(No Model.)

J. F. TINER.

WRENCH.

No. 573,313. Patented Dec. 15, 1896.

Fig. 1.

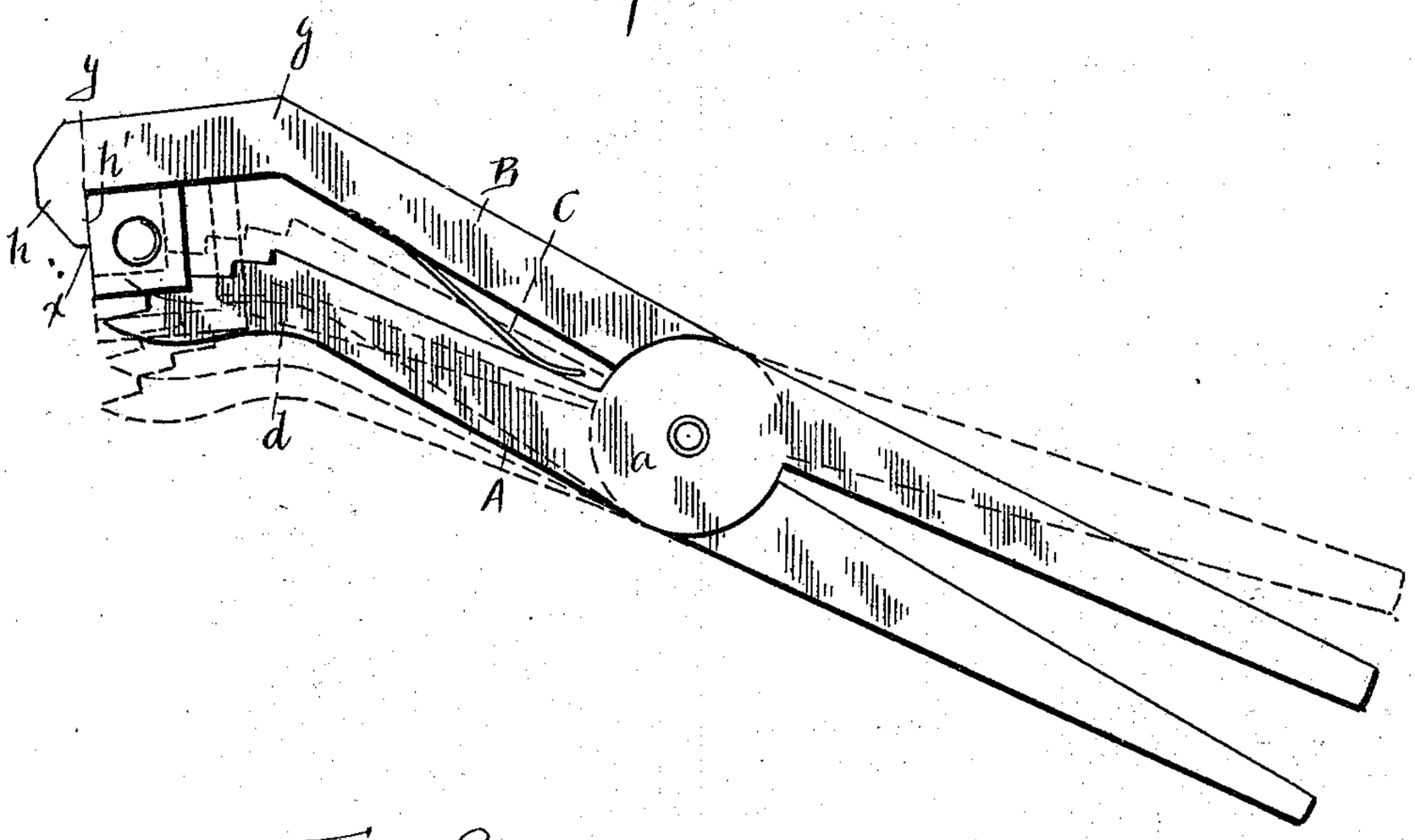
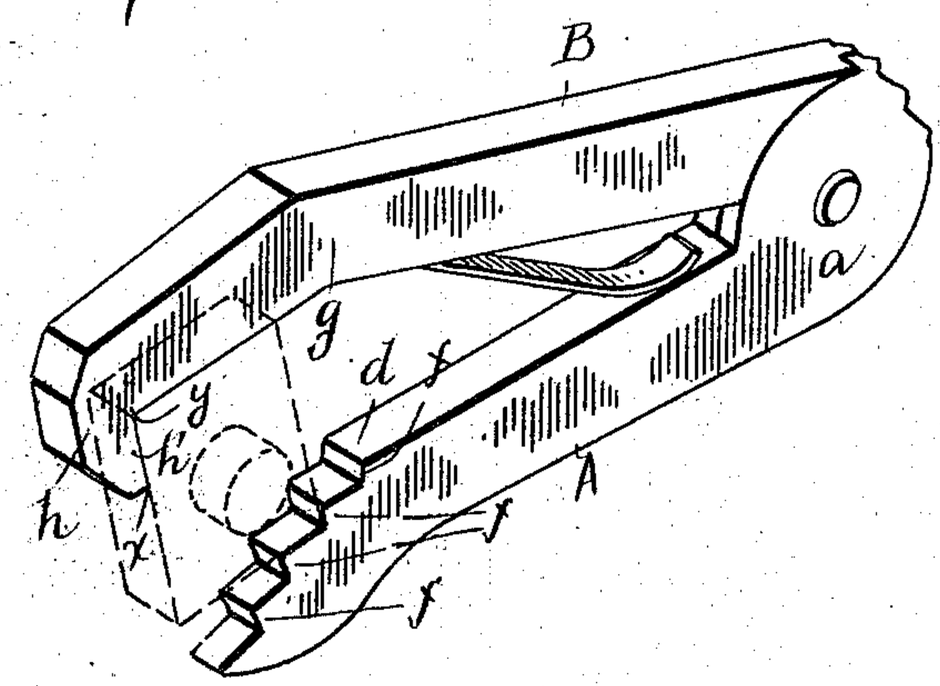


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 573,313, dated December 15, 1896.

Application filed April 14, 1896. Serial No. 587,529. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. TINER, a citizen of the United States, and a resident of Sutherland Springs, in the county of Wilson and State of Texas, have invented certain new and useful Improvements in Wrenches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side view of a wrench embodying my invention, its application to different sizes of nuts being indicated by dotted lines; and Fig. 2 is a perspective view of the jaw portions of the wrench.

This invention is designed to provide a nut-wrench of improved character; and it consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claim.

Referring to the accompanying drawings, the letters A and B designate the two interpivoted bars or members of which and a spring C the wrench consists. Each of said bars is somewhat enlarged and offset at its pivotal portion *a*, which is about midway of its length, the offset being sufficient to bring the inner edge of the handle portion of each member substantially into line with the inner face of the jaw portion of the same member. The jaw portion of the member B is straight from its pivoted portion *a* to a point *d*, at which it is bent outward in its own plane, at an oblique angle, to form the jaw proper. The inner face of this jaw is formed with a series of steps or offset shoulders *f*, which are at substantially right angles to the plane of the straight portion from *a* to *d*. The said shoulders may, however, be at slightly acute angles to said straight portion, and the term "at substantially right angles" may be so understood. The jaw portion of the member A is also straight from its pivoted portion to the point *g*, which is nearly opposite but slightly beyond the point *d*. Beyond the point *g* it is bent inwardly into substantially parallel relation to the opposite jaw. At its outer end it is formed with an inward projection *h*, the shoulder *h'* of which is at substantially right angles to the inner face of the jaw and substantially parallel with the transverse faces of the shoulders *f* of the opposite jaw. It will be observed, therefore, that when the wrench is in operation the point *x* of said projection or shoulder is nearer to the hand of the operator than is the angle at *y*, which catches the corner of the nut, and that it will be consequently impossible for the wrench to slip off the nut in turning.

The spring C, which is for the purpose of normally holding the jaws open, is interposed between the two jaw portions, its outer end being fast to the member A, while its inner or free end is secured to the member B.

The wrench is always ready for use without any adjustment whatever and will fit all sizes of nuts. The operator has simply to catch the nut in the angle *y* and grip the handles, when the opposite corner of the nut will be caught by the corresponding shoulder *f*. Inasmuch as the longer or connecting walls of these shoulders are substantially parallel with the face of the opposite jaw the grip upon the nut is perfect. The pivot being about midway the length of the members the two jaws have a nearly parallel movement, while at the same time the operator has ample leverage, increased largely by the angle of the jaws.

The construction as above described is such that as the jaw portions are closed the longer or longitudinal walls of the offsets *f* come successively into substantially parallel relation to the face of the opposite jaw portion adjacent to the claw projection *h*, while their transverse or shorter faces come into similar relation to the inner face *h'* of said projection.

The drawings show the wrench in position for turning the nut on. To take a nut off, the wrench may be turned over to reverse its action.

Owing to the character of the bite or grip which the wrench takes of the nut it will not deface the corners.

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

In a wrench, the two interpivoted members A and B, having elongated shanks forward of their pivotal point, the shank of one member terminating in an inwardly-bent jaw portion

having the claw or shoulder *h*, and the other of said shanks terminating in an outwardly-bent jaw portion the inner face of which is formed with a series of steps or offsets whose longitudinal walls are arranged to be successively brought into substantially parallel relation to the face of the opposite jaw portion adjacent to the claw as the two jaw portions are closed, and whose transverse walls come into similar relation to the inner face of the claw or shoulder *h* substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN F. TINER.

Witnesses:
C. B. BROWN,
GRATZ BROWN.