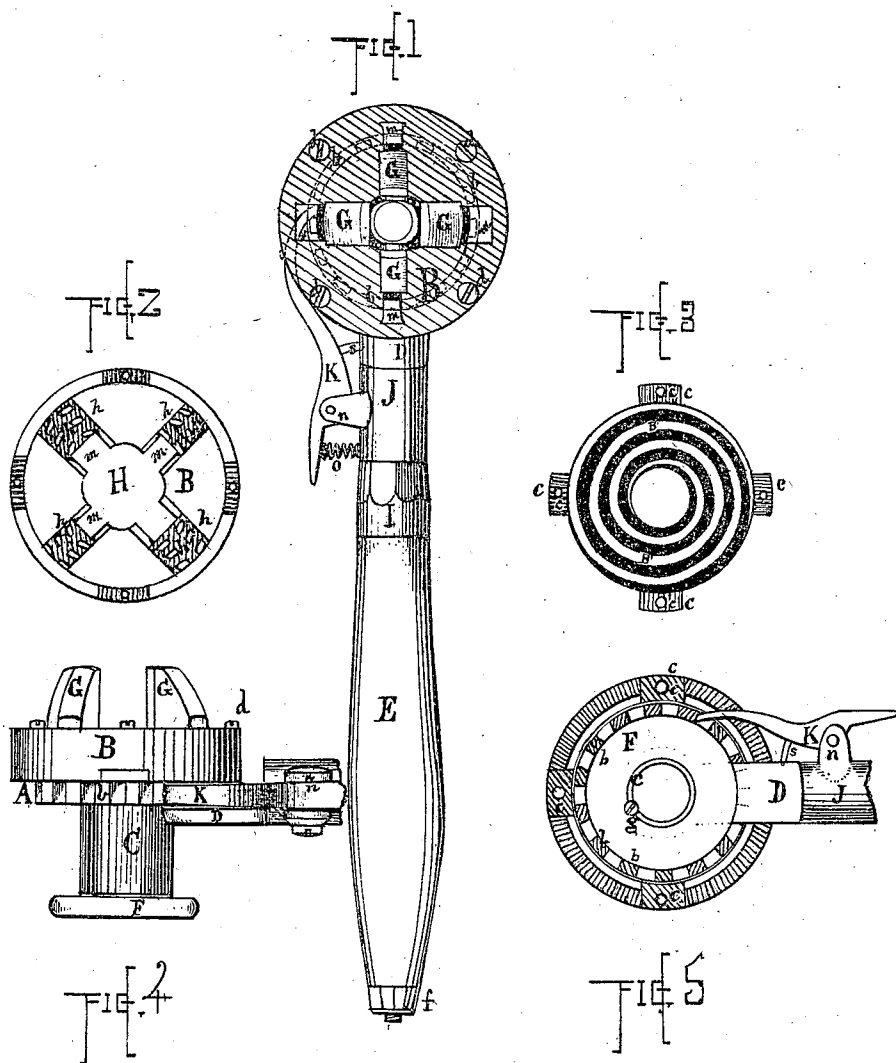


O. BONNEVILLE.
Wrenches.

No. 133,402.

Patented Nov. 26, 1872.



Witnesses
Jerome A. *in Roman*
Fred. L. Goulding.

Inventor
Ovide Bonneville.

UNITED STATES PATENT OFFICE.

OVIDE BONNEVILLE, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. 133,402, dated November 26, 1872.

To all whom it may concern:

Be it known that I, OVIDE BONNEVILLE, now residing in the city and county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Wrenches for Turning Nuts and for other purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, and in which—

Figure 1 represents a top or plan view when the jaws are turned up, the face-plate being shown in section for the purpose of indicating more fully its extent; and Fig. 2 represents an inner or under side view of the face-plate and jaws; and Fig. 3 represents a plan view of the scroll which operates the jaws of the wrench and the ears which project from the body of the wrench, upon which the scroll rests; and Fig. 4 represents a side view of the wrench, the handle being shown broken off; and Fig. 5 represents a plan view of the head of the wrench, the handle being shown broken off.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe the improvements more in detail.

In the drawing, the part A is the main body of the wrench, which is cast with a supporting face, upon which the back of the scroll turns, and a series of cogs, *b*, on its edge or periphery, (see Figs. 4 and 5;) it is also cast with four ears, *c*, which fit into spaces in the face-plate B, the two parts being held together by screws *d*. The part A has a hole in the center through which passes a tubular projection, *e*, on the scroll, and over which projection is slipped the neck or ferrule part C, connected with the shank D, to which the handle E is attached by means of a nut, *f*. After neck C has been slipped upon the tube part *e* a hand-wheel, F, is placed upon the outer end of the neck, where it is fastened by a set-screw, *g*. The jaws G are provided with dovetailed projections *h*, the under sides of which are constructed with sections of screw-threads or projections, *k*, so arranged that they will fit into the scroll shown in Fig. 3. The face-plate is also made with dovetailed slots, *m*, to receive and properly hold the jaws in place either when being

adjusted or when in use. In putting the jaws into position their dovetailed ends are first slipped through the center opening H in the face-plate and then moved back into their respective slots, after which the face-plate is fastened to the body part A so as to bring the projections or thread parts *k* into the scroll in such a manner as to set all of the jaws at equal distances from the center. Upon the neck of the shank, just forward of the ferrule I, is slipped, before the handle is attached, a thimble-piece, J, fitted to turn freely on the shank-neck. Thimble J is provided with ears *n*, between which a pawl or dog, K, is pivoted. The front end of the dog or pawl catches into the cogs *b*, while the rear end rests upon the spiral spring *o*.

Operation.

The operator, by means of the hand-wheel, turns the scroll, and thus adjusts the jaws to fit the nut or other article to be turned, after which he gives the handle a back-and-forth motion, whereby the body part A together with the jaws are turned by means of the pawl or dog catching into the cogs *b*. When it is desired to turn the parts in an opposite direction the rear part of the dog or pawl is pressed in far enough to extend the front end thereof, so that the pawl can be turned past the hand-wheel and into position on the opposite side of the wrench, when the same motion of the handle will turn the nut or other article in an opposite direction.

Those skilled in the art to which my invention relates will at once appreciate the practical utility of my improvements.

The device may be arranged for use in turning drills. In such case it might be well to make the central tube square or many-sided, and if the jaws are made to bite a pipe or rod the hand-wheel may be made square or many-sided to receive a wrench for tightening the jaws upon the article.

A small hole is drilled into the shank D on each side, into which a pin, *s*, on the dog or pawl K, fits, thereby retaining the pawl in proper position to act on the cogs *b*.

Having described my improved wrench, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the cogged or notched supporting-body A and slotted face-plate, of the threaded jaws and operating-pawl and scroll, substantially as and for the purposes set forth.

2. The combination, with the projecting tubular part *e* of the scroll B' and shank of the wrench, of the hand-wheel F, neck or ferrule C, thimble J, and operating-pawl and its spring, substantially as and for the purposes set forth.

3. The combination, with the shank-neck of

the wrench, of thimble J, ears *n*, pawl or dog K, spiral spring *o*, and holding-pin *s*, substantially as and for the purposes set forth.

4. The combination, with the shank-neck of the wrench, of the thimble-piece J and operating dog or pawl K, substantially as and for the purposes set forth.

OVIDE BONNEVILLE.

Witnesses:

JEROME A. KINSMAN,
FRED. L. GOULDING.