

B. A. STOCKING.
WRENCH.

APPLICATION FILED JUNE 1, 1909.

1,027,220.

Patented May 21, 1912.

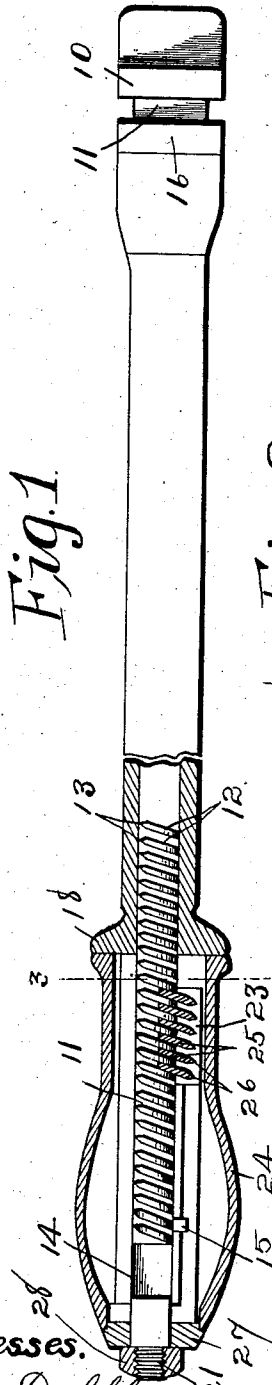


Fig. 1.

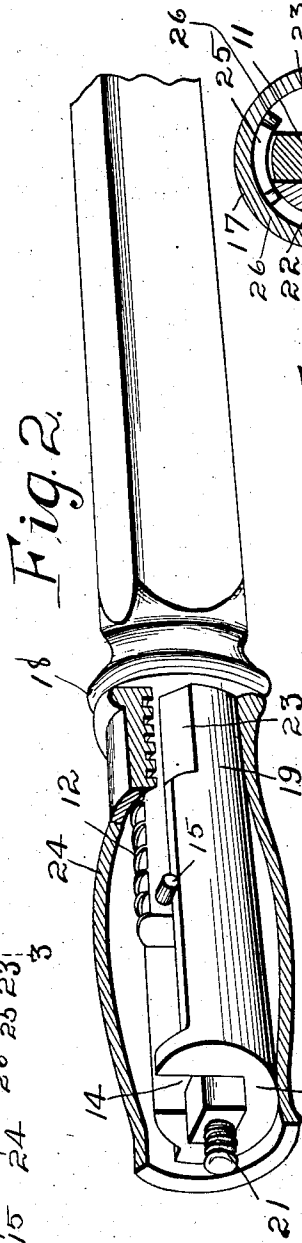


Fig. 2.

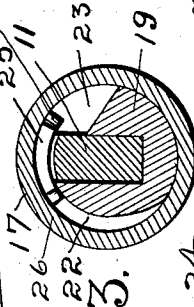


Fig. 3.

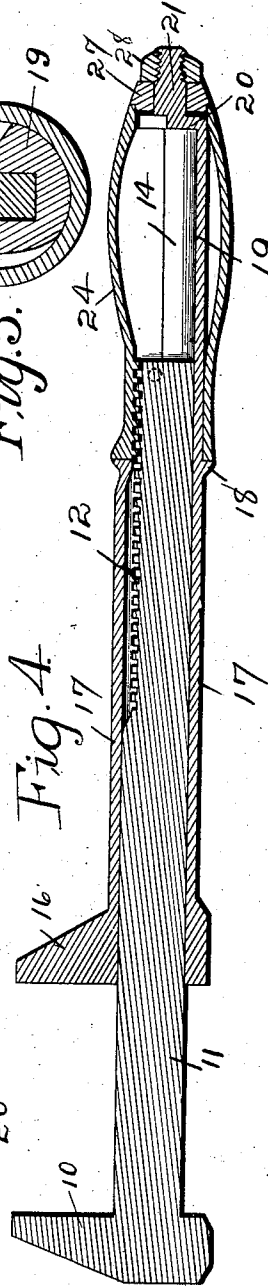


Fig. 4.

Witnesses.
H. G. Dahlberg.
A. G. Hague.

Inventor.
B. A. Stocking,
by Orwig & Lane attys

UNITED STATES PATENT OFFICE.

BERT A. STOCKING, OF NEWTON, IOWA.

WRENCH.

1,027,220.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed June 1, 1909. Serial No. 499,512.

To all whom it may concern:

Be it known that I, BERT A. STOCKING, a citizen of the United States, residing at Newton, in the county of Jasper and State of Iowa, have invented a certain new and useful Wrench, of which the following is a specification.

The object of my invention is to provide a wrench of simple, durable, and inexpensive construction, in which the jaws may be quickly adjusted to any position within their range of movement and there firmly held, and the movable jaw moved slightly toward the stationary jaw to fit the jaws tightly against a nut or other object to be grasped by the jaws.

More particularly, my object is to provide a wrench of this class in which the jaw tightening device is of strong and durable construction, and in which the jaws may be readily and easily adjusted to any position within their range of movement; and securely held in said adjusted position.

My invention consists in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which—

Figure 1 shows a front elevation of a wrench embodying my invention with the handle portion and adjusting devices in section. Fig. 2 shows a perspective view of the handle portion of the wrench embodying my invention with part of the handle broken away to show the internal construction. Fig. 3 shows a sectional view on the line 3—3 of Fig. 1, and Fig. 4 shows a central, longitudinal, sectional view of a wrench embodying my invention.

Referring to the accompanying drawings, I have used the reference numeral 10 to indicate the outer jaw having a shank 11 connected with it, said shank being rectangular in cross section and being provided on one side with screw-threads 12. These screw-threads are preferably pointed at one end at 13, as indicated in Fig. 1, for purposes hereinafter made clear. Said screw-threaded portion extends from the rear end of the shank 11 to a point near the central portion of the shank. Fixed to the rear end of the shank 11 is a laterally projecting, limiting pin 15.

The numeral 16 indicates the inner jaw

connected with a hollow shank 17 having a rectangular opening therein to receive and slidably support the shank 11. At the rear end of the hollow shank 17 is an annular rib 18, and the top portion of the shank 17 in the rear of the rib 18 is cut away, as clearly shown in Fig. 2. Beyond said rib 18, toward the rear of the handle is an extension 19 which is provided at its rear end with a shoulder 20 and a screw 21 projecting rearwardly beyond the shoulder. The shape of this rear extension 19 is clearly shown in Fig. 3. A portion of it is of segmental shape and is designed to fit the interior of the hollow handle hereinafter described. The left side of it as viewed in the drawings is cut away at 22 throughout the entire length of the extension 19 and the right side of it, near the top, is cut away at 23 near the forward portion of said extension 19, as clearly shown in Fig. 2, for purposes hereinafter made clear.

The handle comprises a hollow, cylindrical body portion 24 designed to inclose the extension 19 and to have its forward end rest against the shoulder 18. This handle is provided on its interior, near its forward end, with a number of screw-threads 25, which screw-threads are tapered at one end at 26, as clearly shown in Fig. 1, and are designed to co-act with the screw-threads 12. The handle is held in position on the wrench by means of a washer 27 placed upon the rectangular portion of the screw 21 to engage the rear end of the handle 24 and, by a nut 28 screwed on the screw 21 to engage the washer 27. By this means the handle is firmly and securely held in position and yet it may be rotated between the rib 18 and the washer 27 as said washer engages the shoulder 20 but is loose enough to permit the handle to freely rotate.

In practical operation and assuming that it is desired to adjust the jaws relative to each other, then the operator grasps the shank 17 of the wrench in one hand and with the other hand, grasps the handle 24 and turns it in a direction counter clockwise. This will bring the teeth 25 of the handle into the recess 22 at the side of the extension 19 and out of engagement with the teeth 12, whereupon the outer jaw may be freely moved longitudinally of the wrench. Assuming that the jaws are placed on opposite sides of a nut or other object, then the jaws are moved together until they

closely engage said object and the handle 24 is turned in a clockwise direction so that the pointed ends 26 of the screw-threads 25 will engage with the pointed ends 13 of the screw-threads 12, and a further movement of the handle will cause the threads to firmly engage each other and will also cause the jaws to be moved toward each other a slight distance until the jaws firmly grasp the article between them. Then the wrench may be used in the ordinary manner.

Assuming that before the handle is moved to position for causing the threads to engage and assuming further that when in said position, the jaws tightly engage the object to be clamped, and also assuming that when the handle is turned to position for engaging the threads, the ends of the threads will strike each other and the handle can not be moved to position for causing the threads to firmly engage each other, then the operator moves the jaws apart far enough to permit the screw-threads on the handle to engage those on the shank one thread beyond the point first mentioned. Then, obviously, in order to cause the jaws to tightly engage the jaw, it will be necessary to turn the handle a comparatively great distance. For this purpose, I have provided the recess 23 in the side of the extension 19 to permit the teeth 25 to move to the right far enough to bring the jaws tightly against the object to be clamped. In this connection, it is to be understood that the threads are so arranged and have such a degree of pitch that when the handle is turned from position where the threads first engage to position where the threads are in the position shown in Fig. 1, the jaws will be moved toward each other a distance of at least one thread space of the screw-threads, so that an adjustment of the jaws relative to each other may be made at any point throughout their entire range of movement. By this arrangement, it is obvious that the handle may be turned to one side and when so turned the jaws may move relative to each other freely and without danger of having the screw-threads engage each other. Then when the handle is turned in a clockwise direction, the threads will engage and they may be drawn up tightly enough to bring the jaws firmly against the object to be clamped. The length of the threads 25 is considerably greater than that of the threads

12 thereby permitting a large range of movement of the jaws relative to each other, and at the same time a device is provided in which the threads may be turned to one side and the jaws may be freely moved. Furthermore, by the construction shown, the handle is firmly and securely held in position against longitudinal movement and the jaws are prevented from separating too far by means of the limiting pin 15 which will strike against the shoulder 18 when the jaws are separated to their limit.

I claim as my invention.

An improved wrench, comprising an outer jaw, a shank therefor having screw threads on one edge near the rear end thereof, said screw threads being pointed at one end, a second jaw, a hollow shank therefor to receive the shank of the outer jaw, said hollow shank being provided with an annular shoulder and with an extension in the rear of the annular shoulder, said rear extension being open at one side adjacent to the screw threaded edge of the first mentioned shank, and being provided with two recesses on opposite sides of the opening, said extension being also provided at its rear end with an angular extension, said angular extension being provided with screw threads at the rear end thereof, a hollow handle rotatably mounted on said rear extension to engage said shoulder and provided on its interior near its forward end with screw threads pointed at one end and designed to engage the screw threads on the first mentioned shank, said screw threads being capable of lying wholly within the recess on one side of the rear extension when the handle member is at one limit of its movement and of extending partially into the recess on the other side of the rear extension when the handle is at the other limit of its movement, a washer on the angular extension to engage the rear end of the handle member to limit its rearward movement, and a nut on said screw threaded end of the angular extension to engage said washer arranged and combined substantially in the manner set forth, and for the purposes stated.

Des Moines, Iowa, April 30, 1909.

BERT A. STOCKING.

Witnesses:

W. B. GOLDIZEN.

N. M. TAYLOR.