

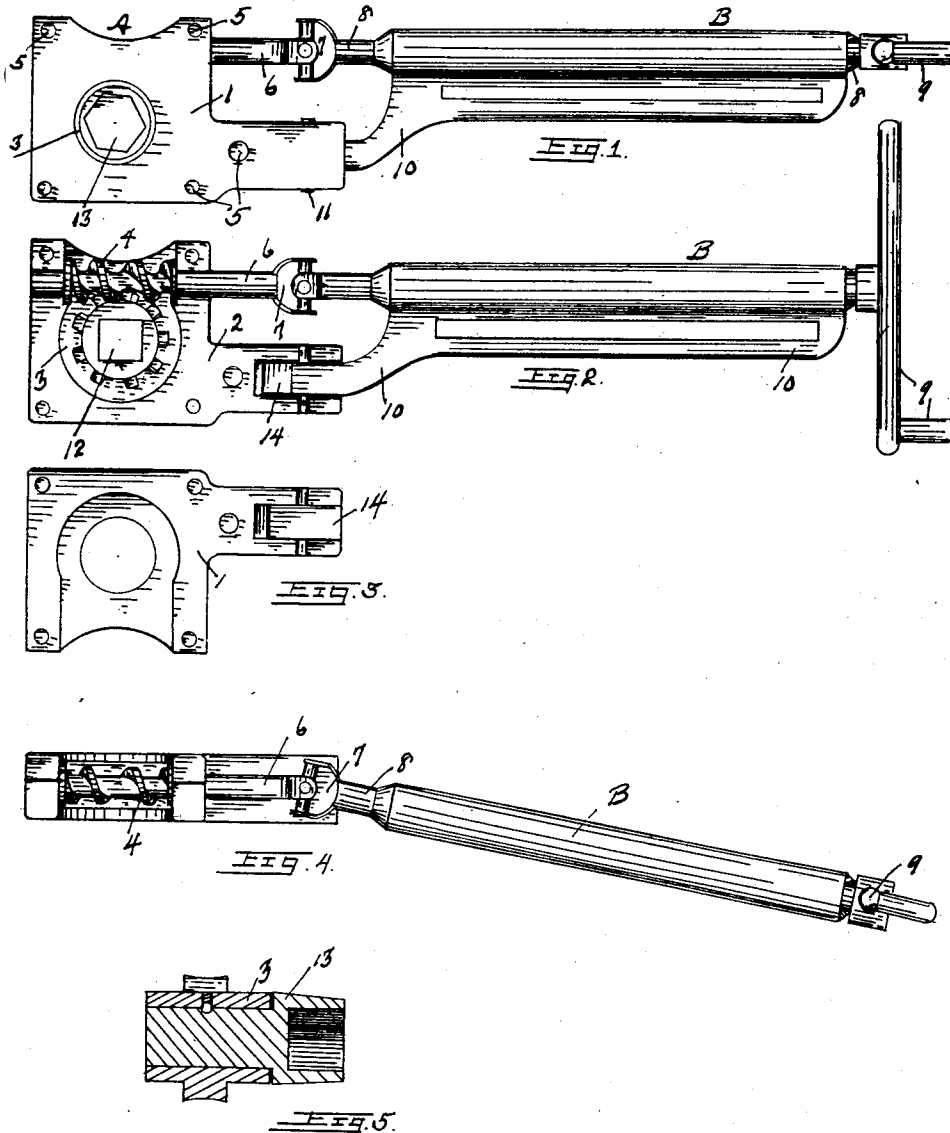
S. W. GOLDING & J. W. WITTHAUSE.

MULTIPLE SOCKET WRENCH.

APPLICATION FILED MAY 22, 1918.

1,273,774.

Patented July 23, 1918.



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SEBRON W. GOLDING AND JOHN W. WITTHAUSE, OF PRICE, UTAH.

MULTIPLE-SOCKET WRENCH.

1,273,774.

Specification of Letters Patent.

Patented July 23, 1918.

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To all whom it may concern:

Be it known that we, SEBRON W. GOLDING and JOHN W. WITTHAUSE, citizens of the United States, residing at Price, in the county of Carbon and State of Utah, have invented certain new and useful Improvements in Multiple-Socket Wrenches of which the following is a specification.

Our invention relates to wrenches, and has for its object to provide a wrench whereby a multiple of sockets may be used to turn nuts of various sizes, and at varied angles and in places difficult to reach with ordinary wrenches, a further object is to provide a wrench wherein chucks of different designs may be used to hold bits, screw drivers and other tools to bore holes, set or remove screws or nuts in places not ordinarily accessible to tools of that kind.

These objects we accomplish with the device illustrated in the accompanying drawings in which similar letters and numerals of reference indicate like parts throughout the several figures and as described in the specification forming a part of this application and pointed out in the appended claims.

In the drawings in which we have shown a substantial embodiment of our invention, Figure 1 is a plan view of the wrench. Fig. 2 is a plan view with one side of the housing removed. Fig. 3 is a plan view of the removed side of the housing. Fig. 4 is an edge elevation with the handle partially turned on its pivot. Fig. 5 is a transverse section of the socket gear and chuck.

In adjusting and repairing machinery it is frequently desirable to turn on or remove a nut, to set or remove a screw, or to bore a hole in places where it is extremely difficult of access, as for instance to remove the nut from No. 4 connecting rods on certain automobiles to adjust the bearings. And if the nut should fall out of the wrench it would land in the crank case, while with the present invention the said nut may be removed or turned on without dropping the nut, and in fact there are many places in modern machinery where a wrench, which has an adjustable handle and with a universal joint in the transmission mechanism of the rotation elements, may be used with a saving of much time and money.

The present invention consists of two opposed sides 1 and 2, which when fastened together form a housing A. A socket gear wheel 13 is journaled in said sides 1 and 2

the teeth of which mesh with the teeth of a worm gear 4 that is journaled between said sides 1 and 2. The said sides are firmly fastened together by the tap screws or bolts 5. The shaft of said worm gear extends without the said housing A, as at 6 and is connected by a universal joint 7 with the shaft 8 which is journaled longitudinally in the handle B of the wrench. The said shaft 8 extends beyond the handle and the hand crank 9 is rigidly secured thereon by means of which said shaft 8 and worm gear 4 are rotated. The handle B has an arm 10 integral therewith and extending from said handle on one side and which is pivoted to said housing A by the pivot pin 11. The said pin 11 is in alinement with the said universal joint 7. The said socket gear 3 has a square hole 12 axially therethrough within which the different chucks 13 are to be carried. As will be obvious the said chucks may be constructed to engage nuts, screw driver blades, bits or other articles which it is desirable to rotate, and said chucks may be used on either side of the said housing. The said arm 10 of the handle extends along the side of that portion which forms the bearing for said shaft 8 to add to the strength of the handle and to the ease with which the wrench may be held in position by the operator. The invention may be used without the chuck to turn a nut, or may be used with or without the chuck therein to turn a nut with the nut as the axis of the wrench on the plane of the nut, and without using the worm gear, or it may be used at an angle above or below or on the plane of the nut by turning the hand crank 9 and thereby the worm gear, gear and chuck. With the pivot in the handle many nuts, otherwise inaccessible without knocking down portions of a machine, may be easily turned on or off.

Having thus described our invention we desire to secure by Letters Patent and claim:—

1. In a wrench the combination of a housing; a gear wheel journaled therein; a worm gear the teeth of which mesh with the teeth of said gear wheel; a rotatable shaft; a universal joint connecting said shaft with said worm gear; a handle in which said shaft is journaled and which has another portion pivoted in said housing; and a hand piece secured on said shaft to rotate same.

2. A wrench comprising a housing; a gear

5 journaled therein; a worm gear meshing with said gear; a shaft carried in the handle of the wrench; said handle forming a bearing for said shaft and having a portion pivoted in said housing; a universal joint connecting said shaft with said worm gear; means to rotate said shaft; and a chuck adapted to be carried axially in said gear.

10 3. In a wrench the combination of opposed side pieces forming a housing and provided with an open slot in one portion; a gear journaled in said housing having a square hole axially therein; a worm gear meshing with said gear and also journaled in said housing; a handle having one portion 15 pivoted in the slot in said housing and with the other portion acting as a bearing for a shaft; a shaft carried in said handle; a universal joint connecting said shaft with said worm gear; a chuck carried in the square 20 hole in said gear; and a hand piece to rotate said shaft.

In testimony whereof we have affixed our signatures.

SEBRON W. GOLDING.
JOHN W. WITTHAUSE.

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