

(No Model.)

D. S. MAYNARD.
WRENCH.

No. 263,794.

Patented Sept. 5, 1882.

Fig. 1.

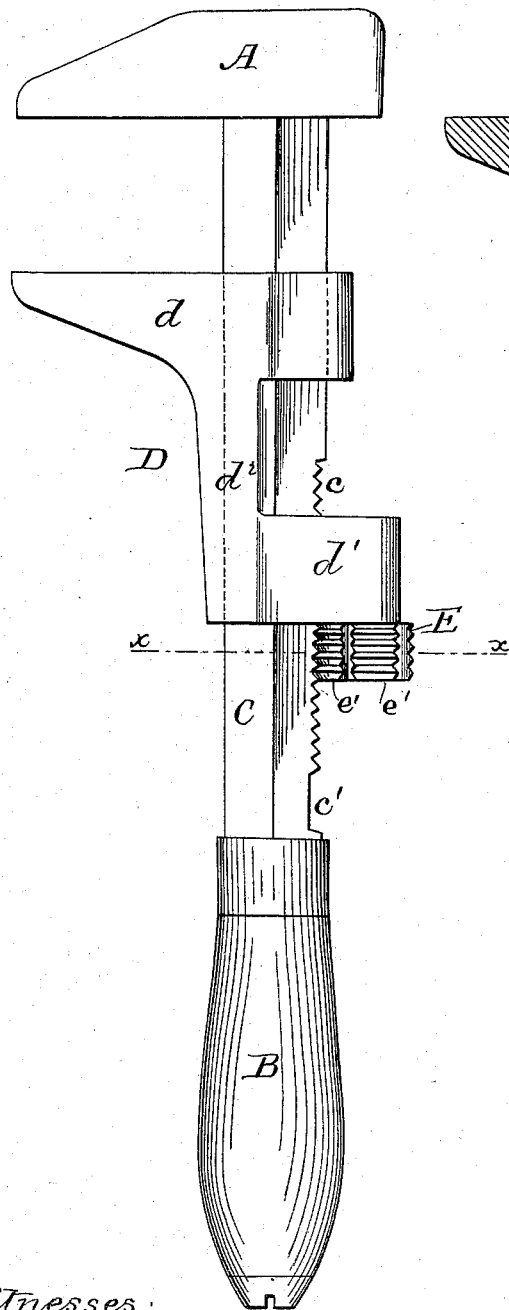


Fig. 2.

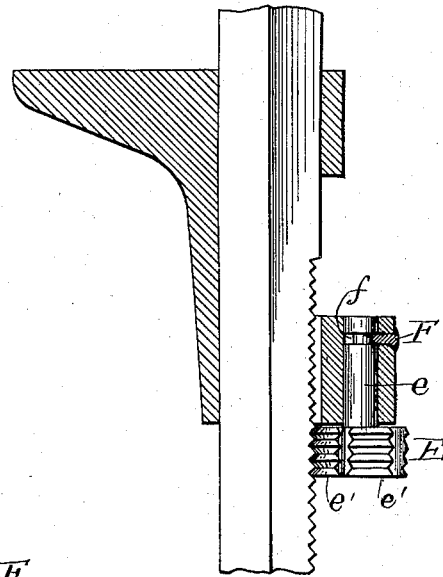


Fig. 3.

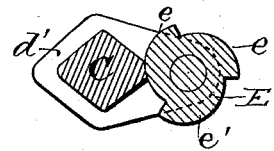


Fig. 4.



Witnesses:

W. B. Masson
L. C. Hills

Inventor

Dolphus S. Maynard
by E. E. Masson
att'y.

UNITED STATES PATENT OFFICE.

DOLPHUS S. MAYNARD, OF AUBURN, NEW YORK.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 263,794, dated September 5, 1882.

Application filed July 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, DOLPHUS S. MAYNARD, a citizen of the United States, residing at Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

The object of my invention is to produce a monkey-wrench which can be quickly adjusted to grasp nuts and bolt-heads of different sizes; and it consists in certain features hereinafter described, and specifically set forth in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a wrench constructed in accordance with my invention. Fig. 2 is a central longitudinal section of the sliding jaw in operative position upon its shank; Fig. 3, a transverse section on the line *x x* of Fig. 1, and Fig. 4 a section of a modified form of shank-bar.

Like letters refer to like parts in all the figures.

A represents a fixed jaw, and B a handle, both of usual construction, and secured to, or they may be formed on, a bar, C, in any desired usual manner. The bar C is diamond shape in cross-section, as clearly shown in Fig. 3; but, if desired, I may form it oval or ellipsoidal in cross-section, as shown in Fig. 4. In both cases the acute edges of the bar are slightly rounded, blunted, or dulled, as shown, to prevent them being injured by rough usage, and one of these edges, which I designate the "upper edge," is notched or formed with a series of transverse parallel grooves, *e*, concaved at the bottom, and similar to a female screw-thread, except the lead thereof, which in this case is lacking.

The sliding jaw D consists of an integral piece of wrought-iron or casting, and comprises the jaw proper, *d*, and a bracket, *d'*, connected to the jaw proper by a rib, *d''*. The bracket is perforated or bored for the reception of the short shaft *e* of a locking-disk, E. This shaft *e* is retained within the bracket by a screw or pin, F, which projects into a circular groove, *f*, near the end thereof, as shown. The jaw *d* and bracket *d'* are perforated, and the rib *d''* is grooved to adapt them to fit the bar C. The disk E comprises a plurality of eccentric or cam-peripheral sections, *e'*, each of which is

grooved to form a series of ridges or threads without lead, adapted to fit the grooves *e* of the bar C. At the rear end of this bar C, and near the handle B, is a notch, *e'*, of a length slightly greater than that of the disk E.

The operation of the wrench is as follows: By turning the disk until the step formed by the termination of one and the commencement of an adjacent eccentric section comes in contact with the bar, the sliding jaw can be readily and quickly moved along the bar to vary the distance between itself and the fixed jaw as required to fit different-sized nuts or bolt-heads, when, to retain the jaw at the desired point, a partial turn of the disk causes the ridges of a section thereof to mesh with the grooves on the bar, and by reason of the cam shape of the sections the bracket and rib are caused to bear snugly against the lower edge and sides of the bar, so that no movement thereof can occur when a nut or bolt is being turned. It will be noticed at this point that the connecting rib and bracket serve to stiffen the bar by reason of the extended contact surface thereof, and the diamond shape of the bar C causes it to become somewhat wedged therein.

When one of the cam-sections of the disk becomes worn the sliding jaw is moved upon the bar until the disk is immediately opposite the notch *e'*, which permits a free rotation of the disk, so that a new section may be brought into use.

I am aware that a hexagonal bar has been used, in which case no transverse grooves were formed upon any of its edges or sides, and that an oval bar has been used, in which case a single longitudinal groove on opposite sides was formed and projections on the sliding jaw operated to bind or jam therein; and I am also aware that a grooved disk cut away on one side and secured to a screw-threaded bolt fitted in the bracket has been used for the purpose of readily moving the jaw upon the bar and subsequently tightening it upon a nut or bolt by means of said screw-thread, and I do not claim such constructions as of my invention.

What I do claim as new, and desire to secure by Letters Patent, is—

1. In a screw-wrench, a diamond-shaped bar transversely grooved and notched, as described, in combination with a sliding jaw having dia-

mond-shaped apertures, and provided with a rotatable disk having a series of ridged peripheries, whereby different sections of the disk may be put in operative positions, substantially
5 as described.

2. In a wrench, a bar transversely grooved, as described, in combination with a sliding jaw provided with a disk having a series of cam or eccentric peripheral sections, e' , substantially as shown and described, whereby
10 each cam may be used in succession after the wearing out of the adjoining cam.

3. The combination of the bar C, grooved at c and notched at c' , with the sliding jaw D, provided with a ridged disk, E, having a series
15 of cam-shaped surfaces adapted to mesh with the grooves c and to rotate freely in the notch c' , substantially as and for the purpose described.

DOLPHUS S. MAYNARD.

Witnesses:

E. R. WESTCOTT,
R. N. HUDSON.