

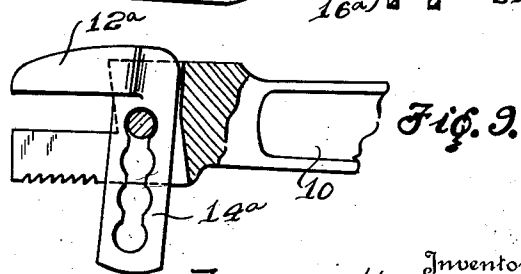
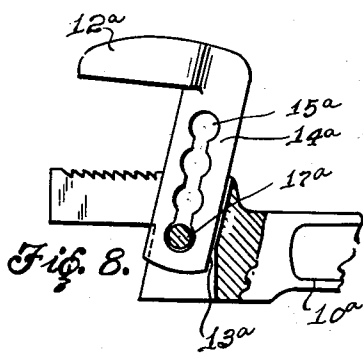
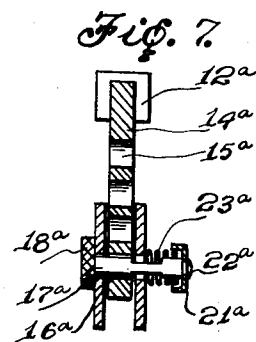
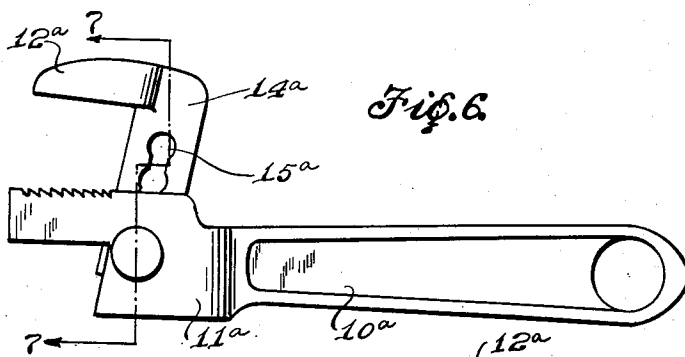
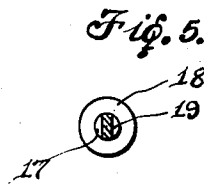
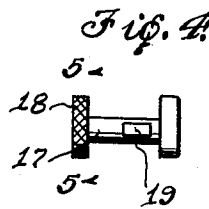
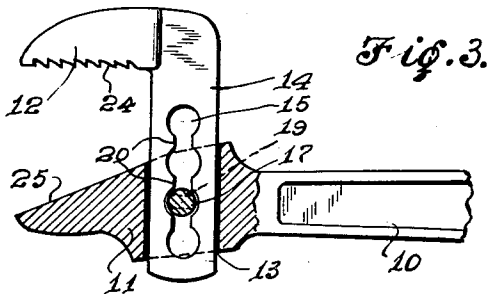
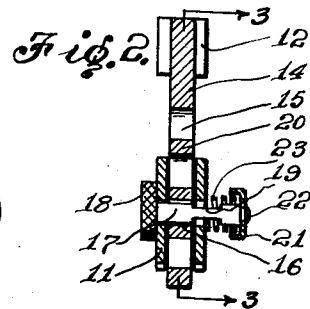
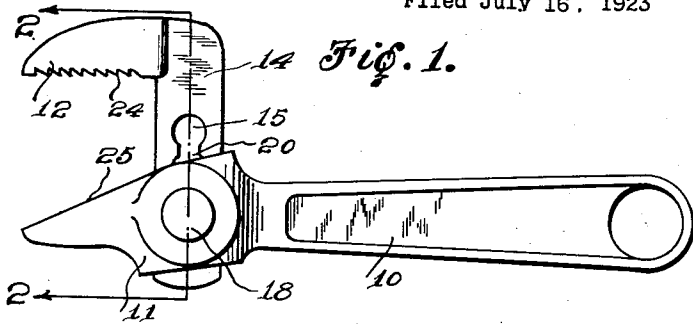
July 8, 1924.

1,500,314

F. C. HACHENEY

WRENCH

Filed July 16, 1923



Inventor  
Frank C. Hachenev

By

Harry Cohen

Attorney

# UNITED STATES PATENT OFFICE.

FRANK C. HACHENEY, OF JOHN DAY, OREGON.

## WRENCH.

Application filed July 16, 1923. Serial No. 651,927.

*To all whom it may concern:*

Be it known that I, FRANK C. HACHENEY, a citizen of the United States, residing at John Day, Grant County, in the State of Oregon, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to wrenches and more particularly to wrenches of the open end type having a slidable jaw and the main object of the invention is to provide a wrench of this type having means for quickly and accurately adjusting the slidable jaw in order to adapt the wrench for use on bolts, pipes, nuts, and the like, of varying dimensions so as to constitute a wrench of wide use and general utility as well as for specific uses when the ordinary wrench is incapable or impracticable for such use.

With this and other objects in view, I have provided a wrench having a novel form of adjusting and holding means, and for a complete understanding of the invention, reference is to be had to the following description and the accompanying drawings in which:

Fig. 1 is a side view in elevation of the wrench;

Fig. 2 is a sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a sectional view on the line 3—3 of Fig. 2;

Fig. 4 is a detail view of the adjusting pin;

Fig. 5 is a sectional view on the line 5—5 of Fig. 4;

Fig. 6 is a side view in elevation of a slightly different type of wrench;

Fig. 7 is a sectional view on the line 7—7 of Fig. 6;

Fig. 8 is a fragmentary view showing the fixed head broken away to show the position of the slidable shank of the movable jaw; and

Fig. 9 is a view similar to Fig. 8 but showing the slidable jaw in reversed position to permit the wrench to be used for work having plane surfaces, such as nuts, bolt heads, etc.

Referring to the drawings, and first to Fig. 1, the reference character 10 designates the shank or handle of the wrench having at an end thereof the head 11 with which is slidably associated the movable head 12. The head or jaw 11 is provided

with a guide opening 13 which receives the shank 14 of the movable jaw 12. The shank 14 is provided with a series of connected openings 15, and the jaw 11 has an opening 16 therethrough. A pin 17, shown in detail, by Fig. 4 is received through the opening 16 in the jaw 11 and in one of the openings or holes 15 of the shank 15 of the jaw 12. The pin 17 is provided at one end with a knurled head 18, and the intermediate portion of the pin is cut away to provide flat sides 19, the pin being thereby of such size as to permit its passage through the slots 20 which connect the holes 15. At the other end the pin 17 is provided with a cup-shaped washer 21 which may be riveted to the end of the pin by a rivet 22 or may be detachably secured to the end of the pin by a screw passing into an internally threaded portion of the pin. The jaw 12 is pivoted on the main portion of the pin 17, as may be seen from an inspection of Fig. 2, the spring 23 bearing between the side of the jaw 11 and the cup washer 21 serving to hold the pin in said position. When it is desired to adjust the movable jaw 12 with respect to the fixed jaw 11, it is necessary only to compress the spring 23 to move the pin laterally of the heads until the flat sides 19 are in the hole 15, and then by turning the pin so that the flat sides 19 may pass through the slots 20, the head 12 may be moved to the proper distance from the head 11, after which the pin may be released and the spring 23 will hold the pin in the proper position to act as a bearing for the head 12.

It will be noted that the movable head 11 has pipe holding teeth on its work gripping surface 24 and that the work gripping surface 25 of the head 11 is smooth so as to allow the work to roll into engagement with the jaws and so as to permit instant release of the work from any position thereof at which the wrench may be applied. The surface 24 is also sloped, as is clearly shown by the drawings, to permit of fine and accurate adjustment of the wrench to the work.

In Figs. 6 to 9, a slightly different type of wrench is shown. As far as possible like reference characters as used in the preceding description have been applied to the figures illustrating this wrench, the reference characters being accompanied by the letter "a"

to distinguish the parts of this wrench from the wrench shown by Figs. 1 to 5. A detailed description of the wrench shown by Figs. 6 to 9 is unnecessary as the construction of same is apparent from the above description. It will be noted, however, that the movable head 12<sup>a</sup> is reversible so that the same wrench may be used for loose bolts or nuts as desired. The washer fastening screw 22<sup>a</sup> may be removed from the end of the pin 17<sup>a</sup>, the pin may be withdrawn, and then the head 12<sup>a</sup> may be changed from the position shown by Figs. 6 and 8 to that shown by Fig. 9, Fig. 8 showing the position of the heads when the wrench is to be used for loose bolts and the like, and Fig. 9 showing the position of the head when the wrench is to be used for nuts and the like.

From the above description it is apparent that I have provided a wrench that may be adjusted and modified for different kinds of work, the adjustment being very easily accomplished and accurately made. The wrenches are made by assembling but a small number of parts and each part is simple and may be made cheaply and quickly so that the cost of the wrench will be small. Other advantages are apparent from the disclosure. Certain changes will suggest themselves to those skilled in the art, but this invention is not intended to be limited to the exact description and illustration except within the scope of the appended claim.

Having thus described my invention, what I claim and desire to secure by Letters Patent of the United States is:

In a wrench, the combination of a shank having a straight fixed head in longitudinal alignment therewith and offset therefrom in a transverse direction, said head having two work engaging flat faces, a channel at right angles to said shank and openings in the side walls of the channel, a straight movable head having a shank at right angles thereto and provided with a single work engaging flat smooth face, said shank having a plurality of holes therethrough, adjacent holes being connected by slots, a pin passing through the openings in the side walls of the channel and through a selected hole of said movable shank, said pin having a cup shaped washer at one end thereof and a fastening screw therefor and a spring for holding said pin in proper position, said fastening screw being quickly removable to permit of the removal of the pin so that the movable head may be positioned reversibly so as to present its work engaging smooth face with either of the work engaging faces of the fixed head.

In witness whereof, I hereunto affix my signature.

FRANK C. HACHENEY.

Witnesses:

GEORGE W. WILSON,  
AGNES V. WILSON.