

(No Model.)

T. W. BOYLE.

WRENCH.

No. 265,236.

Patented Oct. 3, 1882.

Fig. 1.

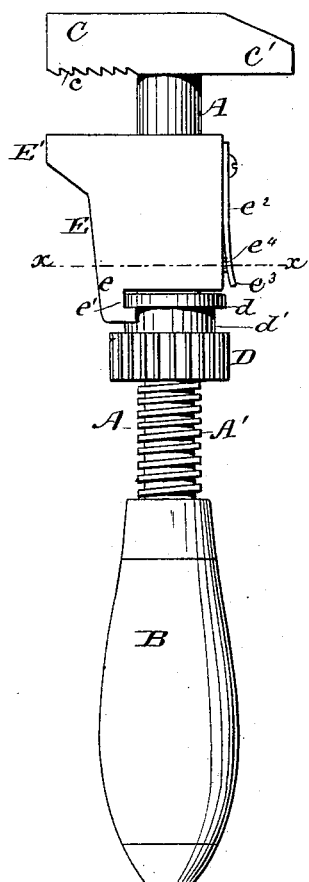


Fig. 3.

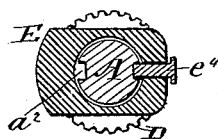


Fig. 4.

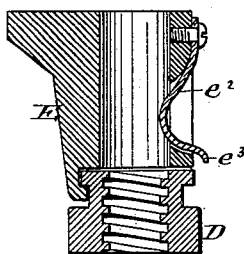


Fig. 2.

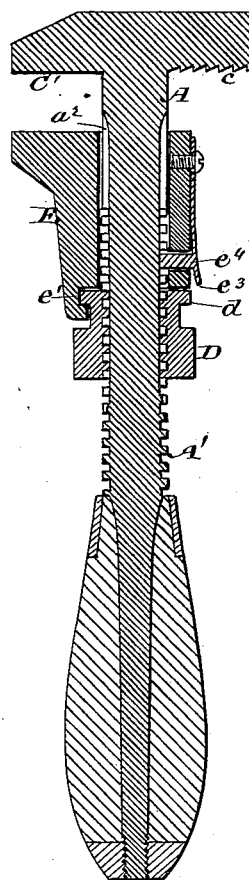


Fig. 5.

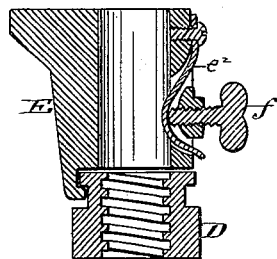
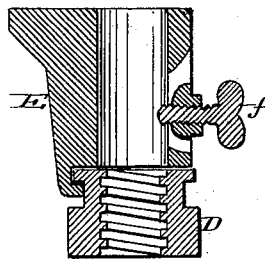


Fig. 6.



Witnesses:

W. B. Mason
C. C. Shepherd.

Inventor:

Thaddeus W. Boyle
by E. E. Masson
att'y.

UNITED STATES PATENT OFFICE.

THADDEUS W. BOYLE, OF AUGUSTA, GEORGIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 265,236, dated October 3, 1882.

Application filed February 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, THADDEUS W. BOYLE, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to improvements in wrenches provided with a stationary plain jaw upon one side of the shank and a serrated jaw upon the other side, and a movable jaw adapted to bear against either one of the stationary jaws; and the objects of my improvements are, first, to provide a wrench of this class with a cylindrical shank and movable jaw having a smooth cylindrical opening adapted to receive said shank and be rotated thereon without changing the relative distance between the movable and stationary jaws; second, to provide the cylindrical shank with longitudinal grooves on two sides thereof, in combination with a spring or retaining device secured to the movable jaw and adapted to enter either one of the grooves upon the shank; and, third, to provide the shank of the wrench with a nut adapted to be rotated either with the movable jaw or independently therefrom. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the wrench. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse section on line *xx* of Fig. 1; and Figs. 4, 5, and 6 are longitudinal sections through the operating-nut, and the movable jaw constructed with a cylindrical and smooth longitudinal opening for the passage of the wrench-shank, and carrying modified forms of retaining devices to engage with either one of the grooves in said shank.

Heretofore wrenches of this class have been constructed with a movable jaw screw-threaded internally and grooved longitudinally to receive a spring-feather secured to the shank of the wrench; but a wrench thus constructed required the lower jaw to be rotated spirally upon the shank to bring it in contact with the object to be held, and often could not be brought within a distance equal to one-half thread of the screw, being thus unsuitable to clamp round pipes or bars. It has also been very common to provide the movable jaw of wrenches with internal springs pressing against

the surface of the shank, either to steady the jaw or to bring the screw-thread or serrations formed therein in contact with the serrations on the shank; but they all differ from the construction shown in mine and hereinafter described.

In the drawings, A represents the shank of the wrench, to which the handle B is secured in the usual manner. One end of the shank is formed with a T-shaped head, producing a stationary jaw on opposite sides of said shank, the inner face of the jaw C being provided with serrations or teeth *c* to facilitate its engagement with a round or cylindrical object, and the face of the jaw C' is left plane. The shank A is cylindrical from its head to the handle B, and a screw-thread, A', is cut upon its periphery, either the whole length or simply the distance the operating hand-nut D is capable of moving upon the shank to bring the movable jaw E in contact with the stationary jaw or back toward the handle. The operating-nut D is kept connected with the movable jaw in the usual manner—that is, it is provided with a cylindrical ring or head, *d*, and a groove, *d'*, between said head and the body of the nut; and the movable jaw is provided with a branch, *e*, preferably directly under the lip E' of the movable jaw, and this branch has a semicircular groove, *e'*, to receive a portion of the head of the nut; but otherwise the movable jaw and its nut are distinct pieces, each capable of revolving upon the shank A independently of the other. To retain the jaw in position upon the shank A, so that its lip E' will remain directly under either of the stationary jaws C or C', a spring, *e*², is secured to the back of the movable jaw, and said spring has adjoining its free end *e*³ a pin, *e*⁴, that passes through an opening in the back of the jaw and projects within the smooth interior of the jaw, and is of suitable size to enter either one of the longitudinal grooves *a*², formed in the side of the shank in line with the stationary jaws C and C'. The free end *e*³ of the spring projects slightly outward, so that it can be lifted or slightly pulled outward with a finger-nail, or by other means, to remove the pin *e*⁴ from one of the grooves *a*² when it is desired to shift the lip of the movable jaw from under one of the stationary jaws to a position under the other. In Figs. 1, 2, and 3 the spring *e*² is provided

with the latching-pin e^4 ; but the spring itself may be used for the purpose of latching the jaw E upon the shank A by having its middle portion bent as shown in Fig. 4, the free end e^3 remaining accessible from the exterior to release it from either of the grooves in which the bent portion is made to enter. To insure the bent spring e^2 against accidental displacement and keep it projecting within the interior of the jaw, a screw, f , may be made to engage in an opening tapped into the rear of the jaw, as shown in Fig. 5, and press upon the outside of the spring.

In the modification shown in Fig. 6 the spring represented in Fig. 5 is dispensed with and the screw f only is retained, the point of which is adapted to enter within the interior of the jaw and into one of the grooves of the shank A that may be made to pass through said jaw. The spring e^2 (shown in the other figures) is shown as secured to the jaw E, so as to have its free end e^3 adjoining the hand-nut D; but the back opening in said jaw may be made so that the spring will be reversed and fastened to the jaw at the end adjoining the hand-nut. The sliding jaw shown in either of the figures is represented as having solid sides; but it may be made with openings in said sides, or simply with a top and bottom band, to render it lighter, as often found in ordinary screw or monkey wrenches, without departing from the spirit of my invention.

It is evident that the latching device may be placed upon the front part of the movable jaw, or even upon the sides; but if in the latter location the grooves a^2 should be upon corresponding sides of the wrench-shank.

The back of the movable jaw may be provided with lugs to carry, pivoted thereto in the middle of its length, a spring-latch having one end made to enter within either of the grooves a^2 , while the opposite end or thumb-piece is forced

outwardly by a spring secured thereto and resting against the back of the jaw; but I prefer the mode of connecting and operating the latching device shown in the drawings, as being more simple and as effective.

Having now fully described my invention, I claim—

1. A wrench having a shank provided with two longitudinal grooves and formed with a serrated and a plane jaw, with a movable jaw having a smooth longitudinal opening adapted to receive said shank and be rotated thereon, and a latching device passing through the back of the movable jaw and adapted to enter either groove of the shank, and means for securing the movable jaw at any desired point of adjustment, substantially as and for the purpose described.

2. In a wrench, the combination of a shank provided with two longitudinal grooves and two stationary jaws, with a movable jaw having a smooth cylindrical opening adapted to receive said shank, a suitable latching device, and a hand-nut provided with a head engaging within a groove in the movable jaw and adapted to be rotated independently therefrom, substantially as and for the purpose set forth.

3. In a wrench, the combination of a shank provided with a T-shaped head and two longitudinal grooves, with a movable jaw having a smooth cylindrical opening adapted to receive said shank, a suitable spring latching device secured to and passing through the side of the jaw, and a hand-nut connected with the movable jaw, said jaw being adapted to be rotated independently from the nut, substantially as and for the purpose described.

THADDEUS W. BOYLE.

Witnesses:

H. H. HILL,
E. H. WALTON.