

(No Model.)

J. HULL.
WRENCH.

No. 432,409.

Patented July 15, 1890.

Fig-1.

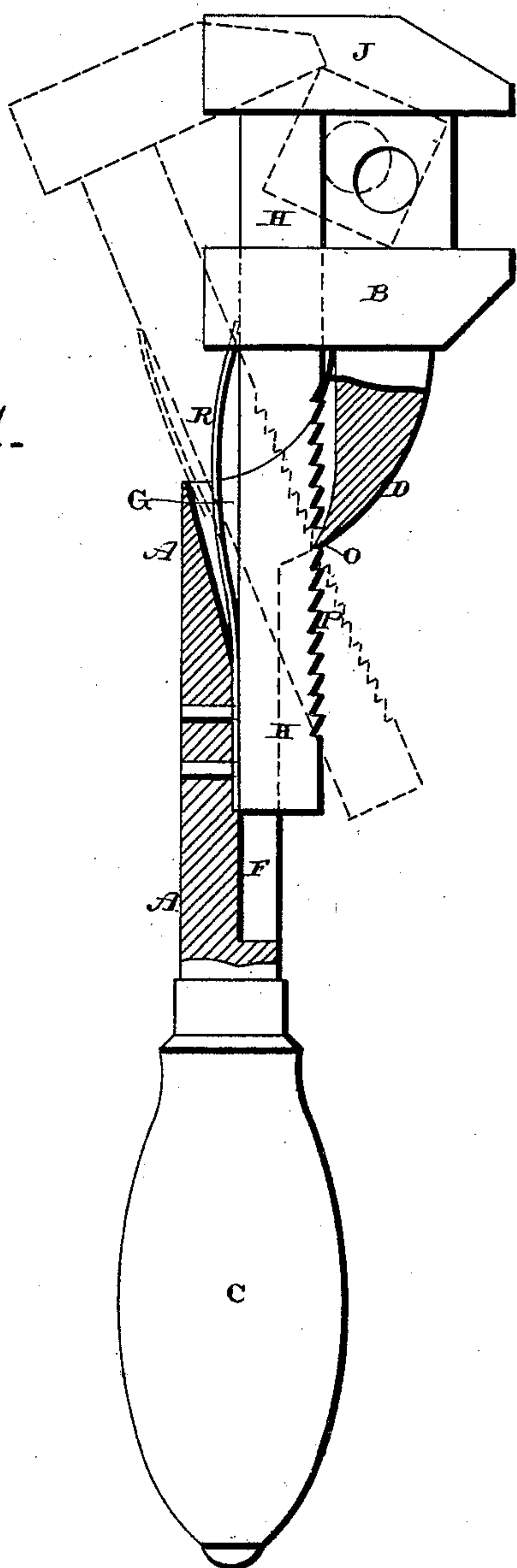
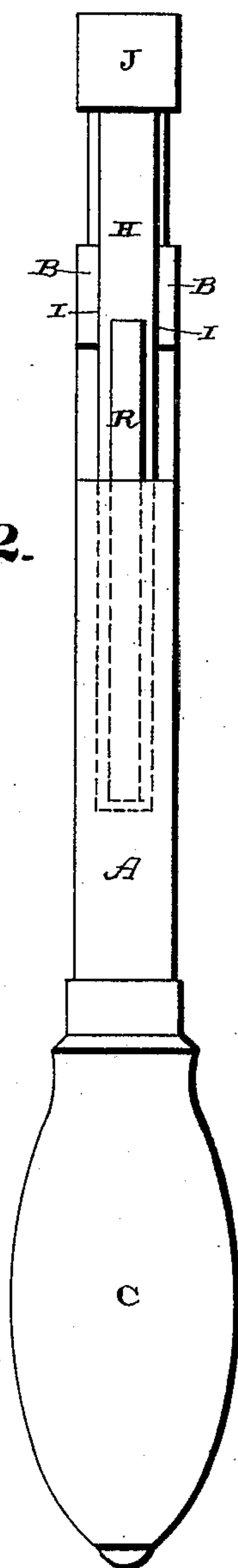


Fig-2.



Witnesses:

E. P. Ellis,
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Inventor:

Jno. Hull,
per
J. A. Schmann,
atty.

UNITED STATES PATENT OFFICE.

JOHN HULL, OF ELKHART, INDIANA, ASSIGNOR OF ONE-HALF TO ZACHARIAH ROBINSON, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 432,409, dated July 15, 1890.

Application filed November 4, 1889. Serial No. 329,110. (No model.)

To all whom it may concern:

Be it known that I, JOHN HULL, of Elkhart, in the county of Elkhart and State of Indiana, 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 it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in wrenches; and it consists in, first, the combination, with the shank having its outer end bent or curved outwardly to any desired extent and having a stationary jaw secured thereto, and an opening through the curved or bent part, the movable jaw, the endwise-moving notched shank connected to the jaw and which passes through the opening in the main shank, and a spring for forcing the notched shank against the stationary point or projection on the main shank for holding the two jaws in any desired relation to each other; second, the combination of the main shank provided with a groove in one side and an opening in it near its upper end, and having this upper end curved outwardly, and the stationary jaw secured to the curved end of the shank, the jaw being made to project beyond the shank upon both of its edges and provided with a groove or recess in its rear end, with the stationary jaw and the endwise-moving notched shank connected thereto, the shank of the movable jaw being made to pass through the recess or opening made in the rear end of the stationary jaw, all of which will be more fully described hereinafter.

The object of my invention is to make the shanks of the movable and stationary jaws entirely separate and distinct from each other, and to brace and strengthen the endwise-movable shank by forming an opening in the rear end of the stationary jaw and an opening and a groove in the shank of the stationary jaw, whereby the endwise-moving shank can have no lateral movement whatever.

Figure 1 is a side elevation of a wrench which embodies my invention, the parts being shown partly in section. Fig. 2 is a rear edge view of the wrench.

A represents the shank of the stationary

jaw B, and which is provided at its outer end with a handle C of any desired construction. This shank A is made perfectly straight until near its inner end and then it is given a curve or bend D, as shown, and to the outer end of this bent part the stationary jaw is secured. Formed in the side of the shank A is a longitudinal groove or way F, and through the inner end of the curved portion D is formed an opening G, through which the endwise-moving shank H moves. The front end of the stationary jaw B projects a suitable distance beyond the outer edge of the curved portion D, and the rear end of the jaw projects a suitable distance beyond its rear edge, the rear end of the jaw B being provided with an opening, recess, or open-ended slot I, through which the movable shank passes. The length of the rear end of the movable jaw B should be sufficiently great to prevent the endwise shank from getting out of the open-ended slot I, no matter how far the shank and its movable jaw J are moved backward. The lower portion of the bent part D of the shank A, inside of the opening G, and which forms one edge of the opening, is formed into a point, sharp edge, or projection O, as shown, and which acts as a stationary pawl to engage with the ratchet-teeth P upon the movable shank H. Secured inside of the recess F in the shank A is the lower end of the spring R, which bears against the outside of the movable shank H for the purpose of keeping it pressed forward, so that the movable jaw will be in a line with the one B, and for the purpose of returning the shank and jaw to position after having been moved. The upper end of the spring R projects outward sufficiently far to have its end to catch inside of the open-ended slot I; and thus bear against the shank A at that point where it will operate to the best advantage.

The endwise-moving shank H has its inner end to move in the groove or guide F in the stationary shank A, and to project above the upper end of the opening G any desired distance. This shank being held in the opening G, in which it snugly fits, and in the groove or guide F and catching in the open-ended slot I, is braced rigidly in position, so that it can have no other than an endwise movement. Owing to the fact that the opening G through

the shank A is made largest at its upper end, this shank II is allowed a turning movement, as shown in dotted lines, so that the movable jaw J, rigidly secured to the outer end of the shank, can turn freely backward in unscrewing a nut or other object, but will not give in the slightest degree when the nut or object is being screwed up. In one edge of this movable shank II are formed a suitable number of ratchet-teeth P, which engage with the sharp edge, point, or projection O, and thus prevent any outward movement until the shank and jaw are turned backward into the position shown in dotted lines. The pressure of the spring R keeps the shank II pressed against this sharp edge, point, or projection O, and thus causes the teeth P to engage therewith.

This wrench is adjustable to different sizes of nuts and bolts, is quickly and readily adjustable, and it does not have to be moved or taken entirely off the nut or bolt in order to renew its hold, and is simple in construction and yet solid and durable.

Having thus described my invention, I claim—

1. The combination of the main shank A, having the curved or bent portion D formed

upon its inner end, the stationary jaw B, secured to this inner end and projecting beyond both of its edges, the movable jaw J, the shank II, having notches, and the spring R, the shank A being provided with a longitudinal groove F and the longitudinal opening G through it, having a sharp edge, and through which opening the endwise-moving shank II passes, substantially as shown and described.

2. The combination of the shank A, provided with the groove F, and the hole or opening G, flared or cut away at its upper end, and having its inner end D curved, as shown, and provided with the sharp edge, point, or projection O, the stationary jaw B, secured to the inner end of the shank A and provided with the open-ended slot I in its rear end, the movable jaw J, the endwise-moving shank II, provided with ratchet-teeth, and the spring R, the shank II being adapted to be turned backward, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN HULL.

Witnesses:

GEO. H. FISTER,
JAMES H. STATE.