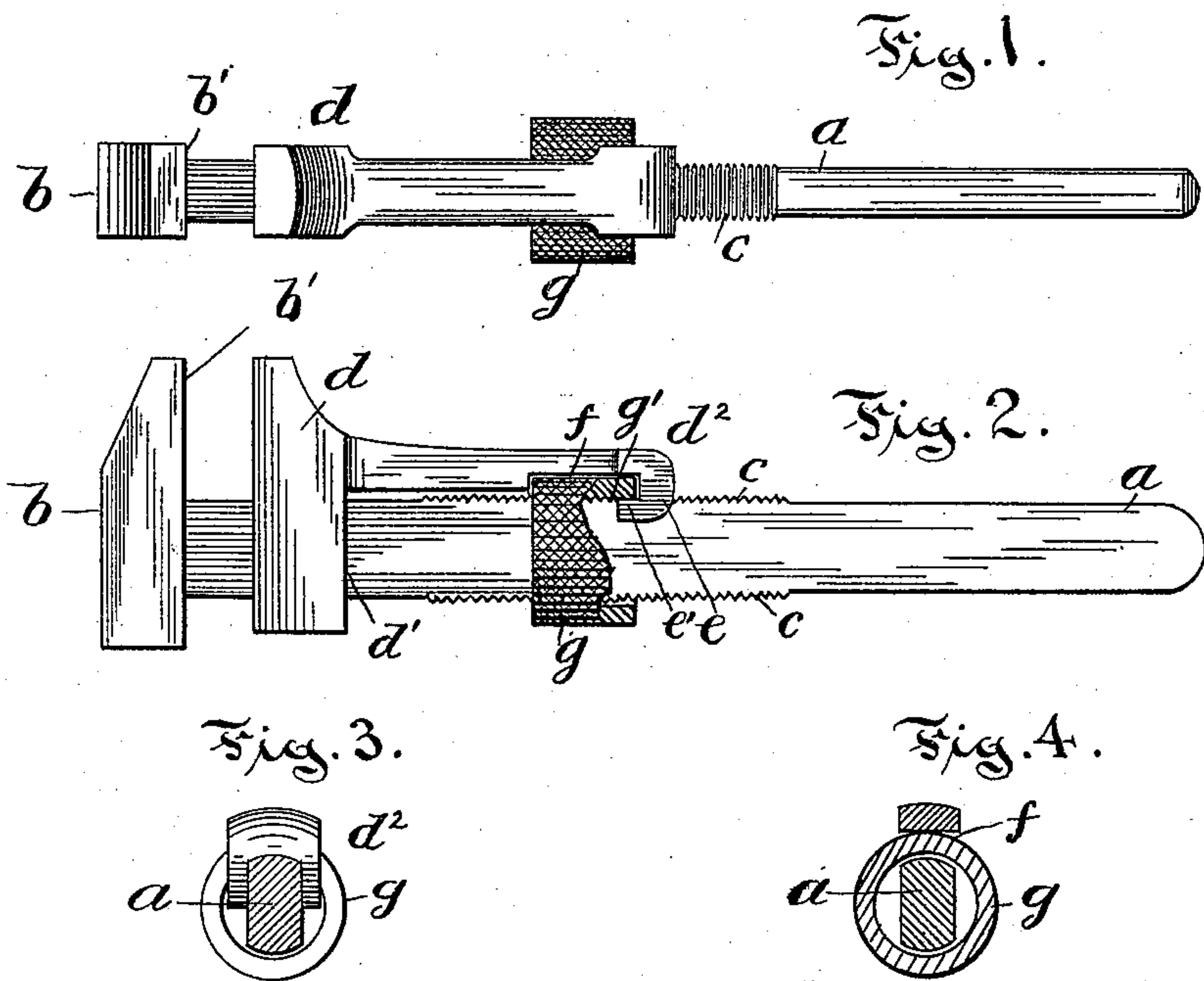


(No Model.)

J. S. COPELAND.
WRENCH.

No. 534,142.

Patented Feb. 12, 1895.



Witnesses:

Jos. Arthur Cantin.
Arthur B. Jenkins

Inventor:

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UNITED STATES PATENT OFFICE.

JAMES S. COPELAND, OF HARTFORD, CONNECTICUT.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 534,142, dated February 12, 1895.

Application filed November 17, 1892. Serial No. 452,288. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. COPELAND, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Wrenches, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a wrench of the class known as monkey-wrenches that shall be composed of but few parts simply and easily made and that may be readily assembled.

To this end my invention consists in the details of the several parts making up the wrench as a whole and in the combination of such parts as more particularly hereinafter described and pointed out in the claim.

Referring to the drawings: Figure 1 is a top edge view of a wrench embodying my invention. Fig. 2 is a side view of the same with parts cut away to show construction. Fig. 3 is a detail view in cross section through the wrench back of the movable jaw. Fig. 4 is a detail view in cross section of the wrench on a plane passing through the several parts.

In the accompanying drawings the letter *a* denotes the shank or handle of the main part of the wrench terminating in a head *b* on the back of which is formed the jaw *b'*. For a certain distance along the shank a thread is cut in the upper and lower edges at least if the shank be flattened in outline and this threaded part forms a feed screw *c* integral with a part of the shank or handle as the most convenient and preferable way of arranging it.

A movable jaw *d* is arranged to slide on the shank or handle, a slotted opening *d'* through the lower part of the jaw forming a strap or yoke that quite closely surrounds the shank and on the back of the jaw is a projection *d²* slotted on the under side and forming guide arms *e* that terminate in hooks *e'* that are turned forward. An open socket *f* is formed on the under side of the jaw piece *d* of a size adapted to receive a collar *g* that is threaded on the inside and forms a hollow nut that fits the thread cut upon the shank and forming the feed screw. On the inside of the collar

next the edge under which the hooks *e'* project there is preferably no thread the function of the collar device part being to hold this end of the jaw down upon the shank closely enough to enable the parts to be moved lengthwise along the shank as by the revolution of the collar *g*.

The socket *f* that is formed in the under side of the movable jaw piece is of a width that is just sufficient to enable the collar to be inserted in the socket, its edge *g'* having first engaged the hooks and the collar being then turned to a position at about right angles to the plane of the jaw. When these two parts, the movable jaw and the nut or collar, have been thus assembled the end of the shank is inserted in the socket *d'* and slipped through the opening in the collar until the latter has reached the threaded portion forming the feed screw *c*, when by revolving the nut the parts are engaged and the parts of the wrench are in proper position for their ordinary use.

The movable jaw is held firmly against any lengthwise movement along the shank in either direction and with equal firmness against any tilting movement of the jaw while the jaw is firmly anchored and held by the nut that lies against the shoulder formed by one edge of the socket *f* into which this nut and collar projects.

The parts are preferably made of iron or steel but may be made of any suitable material desired and formed to shape in any desired and convenient manner.

I claim as my invention—

In combination in a wrench a handle part having a fixed jaw, the feed screw, a movable jaw mounted on the shank or handle and having hooked ends located on opposite sides of the shank and projecting under the edge of a hollow nut, and the hollow nut having on the inner side near one edge a bearing for the hooked ends of the movable jaw and also a thread fitting the thread on the feed screw, all substantially as described.

JAMES S. COPELAND.

Witnesses:

ARTHUR B. JENKINS,
CHAS. L. BURDETT.