

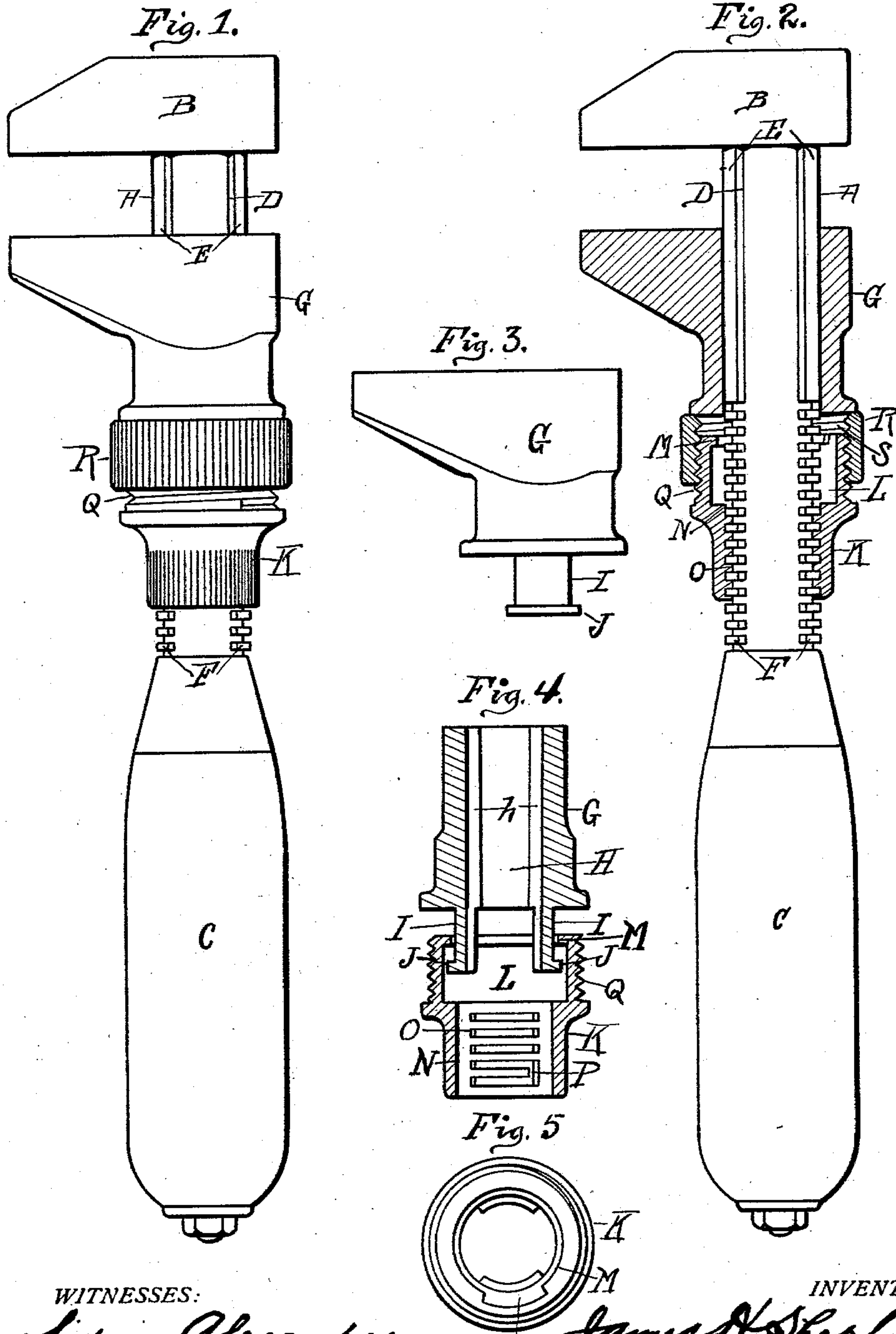
No. 744,120.

PATENTED NOV. 17, 1903.

J. H. SHEPHERD.  
WRENCH.

APPLICATION FILED FEB. 3, 1903.

NO MODEL.



WITNESSES:

*Sidney Alexander*  
*Franklin, Jr.*

INVENTOR.

*James H. Shepherd*  
*by A. A. Gourick*  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

JAMES H. SHEPHERD, OF DENVER, COLORADO.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 744,120, dated November 17, 1903

Application filed February 3, 1903. Serial No. 141,692. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES H. SHEPHERD, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to wrenches of the type of rigid outer and slidable inner jaws, and has for its object to provide a wrench that contains but a few parts and these so constructed and arranged as to give a maximum of efficiency with a minimum of weight and friction. This object I accomplish by constructing my wrench of but four parts exclusive of the handle, one of which parts (the fixed jaw) has on its shank mutilated projections or threads that would be annular and parallel if continued. The other three parts comprise the movable jaw and its operating parts, and consist of the following: the jaw, an adjusting-nut having mutilated projections on its inner surface to fit the mutilated threads on the shank and a screw-thread on its outer face, the jaw and adjusting-nut being connected by means of lugs on the jaw fitting into an annular cavity in the top of the nut, and the locking-nut, which consists of a ring having screw-threads to fit over the threads on the adjusting-nut and adapted to bear against the bottom of the movable jaw to lock it in the position necessary to operate the nut.

The advantages of my invention will more fully appear hereinafter and by reference to the accompanying drawings, in which—

Figure 1 is a view in elevation of my invention; Fig. 2, a similar view to Fig. 1, showing the movable jaw and its operating parts in section; Fig. 3, a detached view in elevation of the movable jaw; Fig. 4, a vertical sectional view of the movable jaw and adjusting-nut, and Fig. 5 a top plan view of the adjusting-nut.

Referring to the drawings, in which similar reference characters indicate corresponding parts throughout the several views, A represents the shank of my wrench, having formed integral therewith or secured thereto the fixed jaw B and the handle C, mounted thereon. The sides of shank A have longitudinal beveled grooves D cut therein, leaving the projections E thereon, which are trans-

versely grooved nearest the handle on lines parallel with the inner side of the jaw B to form mutilated threads F.

G represents the movable jaw, formed with a bore H to fit snugly the shank A and lugs I, extending downwardly therefrom, having flanges J, said lugs being extensions of the projections *h* in the bore H that fit into the grooves D.

K represents the adjusting-nut, having its upper portion formed with a cavity L to receive the lugs I on the movable jaw G, M being a flange on the upper end of nut K to prevent the nut and jaw separating by intercepting the flanges J on said lugs I. The flange M is formed with an opening *m* to receive the flange J on one of the lugs I in assembling the nut K and jaw G. The lower end of nut K is formed with a circular bore N, having inwardly-extending mutilated projections or threads O to fit the threads F on the shank A. If desired, the ends of two or more of the threads O may be connected, as shown at P, to limit the movement of the nut K in adjusting the jaw G or releasing it. The upper and outer surface of nut K has screw-threads Q formed thereon, and the locking-nut R has its bore formed with screw-threads S to intermember therewith.

The operation of my invention will be apparent from the above description and by reference to the accompanying drawings and will be as follows: The wrench is assembled by first screwing the locking-nut R on the adjusting-nut K down as far as possible. One of the lugs I of the jaw G is then inserted in the cavity L and the other lug slipped into the cavity through the opening *m*. The movable jaw and its operating parts are then inserted over the end of the shank A and the handle C secured thereon. To operate the wrench, the end of the adjusting-nut K is grasped, and the projections O being in the grooves D the jaw is pushed into engagement with the nut to be turned, when the nut K is given a half-turn to engage the projections O with the threads F on the shank. If the jaw Q does not then fit snugly the nut to be turned, the locking-nut R is screwed up against the base of jaw Q until it fits closely the nut.

Having thus described my invention, what I claim is—



1. In a wrench, the shank provided with a suitable handle and beveled grooves or depressions on the sides thereof, the adjustable jaw encircling said shank having lugs extending downward therefrom, flanges provided on the outer lower ends of said lugs, the adjusting-nut having external threads near the upper end thereof, the locking-nut having internal threads adapted to mesh with the threads provided on the adjusting-nut, the circular flange provided around the inner circumference of the upper end of the adjusting-nut having a depression or mutilation adapted to provide means for inserting the lugs provided on the adjustable jaw, the said flange adapted to engage the flanges on the lugs of the adjustable jaw by means of which the adjusting-nut is attached to the adjustable jaw.

2. In a wrench, the combination of a shank having mutilated threads thereon and longitudinal beveled grooves, of a movable jaw having a bore to fit said shank, depending lugs on said jaw riding in the beveled grooves in the shank and having flanges thereon, a nut for operating said movable jaw having a cavity at its upper end to receive the ends of said lugs, an inwardly-extending flange on said nut to intercept the flanges on said lugs and retain them in the cavity aforesaid, the lower end of said nut formed with a circular bore, mutilated threads in said bore to intermember with the threads on the shank, and a stop connecting two of the threads to limit the rotation of said nut, substantially as shown and described.

3. In a wrench, the combination of a shank having mutilated threads thereon and longitudinal beveled grooves, of a movable jaw having a bore to fit said shank, depending lugs on said jaw riding in the beveled grooves in

the shank and having flanges thereon, an adjusting-nut for operating said movable jaw having mutilated threads to fit the threads on the shank and a cavity to receive the ends of said lugs, an inwardly-extending flange on said nut to intercept the flanges on said lugs to retain them in the cavity aforesaid and having an opening to admit the lugs, the outer surface of the adjusting-nut having screw-threads thereon, and a locking-nut having a screw-threaded interior to fit the threads on the adjusting-nut, substantially as shown and described.

4. In a wrench, the combination of a shank having mutilated threads thereon and longitudinal beveled grooves, of a movable jaw having a bore to fit said shank, depending lugs on said jaw riding in the beveled grooves in the shank and having flanges thereon, an adjusting-nut for operating said movable jaw having a cavity at its upper end to receive the ends of said lugs, an inwardly-extending flange on said nut to intercept the flanges on said lugs and retain them in the cavity aforesaid, the lower end of said nut formed with a circular bore, mutilated threads in said bore to intermember with the threads on the shank, a stop connecting two of the threads to limit the rotation of said nut, screw-threads on the outer surface of said adjusting-nut and a locking-nut having a screw-threaded bore to fit the screw-threads on the adjusting-nut, substantially as shown and described.

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

JAMES H. SHEPHERD.

Witnesses:

WM. GRAUEL,  
EDNA B. HOSICK.