

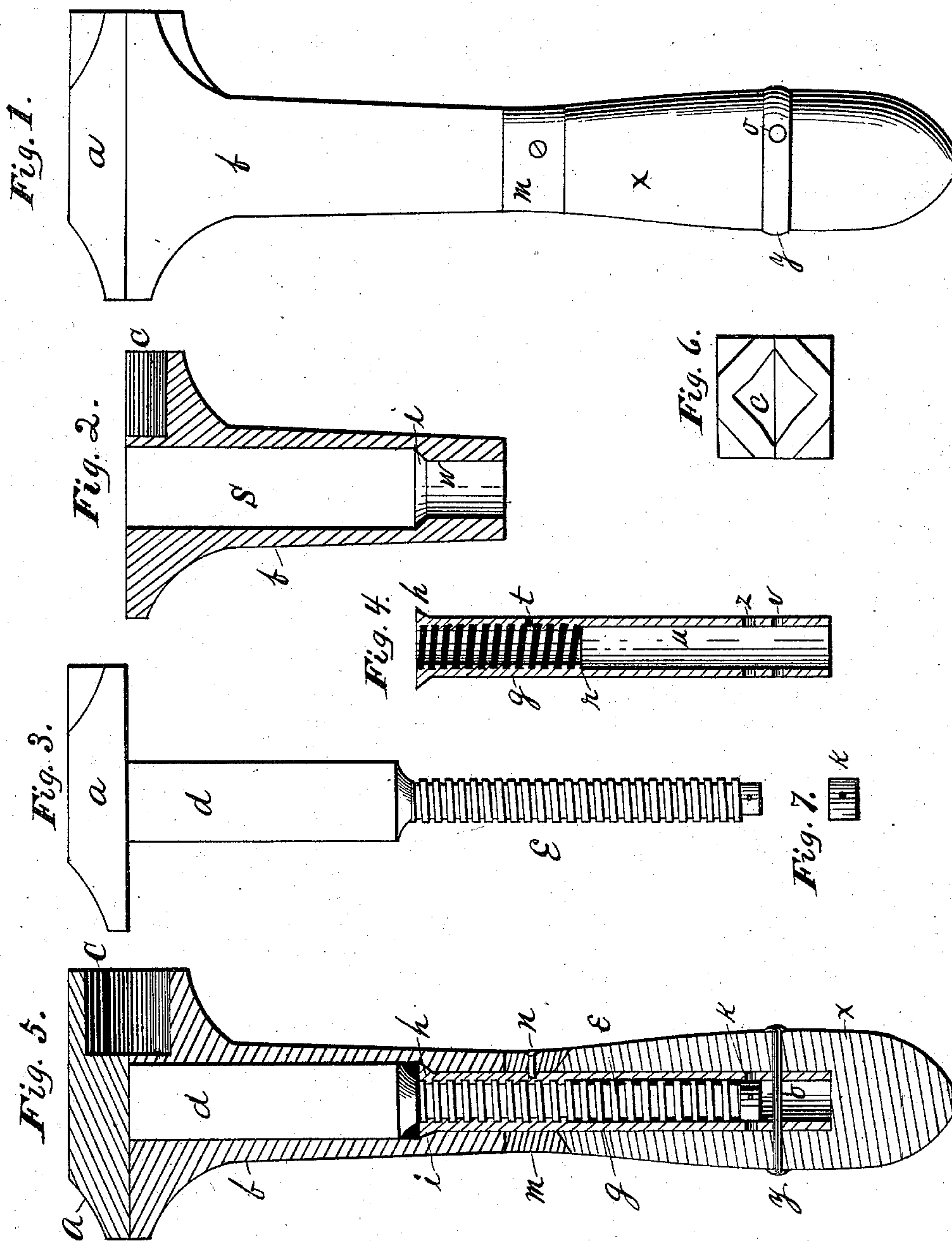
(No Model.)

J. P. MITCHELL.

WRENCH.

No. 385,366.

Patented July 3, 1888.



*Witness.*

Fred. A. Mason.  
A. B. Fuller.

*Inventor,*

Joseph P. Mitchell.  
by J. W. Mason atty.

# UNITED STATES PATENT OFFICE.

JOSEPH P. MITCHELL, OF NEW BEDFORD, MASSACHUSETTS.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 385,366, dated July 3, 1888.

Application filed March 22, 1888. Serial No. 268,178. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH P. MITCHELL, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

My invention relates to certain improvements in wrenches; and it consists in the peculiar construction and arrangement of the several parts, whereby the utmost strength, durability, and usefulness are obtained.

In the accompanying drawings, Figure 1 is a side view of my improved wrench. Fig. 2 is a view in longitudinal section of the under jaw of the wrench. Fig. 3 is a side view of the upper jaw of the wrench and its shank. Fig. 4 is a view in longitudinal section of the tube or cylinder, upon the outside of which the handle is secured. Fig. 5 is a view in longitudinal section of Fig. 1. Fig. 6 is a view showing the angular recess in one side of the jaws of the wrench, and Fig. 7 is a view of the stop which limits the movement of the jaws of the wrench from each other. Figs. 2, 3, 4, and 7 show the detail of construction of Figs. 1 and 5.

In Fig. 2, which is a view in longitudinal section of the under jaw of the wrench, *c* represents an angular recess, and *s* represents a rectangular opening of a size to receive and fit the shank *d*, Fig. 3. *w* represents a round opening of a size to receive and fit the outside of the tube *g*, Fig. 4. The top of the opening *w* is countersunk or shouldered, as at *i*, to correspond with the shoulder *h* of the tube *g*, Fig. 4.

In Fig. 3, *a* is the upper jaw of the wrench, *d* is the squared shank, and *e* represents a portion of the shank which is screw-threaded and of a size to fit and engage with the screw thread in the tube *g*, Fig. 4. The lower end of the shank *e* is shouldered down to receive the stop *k*.

In Fig. 4 the upper part of the tube *g* is screw-threaded interiorly to *r* and the remaining portion of the interior is enlarged, so as to freely admit the screw-threaded shank *e*, Fig.

3. The tube *g* is also furnished with the holes *t*, *v*, and *z*.

Fig. 5 shows the position and arrangement of the different parts of the wrench when put together.

In putting the parts together the tube *g* is placed in the under jaw, *b*, and its shoulder *h* brought in contact with the shoulder *i* in the jaw *b*, where it is secured by the collar *m*, placed on the tube *g*, and fastened there by the pin *n*. The upper jaw, *a*, with its shank, is then placed inside the under jaw and the tube *g* revolved until the threaded portion *e* of the shank is drawn completely into the tube *g*, when the stop *k* is secured to the end of the shank. The handle *x* is then secured on the outside of the tube *g* by means of the pin *o*, passing through the band *y*, the handle, and the tube *g*. This makes the handle *x*, tube *g*, and collar *m* practically one piece—that is to say, they move together.

In Fig. 6 is shown a front view of the angular recess in the jaws of the wrench.

It will be observed that the recess in each jaw is composed of a double angle—*i. e.*, a right angle and an obtuse angle. This is for greater convenience in grasping both square and hexagon nuts.

I claim—

In a wrench, the combination of the jaw *a*, having angular recess *c*, shank *d*, exteriorly screw-threaded at *e* and provided with the stop *k*, the jaw *b*, having angular recess *c*, rectangular opening *s*, round opening *w*, and shoulder *i*, the tube *g*, having enlarged head or shoulder *h* and interiorly screw-threaded in a portion of its length, the remaining portion enlarged to the depth of the screw-thread and provided with the holes *t*, *z*, *v*, the collar *m*, adapted to be rigidly secured to the tube *g*, and the handle *x*, adapted to be secured to and inclose that portion of the tube *g* which projects below the collar *m*, all as shown and described.

JOSEPH P. MITCHELL.

Witnesses:

ANDREW F. MITCHELL,  
FRANK JONES.