E. WIARD.

Wrench.

No. 168,360. Patented Oct. 5, 1875.

Fig. 1

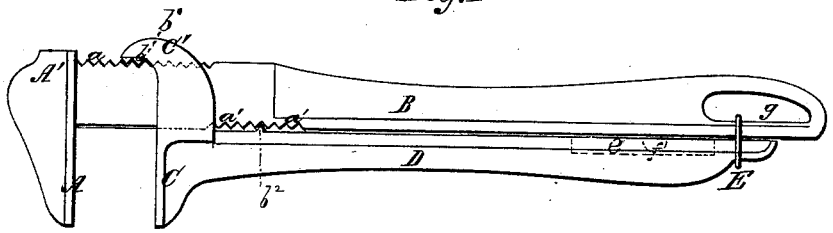


Fig. 2

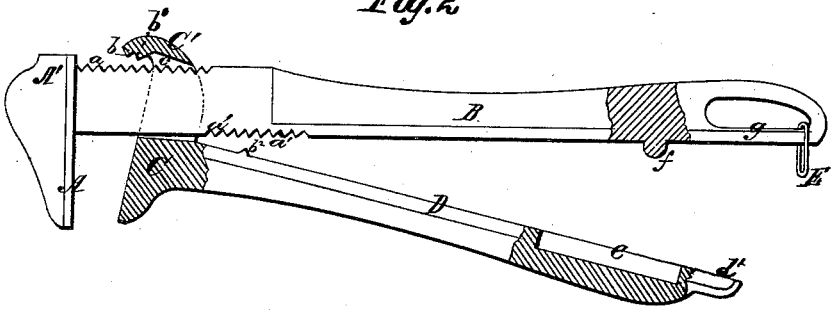
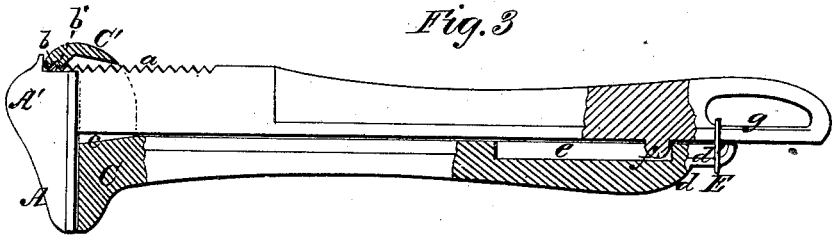


Fig. 3



Witnesses.
Jas. Mastin Jr.
J. N. Complice

Inventor.
Edward Wiard
by
Mason, Fennick & Lawrence
attys

UNITED STATES PATENT OFFICE.

EDWARD WIARD, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO BENJAMIN F. AVERY, OF SAME PLACE.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **168,360**, dated October 5, 1875; application filed January 26, 1875.

To all whom it may concern:

Be it known that I, EDWARD WIARD, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a side elevation of my improved wrench as adjusted when in use. Fig. 2 is a vertical longitudinal section of it as adjusted when it is desired to slide the movable jaw back or forward. Fig. 3 is a similar section of the wrench slightly modified, and as adjusted when in use, except that the movable jaw is shown, for illustration only, in an extreme position, which, in practice, it may never occupy.

The nature of my invention consists in a monkey-wrench having features of construction as hereinafter described and specifically claimed.

A A′ is the stationary jaw and head of the wrench; B, the handle thereof; C C′, the movable jaw and head, and D the handle thereof. E is a clamping-ring for holding the handles together. The parts named may be of cast malleable iron or of wrought metal. The jaw and head A A′ and handle B, and also the jaw and head C C′ and handle D, are, respectively, in one piece. On the upper edge of the handle B V or other suitable shaped teeth *a* are formed by cutting V-shaped notches therein. Similar teeth *a′* are formed by cutting V-shaped notches in the under side of said handle. In the under side of a curved front extension, *b*, of the head C′ of the movable jaw C two V-shaped teeth, b^1, are made by cutting V-notches therein, and on the upper side of the handle D a single V-shaped tooth, b^2, is provided. The teeth thus formed match the notches formed between the teeth *a*, and the projection b^2 fits or matches any one of the notches *a′*. The passage *c* of the movable jaw, through which the handle A of the stationary jaw is passed, is of flaring form, being longest at its front end, and gradually decreasing in length vertically as it runs back, as shown. This form of the passage permits the movable jaw to be adjusted by moving its handle downward, so as to clear its teeth from those of the handle B of the jaw A, as illustrated in Fig. 2. The movable and stationary jaws, as before intimated, extend back in form of handles B and D. The handle D is shorter than the handle B, and terminates with a shoulder, *d*, and a reduced semicircular stem, *d′*, as shown. In the upper side of this handle, near its front end, a long rectangular mortise, *e*, is formed for the reception of a longitudinally-guiding and laterally-staying lug, *f*, formed on the under side of the handle B, as shown. The clamping-ring E is connected to the handle B by fitting it in an oblong elliptical loop, *g*, formed on the extreme rear end of said handle. This ring can be slipped back and forth in said loop. When slipped back it releases the handle D, and allows the same to drop downward and open the jaws, and when slipped forward it couples the front ends of the two handles together, as shown in Figs. 1 and 3, and thereby closes the jaws upon an object, and prevents the movable jaw from loosening its hold upon the object it may be binding upon.

In Fig. 3 a portion of the top of the head A′ is removed, and teeth and notches are continued beyond the face of the jaw of said head, so that the movable jaw may be brought up closer to the stationary jaw. In said Fig. 3 the teeth *a′* and tooth b^2 are omitted.

The wrench constructed in accordance with either of the plans shown and described is light, cheap, handy, and efficient; the movable jaw, constructed with a flaring passage, *c*, through it, and the arrangement of the handle D of the movable jaw under the handle B, in connection with the manner of constructing the notches and teeth, and of applying the staying and guiding lug and clamping-ring, affording the operator of the wrench convenience for rapidly opening and closing the jaws, for by slipping the ring and dropping the lower handle the jaws can be instantly opened for a new hold upon an object without changing the set thereof.

In practice I prefer to make the wrench with both the upper and under sets of holding

notches and teeth; but as a good wrench for light use and rapid work can be made with either the upper set or under set of notches, I do not confine my invention to two sets of notches and teeth.

Two or more V-shaped teeth may be used instead of a single tooth, b^2, if desired, without changing the character of my invention.

What I claim is—

In a wrench with its sections A B and C D constructed and operating as described, the combination of the lug *f*, oblong slot *e*, shoulder *d*, stem *d'*, loop *g*, and sliding ring E, in the manner and for the purpose described.

EDWARD WIARD.

Witnesses:

GEO. C. AVERY,

C. H. HUBBERT.