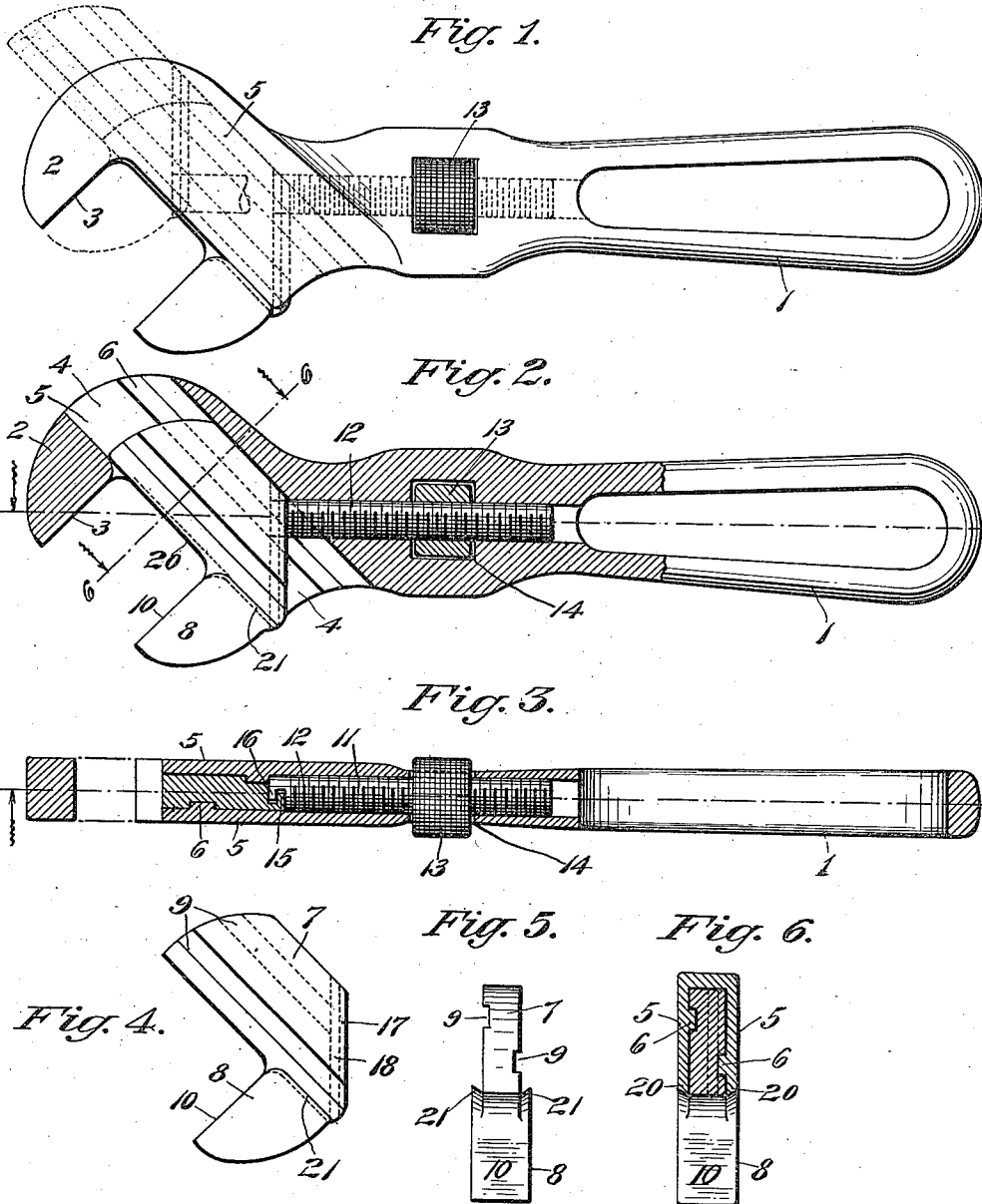


J. F. ANDERSON.  
WRENCH.

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1,063,314.

Patented June 3, 1913.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN F. ANDERSON, OF SAN FRANCISCO, CALIFORNIA.

## WRENCH.

1,063,314.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed August 31, 1909, Serial No. 515,508. Renewed March 10, 1913. Serial No. 753,424.

*To all whom it may concern:*

Be it known that I, JOHN F. ANDERSON, a citizen of Sweden, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Wrenches, of which the following is a specification.

The present invention relates to improvements in wrenches, the object of the invention being to provide a wrench in which the faces of the gripping jaws shall be set obliquely to the handle, thereby facilitating in many cases the operation of turning a nut by means of said wrench.

With the common form of wrench in which the faces of the gripping jaws are at right angles to the handle, it is necessary that said jaws should project a considerable distance from said handle, which renders it often inconvenient to turn the wrench on account of the lack of space in which this has to be done. In my improved wrench the faces of the gripping jaws are set obliquely, so that said jaws do not project to so great an extent as heretofore from the line of the general direction of the wrench.

A further object of the invention is to provide means for accomplishing this object which will be strong and durable and will not easily get out of order.

A further advantage of the invention is the convenience of adjustment, the adjusting means being in the line of the general direction of the wrench, instead of being offset to one side as has heretofore generally been the practice.

In the accompanying drawing, Figure 1 is a side view of the wrench; Fig. 2 is a longitudinal section thereof, part of the handle being shown in side elevation; Fig. 3 is a longitudinal section at right angles to that of Fig. 2, the nut being shown in side view; Fig. 4 is a side view of the movable jaw detached; Fig. 5 is an end view of the movable jaw detached; Fig. 6 is a cross section on the line 6—6 of Fig. 2.

Referring to the drawing, 1 indicates the stem or handle of a wrench, having formed integral therewith a fixed jaw 2. The gripping face 3 of the fixed jaw, instead of extending at right angles to the general direction of the wrench, as is usual, extends at an angle of 45 degrees therewith.

Extending through the head of the wrench at right angles to said gripping face of the fixed jaw is a slideway 4, in the inner sur-

face of the opposite walls 5 of which are formed parallel ribs 6, and sliding in said slideway is the shank 7 of the movable jaw 8, said shank being formed on opposite sides with grooves 9 which respectively engage the ribs 6. The gripping face 10 of the movable jaw 8 extends at right angles to said shank, and therefore, when the parts are in position, parallel to the gripping face of the stationary jaw. As the shank moves in the slideway the movable jaw moves to or from the stationary jaw. In order to so move said shank, there is provided a screw 11, which travels in a guideway 12 formed in the body of the wrench, and is moved in said guideway by means of a nut 13 screwed on said shank and working within a hole 14 formed through said handle or body. The working end of said screw is formed with a transverse groove 15 and a lip 16, which are adapted to engage respectively a rib 17, and a groove 18, formed in the shank of the movable jaw, extending at an angle of 45 degrees with the grooves 9 in said movable jaw, and, therefore, when the parts are in position, extending at right angles to the stem of the wrench. By turning the nut 13 the screw 11 is moved to and from said stationary jaw, and the shank of the movable jaw likewise moves to and from said stationary jaw, but, because the shank of the movable jaw can only move in an oblique direction in the slideway 4, by reason of its grooves engaging the ribs in said guideway, the longitudinal movement of the screw 11 produces an oblique movement of the shank of the movable jaw, and therefore a transverse movement of the lip and groove of said jaw relative to the groove and lip of the screw.

The walls of the fixed jaw, on each side of the slideway through which the movable jaw travels, are formed with beveled edges 20 engaged by the terminal portions 21 of the face of the movable jaw in contact with the fixed jaw, which terminal portions 21 are also beveled or undercut, so that, on pressing said movable jaw inward toward the stem of the wrench, said undercut or beveled portions 21 of its face tend to draw said walls together instead of spreading them.

An important advantage of this invention is the cheapness of construction, owing to the fewness of the parts and the simplicity of the arrangement.

I claim:—

A wrench comprising a handle, a stationary jaw, a slidable jaw having an obliquely disposed inner end wall provided with a  
5 groove having one of its walls providing a flange, said flange extending throughout the full transverse extent of the inner end wall and of less height than the width of the inner end wall, a screw in the handle having  
10 a grooved circular inner end adapted to overhang and interlock with the flange of

the slidable jaw forming the sole means for preventing the screw from turning and an operating nut on the screw.

In testimony whereof I have hereunto set 15 my hand in the presence of two subscribing witnesses.

JOHN F. ANDERSON.

Witnesses:

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