(No Model.)

P. R. ERICKSON.

NUT WRENCH.

No. 412,373. Patented Oct. 8, 1889.

Fig. 1.

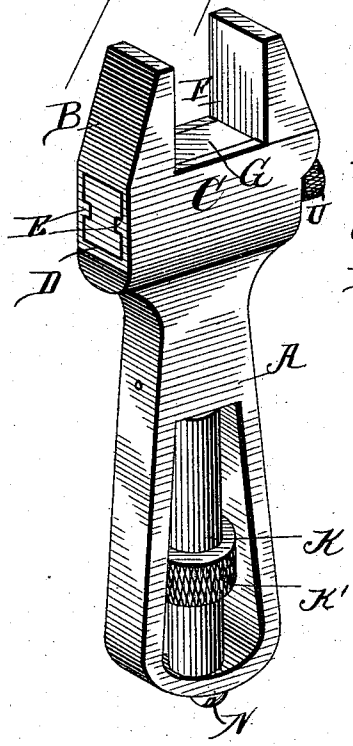
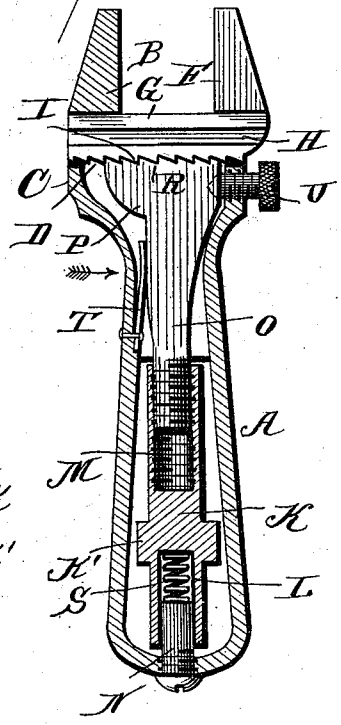


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

PETER RICHARD ERICKSON, OF ISHPEMING, MICHIGAN.

NUT-WRENCH.

SPECIFICATION forming part of Letters Patent No. 412,373, dated October 8, 1889.

Application filed January 4, 1889. Serial No. 295,387. (No model.)

To all whom it may concern:

Be it known that I, PETER RICHARD ERICKSON, a citizen of the United States, residing at Ishpeming, in the county of Marquette and State of Michigan, have invented a new and useful Improvement in Nut-Wrenches, of which the following is a specification.

My invention relates to an improvement in nut-wrenches; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a nut-wrench embodying my improvements. Fig. 2 is a longitudinal sectional view of the same.

A represents a hollow handle of suitable length, which is provided at one end with an integral rigid jaw B. In the head C of the handle, below the base of the jaw B, is a transverse opening D, which is rectangular in cross-section, and is provided on opposite sides with inwardly-extending tongues or flanges E.

F represents a movable jaw, which is provided at its inner end with a right-angled arm G. The latter is adapted to slide in the transverse opening D, and is provided in its sides with grooves H, that engage the flanges E, whereby the said arm is guided in the said opening, and is secured against lost lateral motion. The lower side of the said arm is provided with ratchet-teeth I.

K represents a thumb-nut, having a socket L in its outer end and a threaded opening M at its inner end. A screw N works in a threaded opening in the outer end of the handle, and the inner end of the said screw enters the socket L, and thereby centers the thumb-nut thereon and adapts the thumb-nut to move in and out in the hollow handle, as will be readily understood.

O represents an arm having its inner end threaded and engaging the threaded opening in the thumb-nut, and having a head P formed at its outer end, which head is provided with ratchet-teeth R, that are adapted to engage the teeth I of arm H. A coiled extensile spring S is fitted in the socket L and bears against the point of the screw N, the function of the said spring being to press the thumb-nut normally inward, and thereby cause the head P of arm O to engage the arm G of jaw F.

T represents a flat spring, which is secured in one side of the hollow handle, and bears against the arm O, and serves to press the same in the direction indicated by the arrow in Fig. 2.

U represents an adjusting-screw, which engages the threaded opening in one side of the hollow handle, and has its inner end pointed and engaging a recess or depression in one side of the head of arm O.

The operation of my invention is as follows: By pressing outward on the milled annular flange K′ of the thumb-nut against the tension of the spring S the ratchet-teeth of the arm O may be disengaged from the ratchet-teeth of the movable jaw, so as to release the latter and adapt the same to be freely moved in any desired direction with reference to the rigid jaw. The pressure on the thumb-nut being then released, the spring L will cause the ratchet-teeth of the arm O to again engage the ratchet-teeth of the movable jaw and lock the latter at the desired adjustment.

It will be observed by reference to Fig. 2 that the head of the arm O is adapted to play laterally a slight distance in the head of the hollow handle. By turning the adjusting-nut U the said arm O may be moved slightly and cause the movable jaw to move in unison therewith, and thus enable nice adjustments of the implement to be effected.

Having thus described my invention, I claim—

1. The combination, in a wrench, of the hollow handle having the rigid jaw, the movable jaw having the guide-arm, and the longitudinally-movable arm O in the hollow handle, adapted to engage and lock the arm of the movable jaw and be withdrawn from such engagement and having limited lateral movement, substantially as described.

2. The combination, in a wrench, of the hollow handle having the rigid jaw B, the movable jaw F, having the guide-arm with ratchet-teeth, the thumb-nut K, arranged in the hollow handle, the arm O, secured thereto, and provided with the ratchet-teeth adapted to engage those of the movable jaw and having limited lateral movement, and the spring press-

ing inward on the arm O, for the purpose set forth, substantially as described.

3. The combination of the hollow handle having the rigid jaw, the movable jaw having the guide-arm with ratchet-teeth, the thumb-nut having the socket L, the arm O, screwed to the thumb-nut, and having the head provided with ratchet-teeth, for the purpose set forth, the pin or screw engaging the socket L, the spring S in said socket bearing on the said pin, the spring T, bearing against one side of the arm O, and the adjusting-screw U, engaging the opposite side of said arm, substantially as described.

4. The combination, in a wrench, of the hollow handle having the rigid jaw B, the movable jaw F, having the guide-arm with ratchet-teeth, the thumb-nut K, arranged in the hollow handle, the arm O, secured thereto, and having the ratchet-teeth adapted to engage those of the movable jaw, said arm O being capable of vertical movement to bring said ratchet-teeth into and out of engagement with the movable jaw and having limited lateral movement, substantially as described.

5. The combination, in a wrench, of the hollow handle having the rigid jaw B, the movable jaw F, having the guide-arm with ratchet-teeth, the thumb-nut K, arranged in the hollow handle, the arm O, secured thereto and having the ratchet-teeth adapted to engage those of the movable jaw, the thumb-nut having a threaded connection with the arm O, and the adjusting-screw U, bearing against the arm O, substantially as described.

6. In a wrench, the handle having the rigid jaw B, combined with the movable jaw F, having the guide-arm G, provided with ratchet-teeth, the thumb-nut K, having threaded socket M, the arm O within the handle, and having the ratchet-teeth engaging those on the guide-arm and provided with a threaded end received in the threaded socket M, the spring bearing against the thumb-nut, and the spring bearing against the arm O, as set forth.

7. In a wrench, the handle having the rigid jaw B, combined with the movable jaw F, having guide-arm G provided with ratchet-teeth, the arm O, provided with ratchet-teeth engaging those on the arm G, and the adjusting-screw U, bearing against the arm O to move the same slightly, for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

PETER RICHARD ERICKSON.

Witnesses:

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