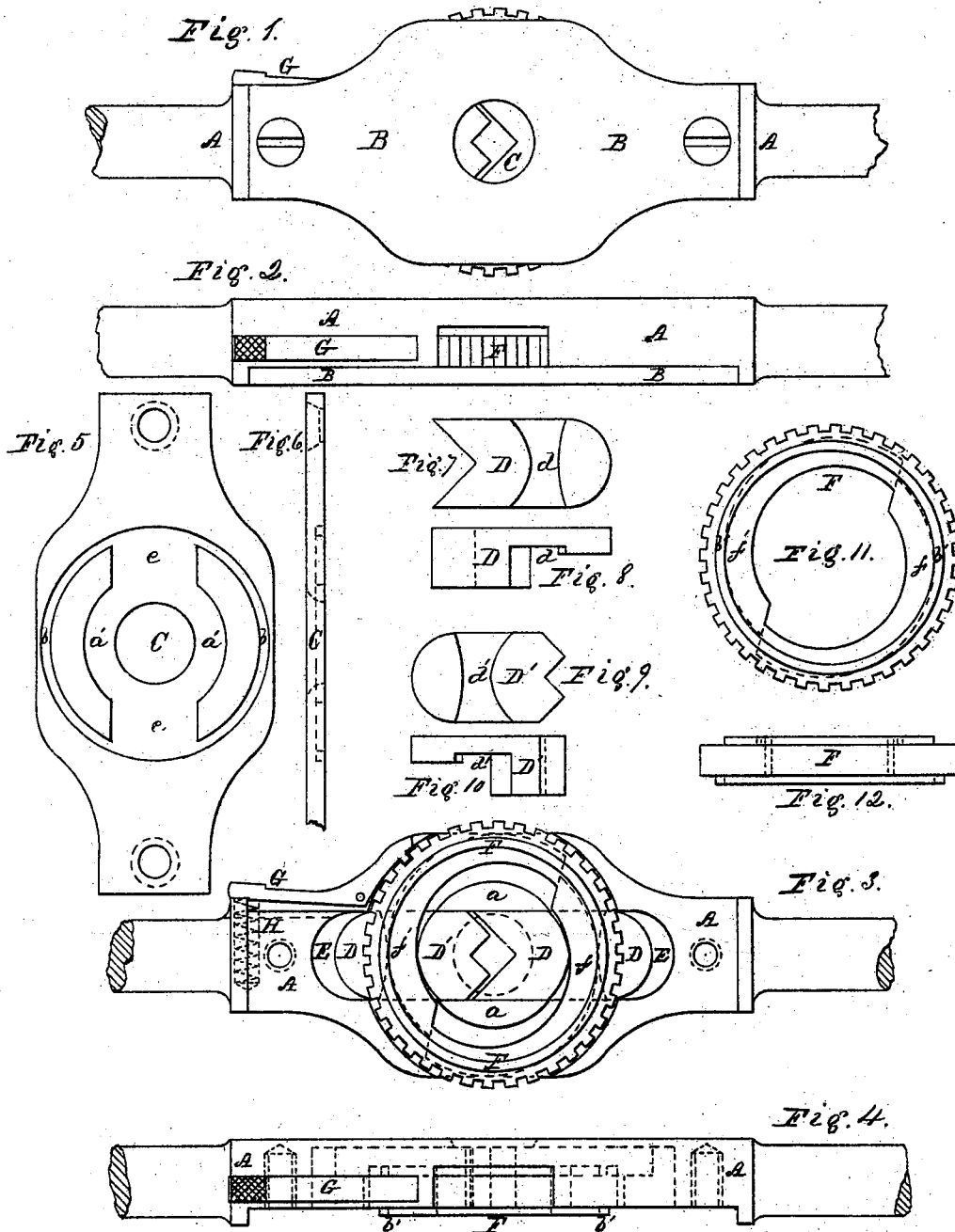


J. J. GRANT.
WRENCH.

No. 172,854.

Patented Feb. 1, 1876.



Witnesses.

Wm. R. Curtis
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John J. Grant
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UNITED STATES PATENT OFFICE.

JOHN J. GRANT, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE PRATT AND WHITNEY COMPANY, OF SAME PLACE.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. 172,854, dated February 1, 1876; application filed December 16, 1875.

To all whom it may concern:

Be it known that I, JOHN J. GRANT, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Tap-Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

The object of my invention is to provide an adjustable tap or reamer wrench, which can be at once changed so as to fit different sized taps or other tools in a more convenient manner than any such tools now in use.

My invention consists in the construction and arrangement of the several parts of the mechanism, as will be hereinafter described.

In the accompanying drawing, Figure 1 is a front view of my improved tap-wrench, with the usual handles partly removed. Fig. 2 is a side view of the same. Fig. 3 is a front view, with the covering-plate removed to show the interior parts. Fig. 4 is a side view of the same, with the interior mechanism shown in dotted lines. Figs. 5 and 6 are a back and edge view of the covering-plate removed from Figs. 3 and 4. Figs. 7, 8, 9, 10, 11, 12 are details, which will be described farther on.

A is a box, usually made in one piece with the handles, and is recessed or cut out interiorly to receive the operating mechanism. B is a covering-plate screwed onto A to cover and retain the several parts when in place. The box A and cover B are each provided with a hole, C, in the middle for the square of a tap to pass through to the jaws. D D' are the jaws. A front and side view of D are shown in Figs. 7 and 8, and a front and side view of D' are shown in Figs. 9 and 10. These jaws slide back and forth in a slot, E, in the bottom of the box A, so that they approach each other or recede in a straight line. The gripping-face of one of the jaws D is made of a V form, while the other D is made of a W form, and partially

enters within the V, so as to be adapted to embrace larger or smaller squares. The outer portions of both jaws are provided with properly-formed slots *d d'*, in which the circular cams *f f'* on the wheel F move, so as to force the jaws out or in as the wheel F is rotated to the left or right. The wheel F lies in a circular groove in the box A, leaving the central portions *a a* to more firmly support the sliding jaws. Its edge is provided with teeth, for a purpose that will be further explained, and extends through openings in the sides of the box A, so that it can be easily turned back and forth with the thumb and fingers. The covering-plate B is provided upon its interior side with a circular groove, *b*, in which runs the circular projecting flange *b'* upon the wheel F. It is also recessed at *a' a'* to receive and support the part *a a* of the box A, and at *e e* to serve as a further guide for the jaws D D'. These parts are shown more particularly in Fig. 5. G is a pawl, which serves to lock the wheel F by means of a tooth, which enters into one of the notches in the rim of the wheel. It is held in its position by means of a spring, H, and is released, when it is desired to alter the position of the jaws, by pressing with one of the fingers upon the outer end of G, which lifts the tooth out of the way so that the wheel F can rotate freely.

What I claim as my invention is—

1. The combination of the jaws D D', the ratchet-wheel F, with its cams *f f'*, and the pawl G, when arranged within a box, A, substantially as herein described.

2. The combination of the ratchet-wheel F, having a flange, *b'*, and the plate B, having a groove, *b*, substantially as described.

3. The combination, in a tap-wrench, of the central supports *a a* for the sliding jaws, with a socket or rest, *a'*, in the cover B, for giving them greater strength, substantially as herein described.

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Witnesses:

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