O. STENERSEN.

RATCHET WRENCH.

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1,050,312.

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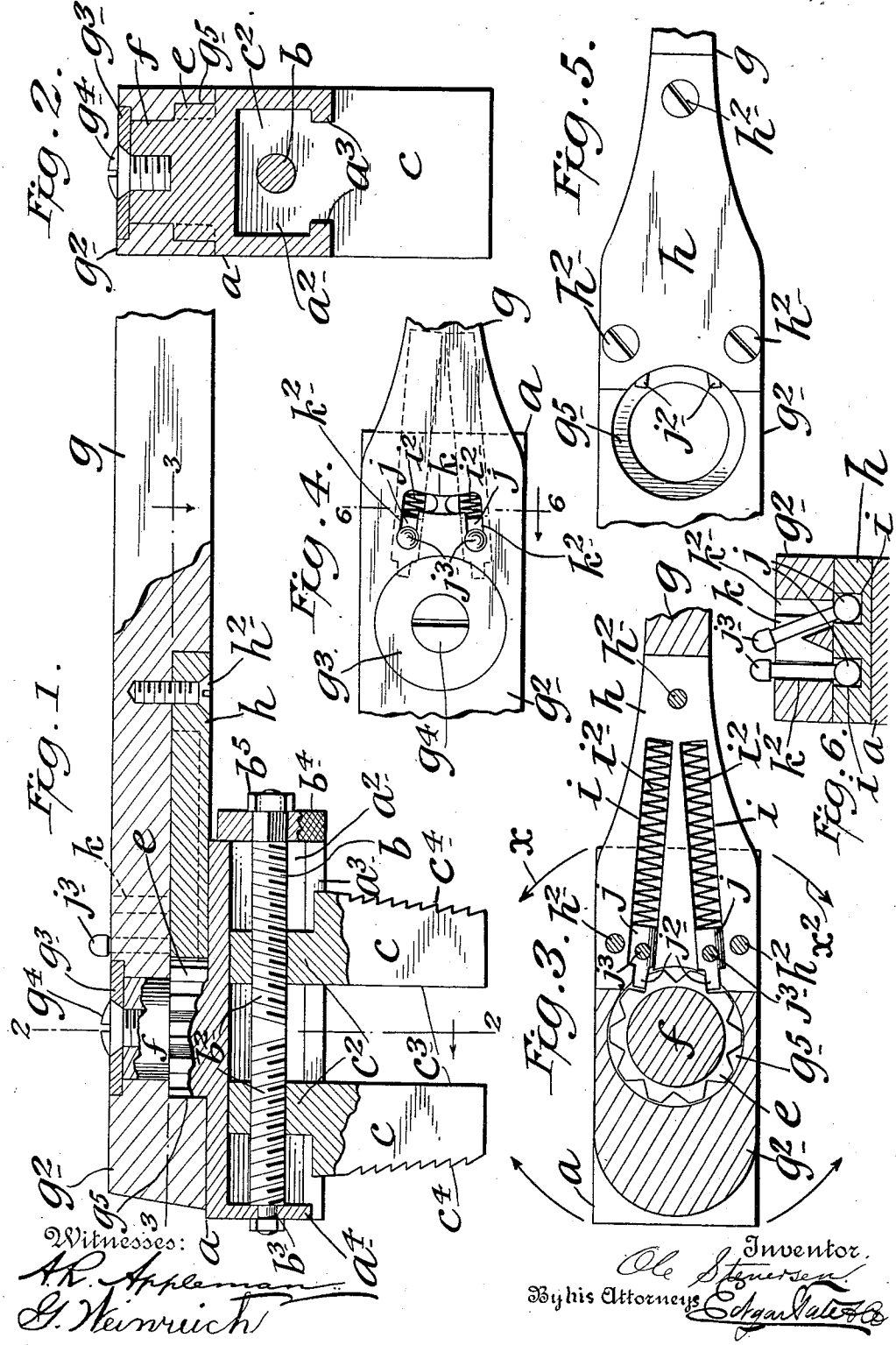

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UNITED STATES PATENT OFFICE.

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RATCHET-WRENCH.

1,050,312. Specification of Letters Patent. Patented Jan. 14, 1913.

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To all whom it may concern:

Be it known that I, OLE STENERSEN, a citizen of the United States, and residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Ratchet-Wrenches, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to wrenches, and particularly to what are known as ratchet wrenches, and the object thereof is to provide an improved device of this class which is simple in construction, convenient of operation, and which is provided with adjustable and reversible jaws so formed as to adapt the device for use, either as an ordinary ratchet wrench or as a pipe wrench, and with this and other objects in view the invention consists in a wrench of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification of which the accompanying drawing forms a part, in which the separate parts of my invention are designated by suitable reference characters in each of the views, and in which:—

Figure 1 is a sectional side elevation of my improved wrench; Fig. 2 a transverse section on the line 2—2 of Fig. 1; Fig. 3 a sectional plan view on the line 3—3 of Fig. 1; Fig. 4 a plan view of the head of the wrench with the handle in position; Fig. 5 a bottom view of the head portion of the handle, and Fig. 6 a section on the line 6—6 of Fig. 4.

In the practice of my invention, I provide an oblong head block a in which is a longitudinal chamber a^2 rectangular in cross section and the side walls of which are provided with inwardly directed flanges a^3 at the bottom of said head and which form a central longitudinal opening which communicates with said chamber throughout its length, and the outer end of the chamber a^2 is closed by a wall a^4, and mounted longitudinally in said chamber is a screw shaft b provided with reverse thread b^2. One end of the shaft b is provided with a bearing in the end wall a^4 of the chamber a^2, as shown at b^3, and the other end thereof is provided with a milled head b^4 detachably mounted on said end of said shaft and held thereon by a nut d^5, and in practice, the shaft b is turned by means of the head b^4. I also provide two similar jaw members c having rectangular heads c^2 movable in the chamber a^2 and through which the shaft b passes, and by turning said shaft the jaws c may be adjusted toward or from each other according to the direction in which said shaft is turned. The jaws c are provided on one side with straight faces c^3, and when said jaws are in the position shown in Fig. 1, the device may be used as an ordinary wrench, or as a monkey wrench, and the opposite faces c^4 of said jaws are inclined, and provided with ratchet teeth, and by reversing the position of said jaws in the head block a the device may be used as a pipe wrench, as will be readily understood.

The head block a is provided centrally of the top thereof with a ratchet e which may be formed integrally therewith or secured thereto, and above the ratchet e is a cylindrical stud f, on which the handle g is mounted, said handle being provided with a head g^2 having a countersunk plate g^3 through which a screw g^4 is passed into the stud f, and this construction securely binds the handle g to the stud f and to the head block a, as will be readily understood, and the bottom of the head of the handle is provided with a circular chamber g^5 in which the ratchet e is rotatable, and it will be understood that in the operation of the device the head block a turns with the ratchet e and stud f, or said ratchet and stud turn with said head block.

Countersunk in the bottom of the handle g and in the wall of the head g^2 thereof is a plate h which is secured to the handle by screws h^2, and in the top surface of the plate h are longitudinal grooves or spaces i which diverge in the direction of the ratchet e, and in which are mounted longitudinally movable and rotatable blocks j between which and the outer end of the grooves or spaces i are placed spiral springs i^2, and said springs bear on the blocks j and normally force them in the direction of the ratchet e, and the blocks j are provided with nose pieces j^2 which operate in connection with the teeth of said ratchet.

Formed in the top of the head portion of the handle adjacent to the stud f and plate

g^3 is a transverse recess k at the ends of which are longitudinal recesses k^2 which communicate therewith and which diverge in the direction of the said stud and plate, and the blocks j are provided with headed pins j^3 which pass through said recesses k^2, and by means of which the blocks j may be moved backwardly against the operation of the springs i^2, and when said blocks are in their rearmost position, the pins j^3 may be turned inwardly into the recesses k, as shown at the right of Fig. 6, so as to hold the blocks j out of engagement with the ratchet e.

The operation of this device as a ratchet wrench is similar to that of other devices of its class. When the blocks j are in the position shown in Fig. 4, the handle is locked and the wrench cannot be operated, but when the blocks are in the position shown in Fig. 6, the handle may be operated, as will be readily understood, and the wrench manipulated for the desired purpose, and with the blocks j in the position shown in Fig. 6, the first movement of the handle is in the direction of the arrow x of Fig. 3. and by swinging said handle back and forth, the head block a and the jaws c may be turned in the direction of the arrow x, as will be readily understood, but by reversing the position of the blocks j the first movement of the handle g will be in the direction of the arrow x^2 in Fig. 3, and by moving said handle back and forth in the usual manner the head block a and jaws c may be turned in the opposite direction.

From the foregoing description it will be seen that my improved wrench is comparatively simple in construction and operation, and will not easily get out of order and said wrench may be used either as an ordinary wrench, as a monkey-wrench, or as a pipe-wrench, and the jaws c in either position may be easily adjusted toward and from each other by simply turning the shaft b, by means of the milled head b^4 thereof.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is;—

1. In a wrench of the class described, a head block provided with a central oblong chamber rectangular in cross section and the bottom of which is provided with a longitudinal opening which communicates with said chamber, two jaws having rectangular heads which fit in and are movable longitudinally of said chamber and are entirely inclosed therein, and a shaft passed longitudinally through said chamber and the heads of said jaws, said shaft being provided with reverse threads and the heads of said jaws being correspondingly threaded whereby the turning of said shaft will adjust said jaws into different positions.

2. In a wrench of the class described, an oblong head block provided with a ratchet above which is a cylindrical stud, and a handle the head of which is mounted on said stud and rests on said block, said handle being provided with a chamber in which said ratchet is adapted to rotate, and said handle being also provided with longitudinal chambers or spaces which open upwardly through the top thereof and in which are mounted spring-operated blocks having nose pieces adapted to engage said ratchet at opposite points, and handle pins connected with said blocks and extending upwardly through said handle and by means of which said blocks may be moved away from said ratchet, said handle being also provided in the top thereof and at the outer end of said chambers or spaces with transverse recesses into which said handle pins may be turned so as to lock said blocks out of engagement with said ratchet.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 17th day of June 1912.

OLE STENERSEN.

Witnesses:
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