(No Model.)

# V. J. McDONNELL

## WRENCH.

No. 402,265. Patented Apr. 30, 1889.

Fig. 1.

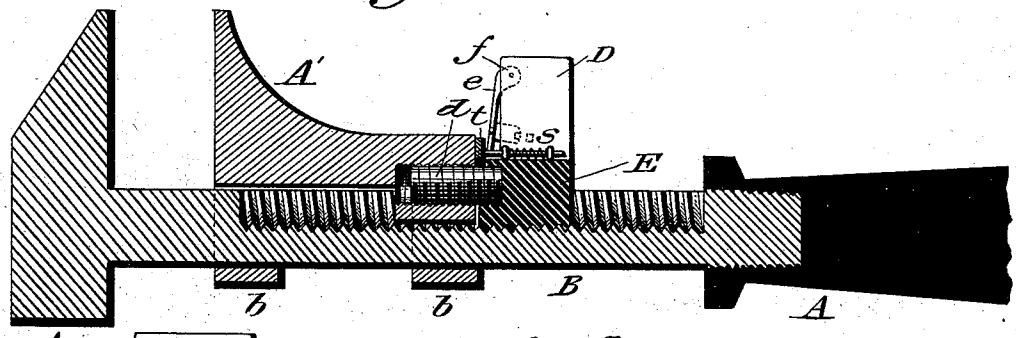



Fig. 3.

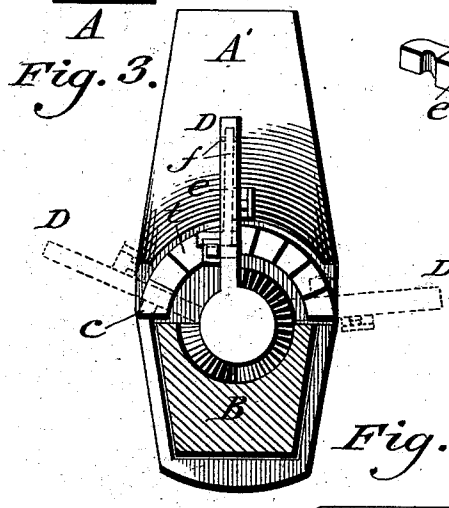



Fig. 5.

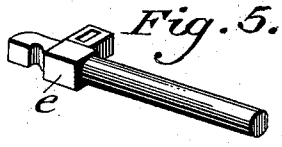



Fig. 2.

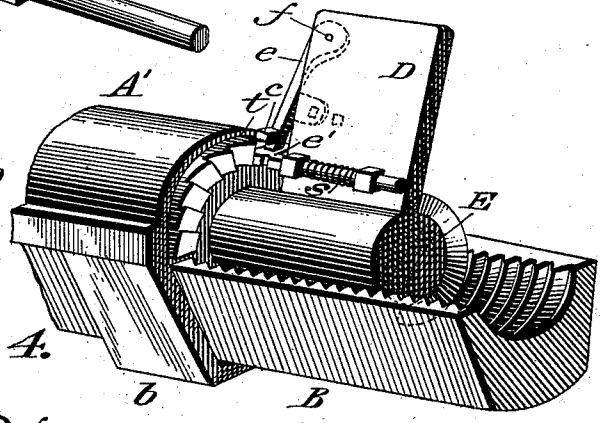
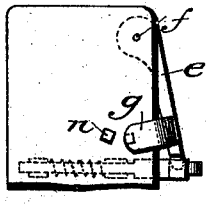



Fig. 4.




WITNESSES.

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# UNITED STATES PATENT OFFICE.

VINCENT J. McDONNELL, OF PHILADELPHIA, PENNSYLVANIA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 402,265, dated April 30, 1889.

Application filed December 13, 1888. Serial No. 293,441. (No model.)

*To all whom it may concern:*

Be it known that I, VINCENT J. McDONNELL, of the city of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Wrenches; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification.

My invention has relation to that class of wrenches commonly known as "monkey-wrenches;" and it consists in an improved adjusting and securing device substantially such as described, and specified in the claims.

The object of my invention is to provide a device in the wrench for adjusting and securing it to fit the nut or bolt to be turned, which shall be capable of being most easily adjusted, secured, and released without the tedious screwing and adjusting which is usually necessary in wrenches of this class.

In the accompanying drawings similar letters of reference refer to similar parts.

Figure 1 is a longitudinal sectional view of a monkey-wrench with the securing device half turned. Fig. 2 is a perspective view of the securing device partially turned. Fig. 3 is a cross-sectional view in the line *x x* of Fig. 1. Fig. 4 is a rear view in detail of a portion of the adjusting-lever. Fig. 5 is a detail view of the dog or pawl.

A is the main body of the wrench.

A′ is the adjustable section, of the usual construction in monkey-wrenches, secured on the plane-sided shank B by the loops *b b*, upon which it slides in being adjusted. The plane shank B has provided in its upper surface a screw-threaded semicircular-shaped groove or gutter, *a*, extending from the handle to within an inch, or thereabout, of the hammer end.

E is a short circular tube provided on the lower half of its circumference with a screw-thread corresponding to the screw-threaded groove *a*. This circular tube E is adjusted to the movable section of the wrench A′ through the medium of the screw *d*, which is screwed tightly in the position shown in Fig. 1 to the section A′. The portion of *d* projecting beyond and out of the section of the wrench A′ is provided, as shown, with a screw the thread of which is the reverse of the trend of the thread of the groove *a*. Upon this screw-threaded projection *d* the circular tube E is screwed, leaving, however, a slight intervening space between it and the section A′, for the purpose hereinafter described.

D is a lever or projection attached to the circular tube E in the position shown in the drawings, and is employed as a means to readily rotate the circular tube E, and when the screw-threads are disengaged, to slide it in the groove to the desired position. Pivoted to the projection D at *f* is a lever, *e*, which operates the dog or pawl *e′*, and engages or disengages it with the teeth or notches *t*, provided semicircularly on the inner end of the section A′, as shown. A spring, *s*, is provided, as shown, to keep the pawl engaged in the teeth *t*, while *g* is a projection provided in the lever *e* and to the rear of the lever D, adapted to engage by means of a catch on its extremity with the notch *n*, provided in the rear of the lever D, when it is desired to keep the pawl *e′* disengaged from the teeth *t*.

The operation is substantially as follows: When it is desired to set the wrench to fit a particular nut, the lever *e* is pressed in, and the pawl *e′* thereby disengaged from the teeth *t*, and the projection *g* at the same time engages with the notch *n* and holds it in that position. The lever D is then thrown into the position shown in the dotted lines to the left in Fig. 3. The edge *c* of the lever *e*, extending beyond the surface of the lever D, strikes upon the upper edge of the plane shank B when in the position shown in the dotted lines to the left in Fig, 4, and thus being slightly jarred back, releases the projection *g* from the notch *n*. The spring *s* then acting forces the pawl *e′* forward and engages it in the teeth *t*. The screw-threads of the circular tube E when in this position are disengaged from the screw-threaded groove *a*, and the circular tube E is freely slid along in the groove *a* by means of the projection or handle D to the desired position required for the nut to be turned. The projection D is then turned up into the position shown in Fig. 1, and then down to that shown in the dotted

lines to the right in Fig. 3, the pawl *e'* clicking over the teeth *t* and securing the circular tube E in that position. It will be noticed that as the screw-trend of the groove *a* is toward the handle end, this turn of the tube E slightly tends to tighten the wrench-section A' on the nut to which the wrench is fitted, to which purpose the trend of the screw *d* also assists, its thread being the reverse of that of *a*.

The pawl, teeth, and lever device shown and described is a convenient method of securing the tubular section E in its desired position relatively to the wrench-section A'. I do not, however, limit myself to this particular pawl device for securing the tubular section.

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

1. In a wrench, a semicircularly-shaped screw-threaded groove provided on the main shank or stem, in combination with a tubular-shaped section secured to the adjustable section of the wrench, said section provided with a handle projection and with screw-threads on a portion of its circumference adapted to fit and operate in the screw-threads of the groove of the shank or stem, a pawl adjusted to the tube-section operated by a lever, and notches provided on the end of the adjustable section of the wrench to engage said pawl, substantially in the manner and for the purpose as hereinbefore set forth and described.

2. In a wrench, the screw-threaded groove *a*, in combination with the tubular section E, secured to the adjustable section A' and provided with screw-threads on a portion of its circumference and a handle or projection, D, the screw *d*, connecting the tubular section E with the adjustable section A', a pawl, *e'*, adjusted to the tubular section E, a lever, *e*, and teeth *t*, provided on A', substantially as hereinbefore set forth and described.

In witness whereof I have hereunto set my hand this 8th day of December, A. D. 1888.

VINCENT J. McDONNELL.

Witnesses:
HORACE PETTIT,
REESE M. FLEISCHMANN.