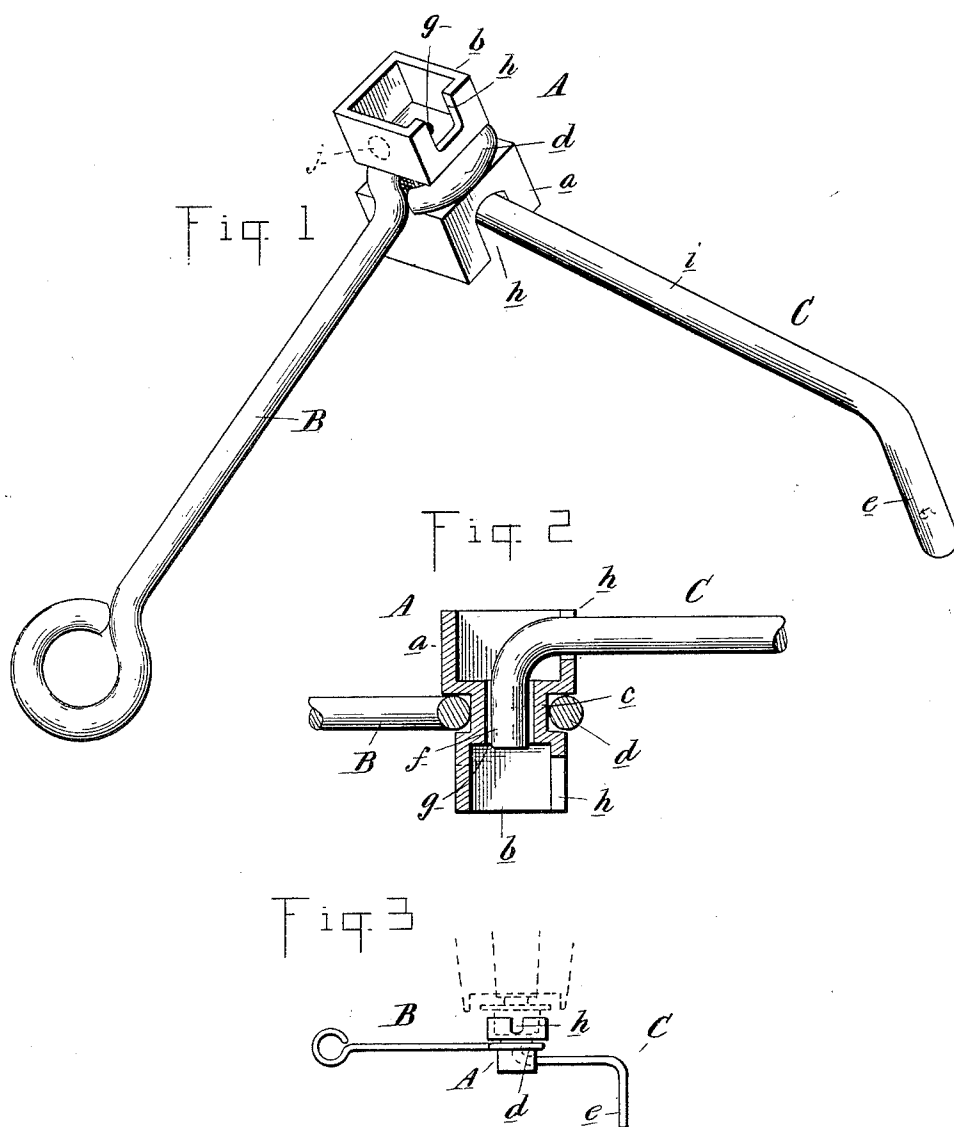


(No Model.)

E. S. CUSHMAN.
WRENCH.

No. 439,388.

Patented Oct. 28, 1890.



Witnesses:
P. M. Hulbert
M. B. Ogerty

Inventor:
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UNITED STATES PATENT OFFICE.

ELMER S. CUSHMAN, OF DELHI MILLS, MICHIGAN.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 439,388, dated October 28, 1890.

Application filed April 14, 1890. Serial No. 347,851. (No model.)

To all whom it may concern:

Be it known that I, ELMER S. CUSHMAN, a citizen of the United States, residing at Delhi Mills, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to new and useful improvements in wrenches; and the invention consists in the peculiar construction of a rotary head having a socket or sockets and a handle to rotate said head, and, further, in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

15 In the drawings, Figure 1 is a detached perspective view of my improved wrench. Fig. 2 is a vertical central section through the wrench. Fig. 3 is an elevation showing my wrench applied to a carriage-hub.

A is a head or socket rotarily secured in the holder B. I have shown the head with 25 two sockets *a b*, of different sizes, connected together by the reduced portion *c*, which forms a bearing for the eye *d*, formed in the holder B.

C is a handle having crank *e* at one end, forming the hold for the operator, and the pin 30 *f* at the other end engaging in an aperture *g*, formed in the head, and preferably extending centrally entirely through the reduced portion *c*.

h are notches formed in the side of the 35 head.

The parts being thus constructed, they are intended to operate as follows: The operator taking hold of the handle B can readily secure the head upon the nut to be turned. 40 The pin of the handle is now engaged in the aperture *g*, and the arm *i* of the handle engages in the notch *h*, giving a firm hold to the head, so that by taking hold of the crank *e* of the handle the head A may be turned rapidly in either direction to screw on or off the nut with 45 which the head is engaged. It is evident that in place of forming the notch *h* in the head the pin *f* may be squared and the aperture *g* made of corresponding shape; or, simply, an aperture may be made in the side of the socket, as shown in dotted lines at *j*, in which the end of the arm *i* may be engaged.

The holder B is preferably of greater length than the crank-handle C, so that the latter may not strike the hand of the operator in its 55 rotation. After the nut is off the stem it is held in the socket, and the tool with the nut in it may be laid down by turning the handle C and holder B at an angle to each other, as shown in Fig. 1. This gives bearing at three 60 points, upon which the tool rests and prevents any danger of tipping over and spilling out the nut upon the floor.

Where but a single-size socket is desired, I prefer to make the handle integral with the 65 rotary head; but where, as is usually the case, I make the head with sockets of different sizes I make the handle detachable and provide the means, as described, for using it in connection with either socket. 70

What I claim as my invention is—

1. In a wrench, the combination, with a holder, of a rotary socketed head journaled in the holder, and a detached handle independent of the holder immediately engaging directly 75 with the head for rotating the same, substantially as described.

2. A wrench consisting of an apertured head having sockets in its opposite ends and notches in the edges of the sockets, and a crank-handle 80 fitted to the aperture in the head and to a notch in a socket, substantially as described.

3. A wrench consisting of a rotary head having sockets of different sizes in its opposite ends and notches in the edges of the sockets, 85 a holder, and a removable handle fitted in the notches in the sockets, substantially as described.

4. A wrench consisting of a rotary head having sockets *a b* in its opposite ends of varying 90 sizes, a reduced central portion *c*, aperture *g* between the sockets, and notch *h h* in the sockets, the holder B, and crank-handle C, having the pin *f*, substantially as described.

In testimony whereof I affix my signature, 95 in presence of two witnesses, this 8th day of April, 1890.

ELMER S. CUSHMAN.

Witnesses:

S. W. CLARKSON,
JOHN DOMDIGAN.