(No Model.)

B. ROSS.

WRENCH.

No. 296,877. Patented Apr. 15, 1884.

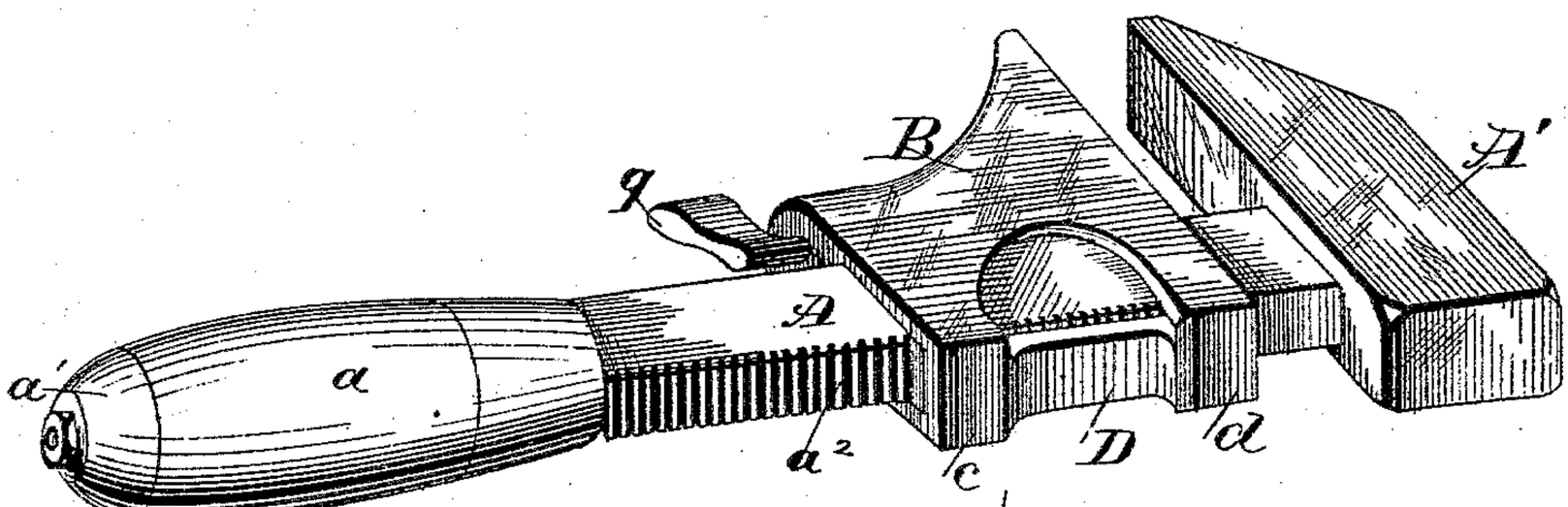
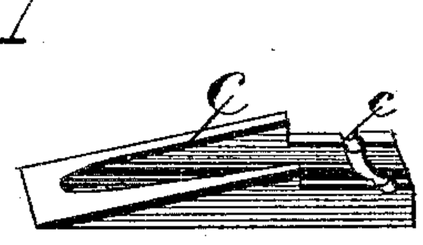


Fig. 1.

Fig. 5.

Fig. 3.



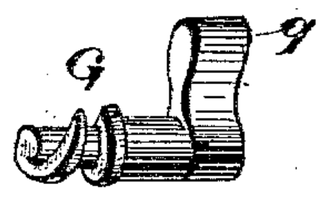
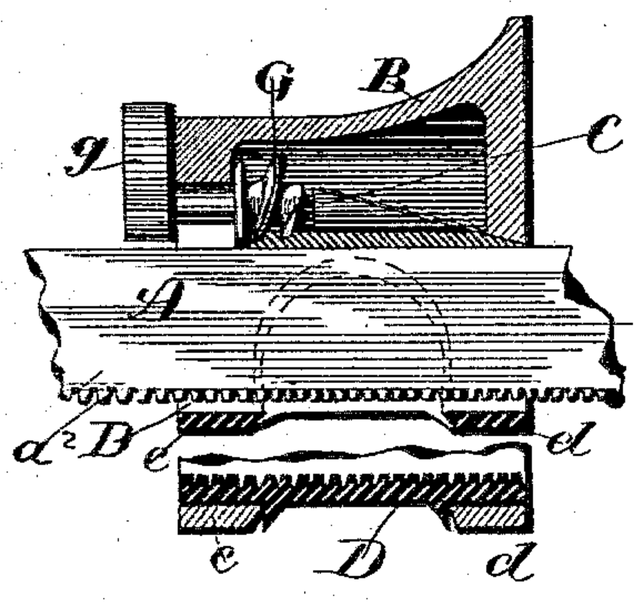


Fig. 4.



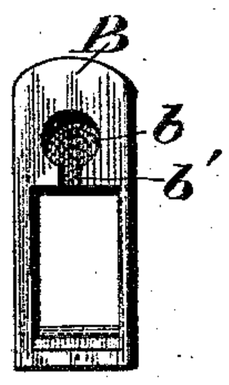


Fig. 6.

Fig. 2.

WITNESSES

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 296,877, dated April 15, 1884.

Application filed December 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, BARNEY ROSS, of Sterling, in the county of Wayne and State of Ohio, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in wrenches commonly known as "monkey" or "hammer" wrenches; and it consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of my improved wrench. Fig. 2 is a longitudinal section of the movable jaw and attachments, and of a portion of the shank. Fig. 3 is a longitudinal section of a rack-plate, showing the ribs by which the plate is attached, and before they are bent to secure them to the adjacent bands. Figs. 4 and 5 are views in perspective in detail, the former of a worm and thumb-lever, and the latter of a wedge that is operated inside of the movable jaw by the worm. Fig. 6 is an elevation of the rear end of the movable jaws.

A represents the shank-piece, provided at one end with the stationary jaw A′, and at the other end with the handle *a*, secured by the socket-nut *a′*, and on the back edge with a series of fine notches, a^2, running crosswise, forming the rack.

B represents the movable jaw, chambered to embrace the shank A and the wedge C, the flat side of which rests upon the said shank. The upper wall of the said chamber is sloping, to correspond with the incline of the wedge, as shown in Fig. 2. The rear wall of the jaw B has a hole, *b*, and a slot, *b′*, severing the wall from the hole to the chamber, as shown in Fig. 6. The back part of the jaw B is cut away, so that only two bands, *c* and *d*, extend around the shank A on the back side. To these bands is attached the rack-piece D, the teeth of which correspond with teeth on the back of the shank A, so that the two racks fit each other. The inner edges of the bands *c* and *d* are beveled, as shown, while the ribs on the plate D next the ends of the plate are perpendicular to the plate, and are of such distance apart as to fit in between the said bands, as shown in Fig. 3. These ribs are swaged or bent over onto the beveled edges of the bands, as shown in Fig. 2, holding the parts firmly together. The wedge C at the heel is cut away on top and recessed longitudinally, and provided in the walls of the recess with a worm-groove, *c′*, that, when the parts are in position, engages the worm G, that has a shank extending through the hole *b*, and provided at the rear and on the outside of the jaw with the thumb-lever *g*. When this thumb-lever is turned to one side, the wedge C, by means of the said worm and groove, is drawn back, leaving the jaw loose on the shank A, on which it may be slid along to any desired point. By turning the thumb-lever in the opposite direction the wedge C is advanced, forcing the front part of the jaw away from the shank A, and bringing the two racks a^2 and D together, thereby securing the jaw in its position on the shank.

In assembling the parts, the worm is inserted, with the thumb-lever to the rear, into the chamber of the movable jaw, and is turned in such position that the narrow portion of the handle of the thumb-lever will pass backward through the slot *b′*, connected with the hole *b*. The wedge is next placed in position with its worm-groove engaging the said worm. Next the thumb-lever is turned to the side that draws back the wedge, and the jaw B is slid onto the shank A. The handle *a* is next added and secured by the socket-nut *a′*, and the device is completed.

In operating the device, the back end of the worm forms a shoulder that butts against the rear wall of the movable jaw and sustains the forward thrust of the worm, while the thumb-lever, pressing against the outside of the jaw, holds the worm endwise while withdrawing the wedge.

What I claim is—

1. A wedge operating in a chamber in the movable jaw of a wrench, and provided with a longitudinal recess and a transverse worm-groove, in combination with a worm adapted to engage the groove and actuate the wedge,

and provided with a shank extending through the rear end wall of the movable jaw, and a thumb-lever for operating the same, substantially as set forth.

2. The combination, with the worm G, provided with the shank and thumb-lever, as aforesaid, of the jaw B, provided with the hole *b* and the accompanying slot, by means of which the parts may be assembled, substantially as set forth.

3. The bands *c* and *d*, provided each with beveled edges, in combination with the rack-piece D, provided with ribs or projections swaged or bent so as to engage the said beveled edges and hold the parts firmly in position, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 11th day of December, 1883.

BARNEY ROSS.

Witnesses:
ALBERT E. LYNCH,
C. H. DORER.