J. A. OVERLANDER.

WRENCH.

APPLICATION FILED DEC. 18, 1909.

1,014,251. Patented Jan. 9, 1912.

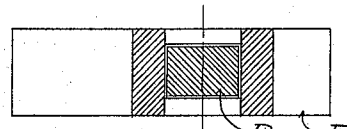

Fig. 2.

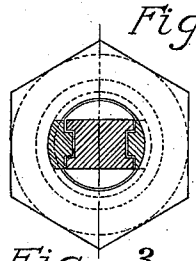

Fig. 3.

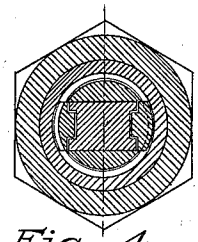

Fig. 4.

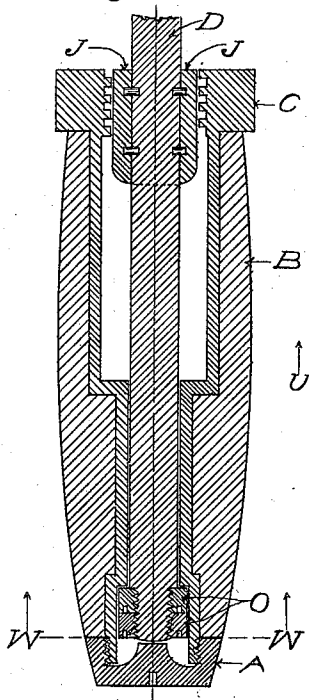

Fig. 6.

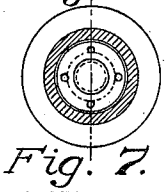

Fig. 7.

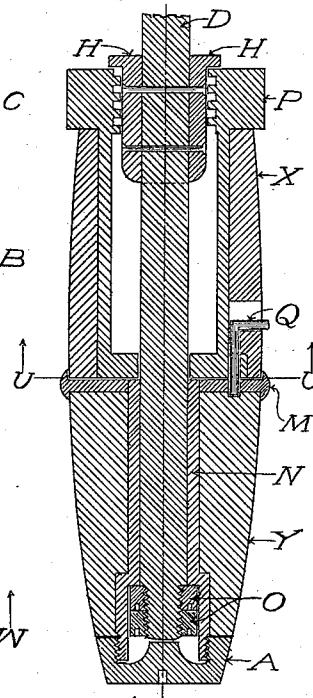

Fig. 8.

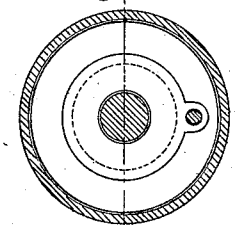

Fig. 9.

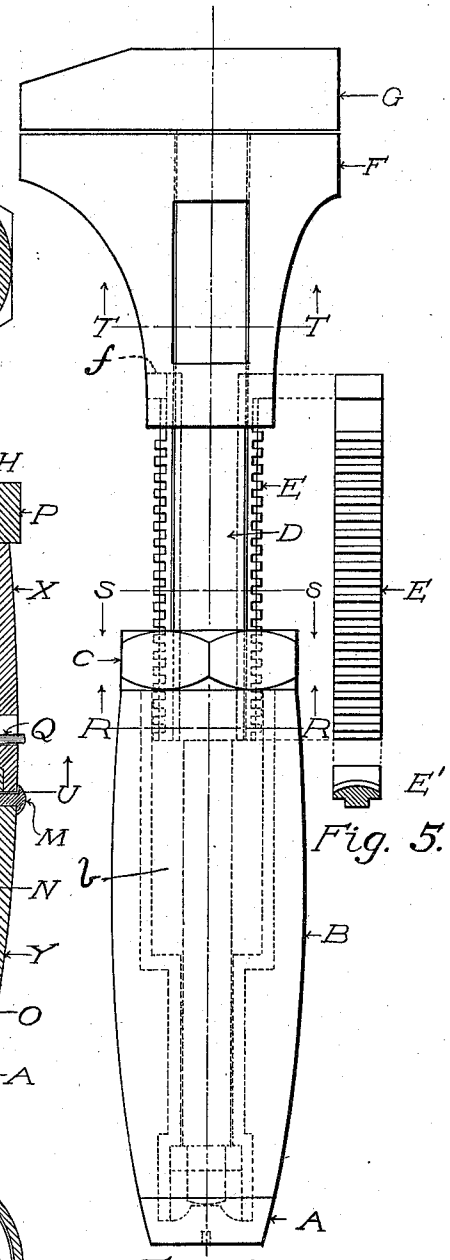

Fig. 1.

Fig. 5.

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WRENCH.

1,014,251. Specification of Letters Patent. Patented Jan. 9, 1912.

Application filed December 18, 1909. Serial No. 533,827.

To all whom it may concern:

Be it known that I, JACOB ALPHEUS OVERLANDER, a citizen of the United States, residing at White Plains, in the county of Westchester and State of New York, have invented an Improvement in Wrenches, of which the following is a specification.

My invention relates to improvements in so-called nut or monkey wrenches. In design and operation said wrenches comprise a class with two parallel opposing jaws, one of which is fixed and integral with its shank and the other is slidable thereon.

The object of my invention is to provide a mechanism for a wrench of the class described that is substantial and useful and in which the movable jaw may be conveniently manipulated.

I attain the objects of my invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the tool entire; Fig. 2 a cross-section of jaw F and shank D on a line T—T of Fig. 1; Fig. 3 a plan view of nut C taken on a line S—S of Fig. 1; Fig. 4 a cross-section of handle B on a line R—R of Fig. 1; Fig. 5 a side elevation of one of the interchangeable threaded draw bars. Fig. 6 is a central longitudinal section of handle B, Fig. 1; Fig. 7 a cross-section of a modified form of handle B, Fig. 1, taken on a line W—W. Fig. 8 is a central longitudinal section of the combination handle, comprising a rotatable section X and a fixed section Y, while Fig. 9 is a cross-section of Fig. 8, taken on a line U—U.

On reference to Fig. 1, it will be observed that shank D is rectangular in shape at its junction with the head G and may so extend as far as line U—U, Fig. 8, below which, it is annular to its inner extremity. Over the rectangular portion of the shank D is fitted the slotted jaw F, (see Fig. 2), which is slidable thereon, so that it may move freely in opening or closing the jaws. At the lower or inner extremity of jaw F, there are two rectangular openings, one in each marginal surface, designated *f*, for receiving the angular extremity E′ of the draw bars E, Fig. 5, when in position.

Fig. 5 is a side elevation of one of the two L-shaped threaded draw bars E, which are interchangeable and provide the operating connection between the lower jaw F and the handle B. They are placed on the shorter rectangular sides of D, hence are opposite to each other and fit in *f*, as herein described. The exterior surfaces of E are screw-threaded and rounded, so as to engage with the internally threaded nut C of the handle B, Fig. 6, through which they project into the annular recess *b* of the upper or outer extremity of said handle. The advantage of the position of said draw bars herein described is at once apparent, when the usual manner of the manipulation of the wrench is considered. If said draw bars were placed laterally, or on the longer side of said rectangular shank, any variation between the size of the slotted jaw F and the shank D, upon which F is fitted and adapted to slide, would be unaccounted for and the result would be an undue strain upon said bars, if integral with F, or would twist them out of alinement with nut C and thus interfere with the rotation thereof. In manufacture these draw bars will be made of metal that will insure indestructibility, as nearly as possible.

The rotatable handle B, Fig. 1, on its exterior surface is rounded and somewhat cylindrical. Internally it is annular throughout its whole extent, (see Fig. 6). Within the outer extremity thereof below the hexagonal nut C, a recess *b* is provided for the reception of the inner ends of the draw bars E, Fig. 5. For the remainder of its extent it is in apposition with shank D and rotates around said shank as an axis.

Longitudinal motion of the handle along shank D is obviated, at its inner extremity by the lock nuts O, Fig. 6 and at its outer extremity by the lugs H H, Fig. 8 or J J, Fig. 6. These lugs perform a double function not only in preventing longitudinal motion outward along shank D of the handle B, but also lateral motion of the draw bars E, for which they afford a guide.

It is also to be noted in connection with Fig. 6 that the metallic frame of the handle B is integral with the hexagonal nut C and is surrounded by a wooden filling that is held in position by nut C at one end and by screw-cap A at the other. The nut C is made hexagonal or octagonal as preferred and is for the purpose of applying another wrench thereto and forcing jaw F against any object placed between jaw F and head G.

The several parts are, in the main, assembled in the order in which they are explained.

The manipulation of the mechanism thus described is readily understood: *e. g.*, take up the wrench in the right hand by the rotatable handle B, hold the jaws F and G with the left hand and rotate the handle B either to the right or to the left. The nut C, since it is integral with the metallic frame of said handle B will rotate, and longitudinal motion in B being obviated, as stated, the threads of said nut C on reciprocal rotation, interacting with the threads of the two draw bars E, Fig. 5, which are attached to F, as heretofore described, and slidable on D between the vertical arms of the lugs H H, Fig. 8 or J J, Fig. 6, according to the variety of handle used, will force the inner ends of said draw bars E, Fig. 5, into or out of the annular recess *b*, thus sliding the lower jaw F on the shank *d* and opening or closing said jaws as desired.

Fig. 8 shows a modification of the mechanism of the handle B, Fig. 1. It is divided into two sections X and Y. The rotatable grip-section X comprises a metallic frame with nut P and is surrounded by a circular wooden filling. The fixed-section Y has a metallic frame N, which is also surrounded by a circular wooden filling. Between the rotatable grip-section X and the fixed-section Y is placed a protection-ring M, T-shaped in cross-section, that guards the hands of the operator against injury. Lock Q, which is slidable to and fro, if inserted into the section designated Y, when Y is fixed, will render X immovable, or will make said sections X and Y rotate simultaneously in case Y is movable.

What I claim, is:

In an improved wrench with outer and inner parallel opposing jaws, means for moving the inner jaw along a rectangular shank integral with said outer jaw, comprising two L-shaped interchangeable draw bars, screw-threaded and rounded on their exterior surfaces, the approximal surfaces thereof being in contact with the narrower sides of said rectangular shank and adapted to slide longitudinally thereon, a metallic grip-section, rotatable axially but fixed longitudinally in relation to said shank, having a circular wooden filling thereon, a metallic fixed-section, having a circular wooden filling thereon, a slidable lock entered in said rotatable grip-section for fixing said rotatable grip-section to said fixed-section, and a hexagonal nut, integral with said rotatable grip-section, having internal screw-threads engaging the external screw-threads of said draw bars for purposes herein set forth, substantially as shown and described.

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