Feb. 3, 1925. 1,524,869

H. P. KRAFT

WRENCH

Filed May 2, 1918

Fig. 1.

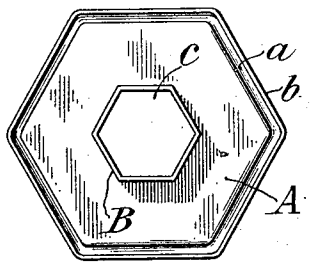


Fig. 2.

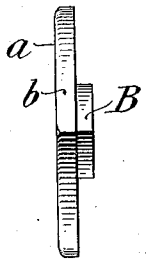


Fig. 5.

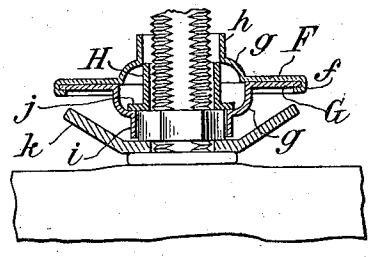


Fig. 3.

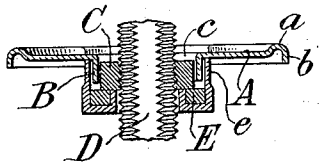


Fig. 6.

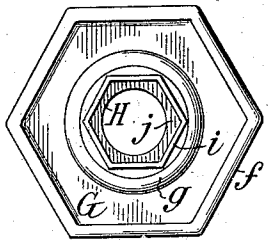


Fig. 4.

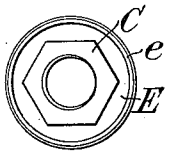
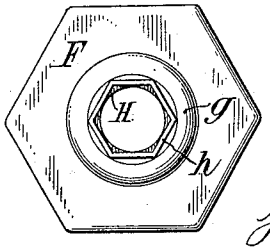


Fig. 7.



INVENTOR :

Henry P. Kraft,

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WITNESS :

René Quine

Patented Feb. 3, 1925. 1,524,869

UNITED STATES PATENT OFFICE.

HENRY P. KRAFT, OF RIDGEWOOD, NEW JERSEY; EDGAR J. PHILLIPS AND EARL A. DARR EXECUTORS OF THE WILL OF HENRY P. KRAFT, DECEASED.

WRENCH.

Application filed May 2, 1913. Serial No. 232,013.

To all whom it may concern:

Be it known that I, HENRY P. KRAFT, a citizen of the United States of America, residing in Ridgewood, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to wrenches, and is intended to provide a simplified form of tool, peculiarly adapted to the assembling of pneumatic tires and similar parts.

The chief purpose of the improvement is to provide a wrench that enables tightening or removing a nut in a position which is inaccessible with the usual types of wrenches, and more specifically, where the nut, in its tightened position, is surrounded by a spaced flange or shoulder.

An additional object is to afford a light, and cheaply constructed appliance formed of sheet metal, and especially useful with small structures, such as tire valve assemblages.

According to a practical application of the invention, I may employ a metal disk to form the body of the wrench. The disk is provided with a peripheral bead and flange, which constitutes a gripping portion, and preferably has the form of a flat-sided figure, such as a hexagon, or otherwise, to facilitate the operation of tightening or loosening the nut. The disc or body has a central opening surrounded by a laterally extending flange, which projects at right angles to the body of the wrench, and constitutes a nut engaging portion.

To these and other ends the invention consists in certain improvements and combinations of parts, all as will be hereinafter more fully described and pointed out in the claims at the end of the specification.

In the drawings,—

Figure 1 is a plan view of a wrench constructed in accordance with the invention;

Fig. 2 is a side elevation;

Fig. 3 is a central sectional view illustrating the application of the wrench;

Fig. 4 is a plan view illustrating the position of the nut to which the wrench is applied in Fig. 3;

Fig. 5 is a sectional view of a modification;

Fig. 6 is a plan view of the same, and

Fig. 7 is a plan view of the opposite side.

The invention preferably consists of a body A, constructed of sheet metal, by stamping or pressing. The body A is relatively wide and has the form of a flat-sided figure, here shown as a hexagon, which enables the operator to maintain a tight and powerful grip on the wrench. The body A terminates at its outer edge in a peripheral bead *a* and flange *b*, thereby providing a sufficiently wide hand engaging surface to permit applying force to the wrench without cutting the hand of the operator.

The body A has a central opening *c*. Surrounding the opening *c* is a nut engaging portion B. The latter is in the form of a flange extending laterally from the body, and preferably at right angles thereto. The nut engaging portion or flange B is flat-sided, so that it will co-operate properly with the nut to which it is applied.

The device may be utilized in any relationship where there is no space to permit of applying the usual type of wrench, and where there is but a limited space between a nut and a surrounding flange or shoulder. This is illustrated in Fig. 3, showing the application to a nut C, which is secured upon a valve stem D. The valve stem extends through a collar E, against which the nut is to be secured, and the collar E has an outwardly projecting flange or shoulder *e*, which entirely surrounds the nut when the latter is in its tightened position. With parts in such relation the nut engaging portion B is inserted between the flange *e* and the nut C, as shown in Fig. 3, and the body can readily be turned with any desired force. The body is comparatively wide, so as to afford a gripping portion of proper size to permit of effectively turning it by hand.

In Figs. 5 to 7, I have shown a modification adapted for two different sizes of wrenches, and where the nut engaging portion must be spaced laterally a greater distance from the body. The body comprises two discs, F and G, secured by the peripheral flange *f*. Each disc has an outwardly bent web *g*, from which project the nut engaging portions *h* and *i*, of different sizes, as shown in Fig. 5. In order to form a stop for a nut, from either side of the wrench, I employ a cylindrical, hollow, fill-

ing device H, having an outwardly extending flange *j*. This filling device is suitably riveted or soldered in the body of the wrench, the flange *j* acting as a stop for the larger nut engaging portion, and the opposite end of the cylinder H constituting a stop for the smaller nut engaging portion.

This form is especially adapted for use where there is a bridge washer, such as shown at *k* in Fig. 5. The wrench can be slipped over the stem on which the nut is positioned, and the latter securely tightened, without contact between the bridge washer and the wrench.

The invention is not essentially limited to the specific disclosure of this application, as it may be modified within the scope of the claims, without departing from the novel features of the improvement.

What I claim is:—

1. A wrench comprising a body portion consisting of two relatively large, flat discs secured together, the outer edges of which form a hand-engaging operating means, each disc having an outwardly bent web at its central portion terminating in a relatively small nut-engaging portion.

2. A wrench comprising a body composed of two discs secured together, each disc having an outwardly bent web terminating in a nut engaging portion, and a cylindrical hollow filling device secured within the body and forming stops for limiting the inward movement of a nut with reference to the nut engaging portion.

In witness whereof, I have hereunto signed my name.

HENRY P. KRAFT.