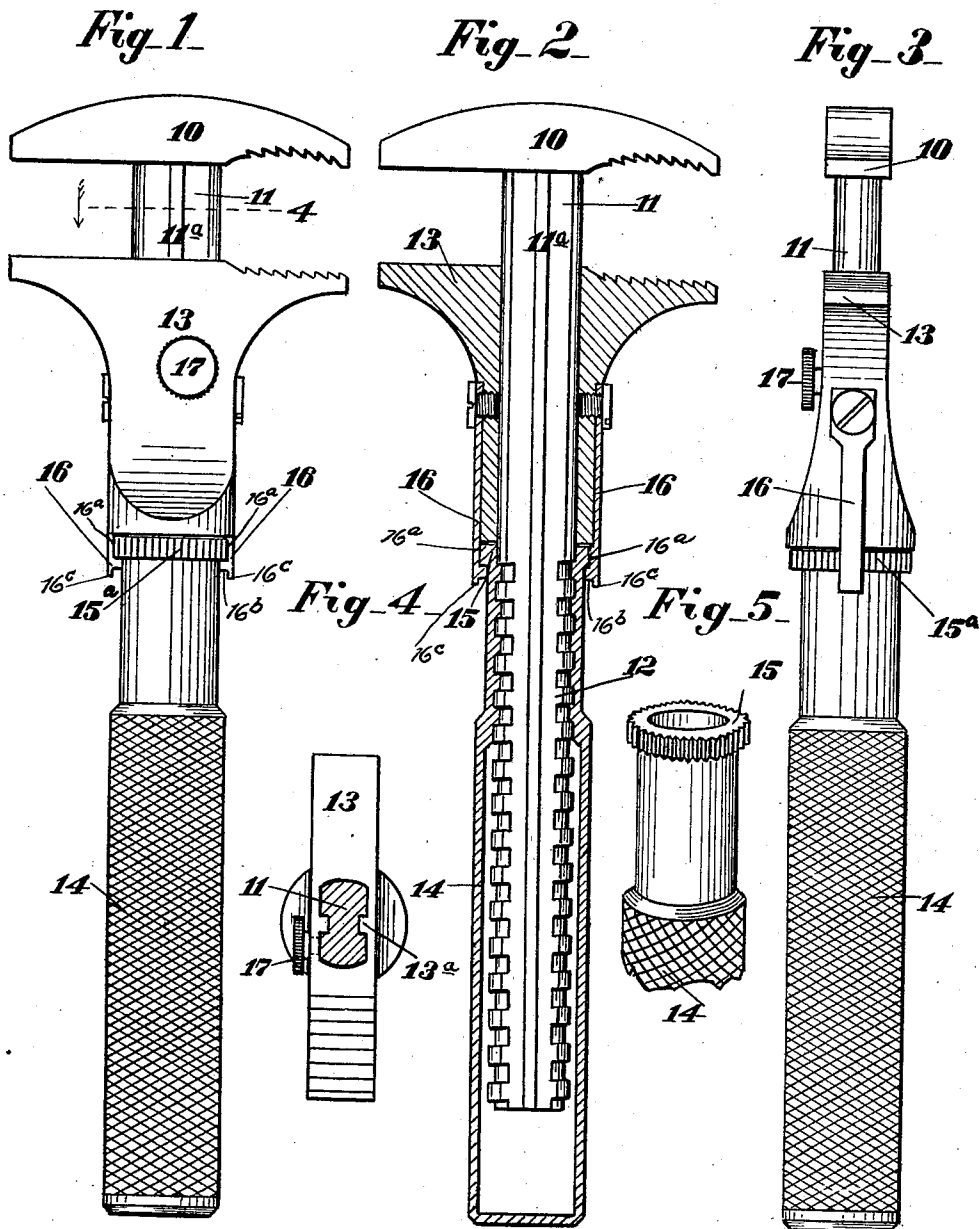


C. H. KENNEY.
WRENCH.

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1,000,015.

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WITNESSES:

Frank C. Palmer
Madeline D. Ritchie.

Charles H. Kenney, INVENTOR,

by Frank N. Allen

ATTORNEY.

UNITED STATES PATENT OFFICE.

CHARLES H. KENNEY, OF NEW LONDON, CONNECTICUT, ASSIGNOR TO THOMAS F. FORAN, OF NEW LONDON, CONNECTICUT.

WRENCH.

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To all whom it may concern:

Be it known that I, CHARLES H. KENNEY, a citizen of the United States, residing in the city and county of New London, in the State of Connecticut, have invented a certain new and useful Improvement in Wrenches, of which the following is a specification, reference being had to the accompanying sheet of drawings, in which—

Figure 1 is a side view of a complete wrench embodying my present improvement and Fig. 2 is a longitudinal, central, sectional view of the same. Fig. 3 shows an edge view of the wrench. Fig. 4 is a transverse, sectional view taken on line 4—4 of Fig. 1. Fig. 5 is a perspective view of a portion of one end of the combined nut and handle.

The immediate object of this invention is to provide, in simple and compact form, and at reasonably small cost, a convenient and powerful wrench that may be adjusted, and otherwise operated, by one hand, and in which provision is made for preventing the accidental rotation of the handle when the wrench is in use.

Referring now to the annexed drawings, the numeral 10 indicates the fixed jaw of the wrench, said jaw being formed as an integral part of a shank portion 11 that is extended, and screw-threaded, as seen at 12. The loose (adjustable) jaw 13 is slidably mounted upon the shank 11, said shank being flattened at its opposite sides, or otherwise formed with a non-circular cross-section, in order to keep the loose jaw in operative relation to the fixed jaw. The shank is also oppositely grooved, as at 11^a, and the jaw 13 is formed with splines 13^a that enter said grooves and serve both to strengthen the wrench construction and to prevent the disarrangement of the loose jaw relatively to the shank.

The handle portion 14, of the wrench, is tubular and is threaded internally to engage the externally threaded shank 12; the open end portion of the handle being adapted to abut the body portion of the loose jaw and thus to force the latter toward the fixed jaw when the handle is screwed home on the shank. The handle is also knurled or checked to insure a more perfect grip of the hand when the wrench is being used. In order to interlock the handle and the loose jaw, so that they may travel forward or

backward together, I have provided the following structure: Carried by the upper end of the handle 14 is an annulus 15, provided with notches or serrations 15^a; and operatively associated with said annulus are leaf-springs 16, suitably secured, at one end thereof, to the movable jaw 13, and provided, on their under surfaces, toward their other ends, with faces 16^a suitably formed to engage in the notches 15^a of the annulus 15, and, at their ends, with lugs 16^b, engaging the said annulus 15, and preventing accidental separation of the handle 14 from the movable jaw 13, and with ears 16^c, whereby the finger-nail of the operator may be readily slipped beneath said ears to obtain a purchase on the springs 16, when it is desired to bend said springs outward to release them from engagement with the handle 14.

The jaws are extended on opposite sides of the wrench, as seen in the drawings, thus providing at one side an excellent pipe wrench and at the opposite side a wrench specially suitable for use with polygonal nuts.

My described wrench is particularly valuable and convenient in restricted places or in places where the operator can work with only one hand as he can hold the wrench at arm's length, and adjust the sliding jaw to fit the nut, by simply rotating the handle 14.

Among the many other features of advantage in my described wrench are the facts that a wide range of adjustment of the loose jaw is possible and that the screw-thread is never exposed; also that the leverage increases as the handle is screwed outwardly to take in a large nut. The loose jaw is capable of being opened much wider than in ordinary wrenches of this general type, thus providing a convenient form of clamp, and the ratchet drag provides automatic means for retaining the loose jaw in its adjusted, or clamping, position no matter how great the strain may be on said jaw. The ratchet notches on the annulus are so finely graduated that an exceedingly fine adjustment of the handle and loose jaw may be had.

When using my described device as a clamp, it is sometimes desirable to provide means for positively fastening the loose jaw to the shank on which it travels and this I

accomplish by providing a set screw 17 in the said jaw whose end engages the shank directly when the screw is screwed home.

Having thus described my invention I claim:—

1. In a wrench, a wrench-shank, a jaw movable thereon, a handle also movable thereon and carrying a notched annulus, and leaf-springs carried by said movable jaw, the inner faces of said springs, toward one end thereof, operatively engaging said notched annulus, said springs being provided, at said ends, with lugs engaging the said annulus, to prevent accidental separation of said handle from said movable jaw.
2. In a wrench, a wrench-shank, a jaw movable thereon, a handle also movable

thereon and carrying a notched annulus, and leaf-springs carried by said movable jaw, the inner faces of said springs, toward one end thereof, operatively engaging said notched annulus, said springs being provided, at said ends, with lugs engaging the said annulus, to prevent accidental separation of said handle from said movable jaw, and with ears, affording a finger-hold for the operator in bending said springs outward to release them from engagement with said handle.

CHARLES H. KENNEY.

Witnesses:

C. HODLAI HULL,
F. L. MCGUIRE.

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