J. SHEPARD.

WRENCH.

No. 188,968. Patented March 27, 1877.

fig. 1.

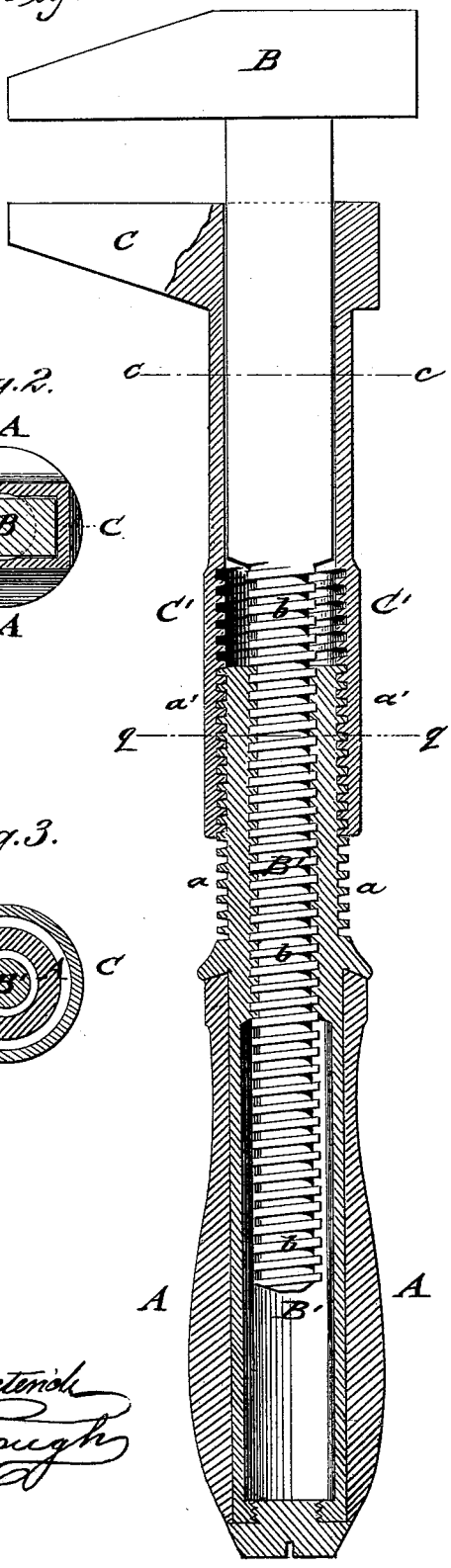


fig. 2.

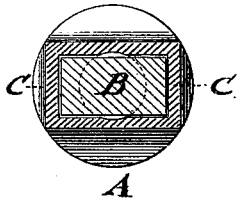
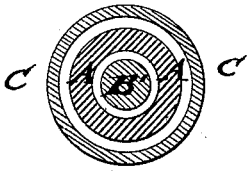


fig. 3.



WITNESSES:

Gustave Dietenick

J. H. Scarborough

INVENTOR:

J. Shepard.

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES SHEPARD, OF ANGOLA, INDIANA.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **188,968**, dated March 27, 1877; application filed February 3, 1877.

To all whom it may concern:

Be it known that I, JAMES SHEPARD, of Angola, in the county of Steuben and State of Indiana, have invented a new and Improved Wrench, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical central section of my improved wrench; and Figs. 2 and 3, respectively, horizontal sections of the same on lines *c c* and *g g*.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide an improved wrench which is easily and quickly operated, as the turning of the handle moves both jaws, the same admitting to be opened wider, to be applicable to larger burrs, while the length and leverage is increased jointly therewith.

The invention consists of a wrench having a handle with exterior and interior screw-threads, that move jointly the jaws having intermeshing threads, the outer jaw being guided in an oblong recess of the inner jaw.

In the drawing, A represents the handle; B, the outer and C the inner jaw of my improved wrench. The handle A is made hollow, and arranged with an exterior left-hand screw-thread, *a*, that turns into a corresponding interior screw-thread, *a'*, of the inner jaw C. The inside of the handle is provided with an interior double right-hand screw-thread, *b*, that is cut to fit the threaded shank B' of the outer jaw B, so as to act on the same in the nature of a nut. The shank of the outside jaw B is longer than that of the inside jaw, and made of oblong cross-section, adjoining the jaw, to slide loosely in the corresponding opening of the inside jaw C, as shown in Fig. 2.

The lower part of the jaw-shank or rod B' is round, and provided with a double thread, while the lower part of inside jaw C is also round, and has a single thread, as shown clearly by the cross-section, Fig. 3.

By turning the handle in one direction the jaws are simultaneously moved in opposite direction to each other, the inside jaw being drawn in and the outer jaw moved outwardly, while, by turning in opposite direction, the approach of the jaws is produced. This facilitates the quick adjustment and application of the wrench, especially to large burrs, giving the additional advantage that as the inside jaw is drawn in over the handle, the same is strengthened, while the outer jaw increases the length of the wrench, and thereby the leverage and power of the same.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As an improvement in wrenches, the combination, with a hollow turning-handle, having exterior and interior screw-threads, of the corresponding threaded shanks of the jaws, moving simultaneously in opposite direction to each other, substantially as and for the purpose set forth.

2. The combination of a hollow turning-handle, having exterior and interior screw-threads, with the threaded shank of the outer jaw, and the hollow threaded shank of the inner jaw, the upper oblong part of the shank of the outer jaw being guided in a corresponding opening of the inner jaw, substantially as specified.

JAMES SHEPARD.

Witnesses:

LAWRENCE GATES,

V. M. GALL.