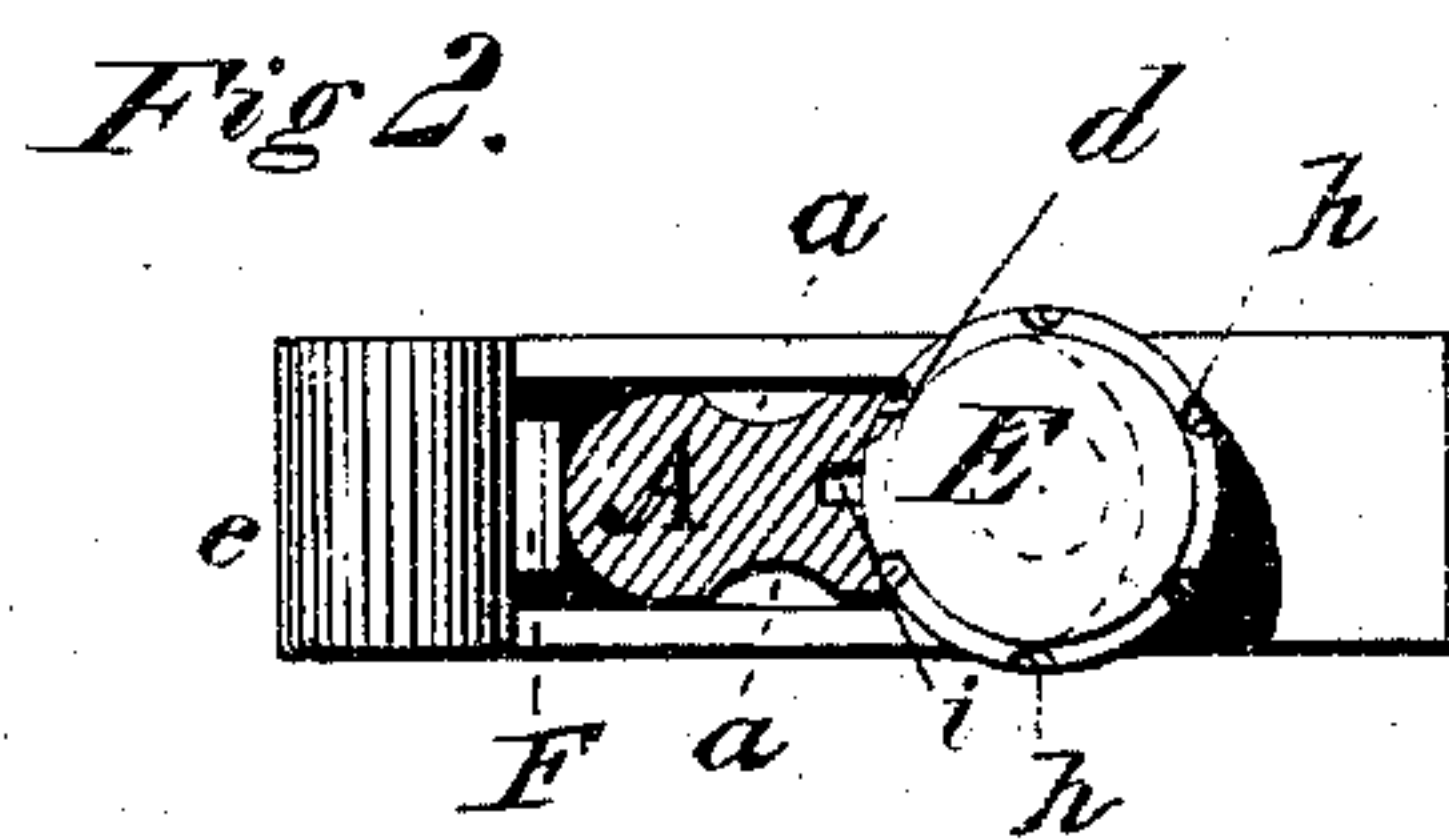


Patented Oct. 28, 1873.



E. S. Scripture  
By his attys  
Dodge & Son

# UNITED STATES PATENT OFFICE.

ELIPHALET S. SCRIPTURE, OF BROOKLYN, E. D., NEW YORK.

## IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. 144,036, dated October 28, 1873; application filed May 2, 1873.

*To all whom it may concern:*

Be it known that I, ELIPHALET S. SCRIPTURE, of Brooklyn, E. D., in the county of Kings and State of New York, have invented certain Improvements in Adjustable Wrenches, of which the following is a specification:

My invention relates to that class of wrenches in which the jaw can be released and adjusted by hand; and it consists in the combination of a hardened ratchet-nut and a soft-metal bar or body, so that the nut will take a firm hold, and in several minor details, as hereinafter described.

Fig. 1 is a side view of my wrench with portions broken away to show the interior construction, and Fig. 2 a cross-section of the wrench on the line *x x*.

In constructing my wrench I provide a straight bar or body, A, having a fixed jaw or head, B, on one end, and on its other end secure a handle, C, as usual. In order to reduce the weight of the bar as much as possible without reducing its effective strength, I recess its sides, as shown at *a*, and make its back or rear edge of a rounded or semicircular form, as shown at *b*. This cutting away of the metal renders the bar comparatively thin at all points, so that when made of malleable cast-iron it may be quickly and thoroughly annealed or decarbonized. Another advantage from rounding the back of the bar is that it affords only a narrow bearing for the spring in the movable jaw, so that unnecessary friction is prevented, and the jaw allowed to move with ease, as hereinafter further explained. In the front edge or face of the bar or body A, I cut screw-threads or teeth *d*, forming a rack on the face of the bar. On the bar I mount the sliding jaw D, having two arms, *c* and *e*, the former extending down on the face of the bar, and provided with a screw or nut, E, which engages in the rack *d*, and the latter extending down on the back of the bar, and terminating in a thumb-piece, as shown in Fig. 1. The jaw is allowed a little lateral play, so that by pressing on the arm *e* the jaw may be tipped so as to throw the nut E out of the rack *d*, and thereby release the jaw, so that it may be moved up and down on the bar. In order to hold the nut or screw in the rack, a spring, F,

is secured to the inside of the arm *e*, in such manner as to bear on the back of the bar and press the arm *e* outward, as shown in Fig. 1. The threads or teeth of the screw and rack are inclined or beveled on one side, but perpendicular on the other, as shown in Fig. 1, so that while they permit the jaw to be pushed readily forward without disengaging the nut, they afford a firm and solid resistance to any backward movement of the jaw.

The wrench, constructed in the manner above described, may be held in one hand, and the jaw adjusted forward or backward with great quickness by placing the thumb on the arm *e*, pressing down to unlock the nut, and then moving the arm endwise until the jaw reaches the required position.

With my wrench the jaw can be set up in place instantly, and as quickly released and drawn back. While the jaw is capable of the instantaneous ratchet adjustment above described, it may also be adjusted in the ordinary manner by turning the screw or nut.

The screw is made with a neck, *f*, which extends up into the arm, and is held by a pin, *g*, which bears in a groove made in the neck, as shown in Fig. 1.

It will be observed that the strain brought on the movable jaw tends to press the screw or nut toward the bar A, and that consequently there is no danger of the jaw unlocking when in use.

In order that the rack may always afford a firm clean seat for the screw or nut, I make the nut of hardened steel and the bar of soft metal, so that the pressure or strain on the nut will cause it to cut into and take a firm hold on the bar. In the screw I make longitudinal grooves or notches *h*, which afford a hold for the thumb and finger when turning the nut, and also leave edges or lips in the threads or teeth of the screw to cut into and clean out the rack. Lengthwise in the face of the bar A, I form a groove, *i*, which serves to relieve the screw or nut, and permit of its taking a firmer and better hold than it would otherwise do.

By the above method of construction I produce a wrench which is exceedingly strong, cheap, simple in construction, and easy of ad-



justment. By arranging the jaw so that it can be adjusted by the thumb the wrench is adapted for use in many places and for many purposes for which the ordinary wrenches cannot be used. While the ratchet adjustment only admits of the jaw being stopped at certain points, still, by turning the screw or nut, the jaw may be set up to the exact point required, and the wrench thereby caused to grasp tightly a nut of any size.

Having thus described my invention, what I claim is—

1. In combination with the jaw having the

hardened-steel nut or screw E, the soft-metal bar A, as and for the purpose set forth.

2. The relief-groove *i*, formed in the face of the soft bar A, in combination with the screw or hard nut E, as and for the purpose set forth.

3. In combination with the rack-bar A, the nut E, provided with the grooves or notches *h* forming the cutting-lips, as shown and described.

ELIPHALET S. SCRIPTURE.

Witnesses:

WM. E. GREEN,

THEO. E. GREEN.