

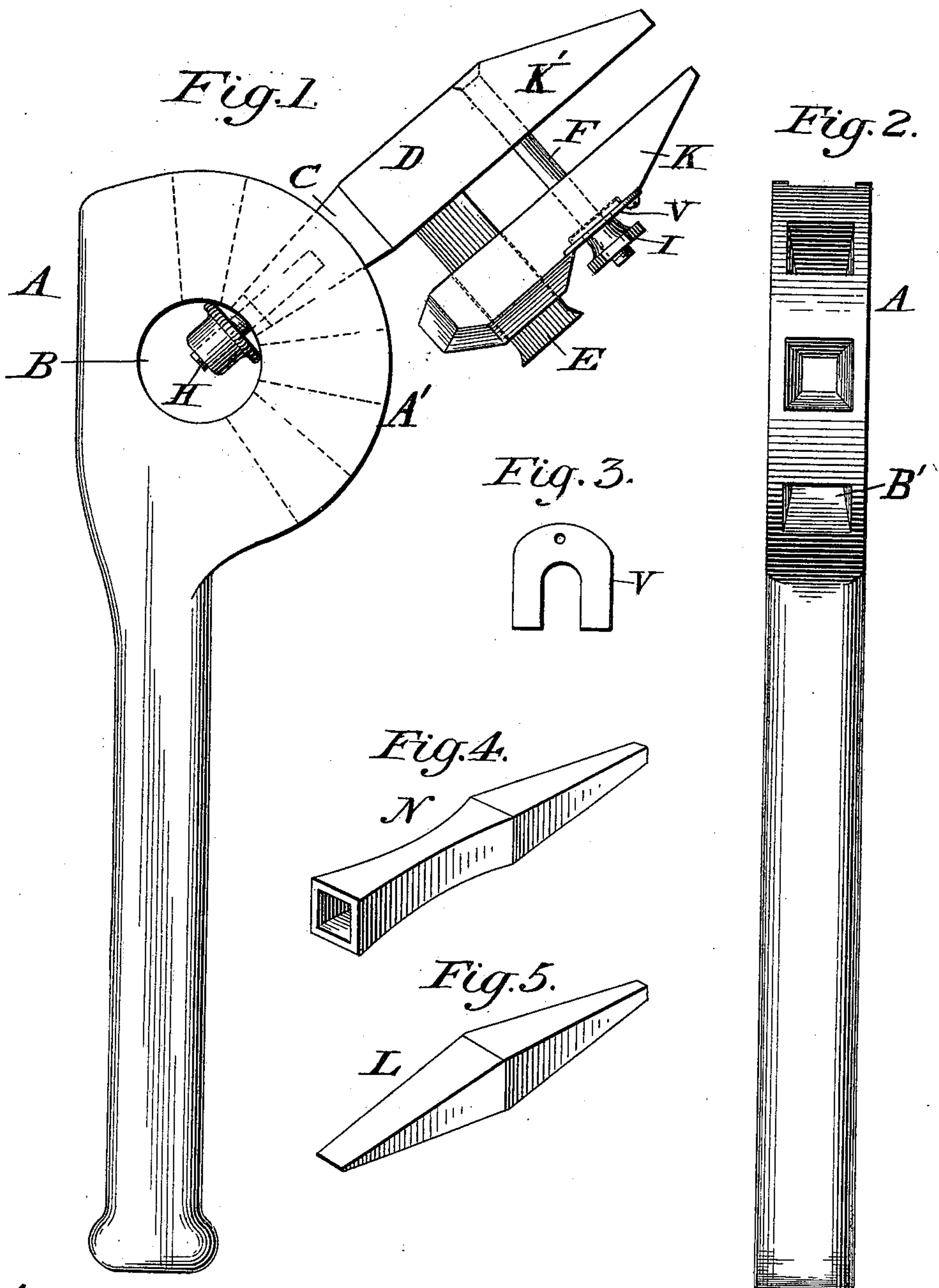
No. 622,428.

C. C. HARPOLD.  
WRENCH.

Patented Apr. 4, 1899.

(Application filed Aug. 19, 1898.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

CHARLES CARROLL HARPOLD, OF ITALY, TEXAS.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 622,428, dated April 4, 1899.

Application filed August 19, 1898. Serial No. 689,063. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES CARROLL HARPOLD, a citizen of the United States, residing at Italy, in the county of Ellis and State of Texas, have invented a new and useful Wrench, of which the following is a specification.

My invention relates to wrenches, and has for its object to so construct the same that they can be operated upon a nut at any angle in which it may be found.

Figure 1 is a plan view of my complete wrench. Fig. 2 is a side view of the handle, showing the several sockets. Fig. 3 is a plan view of a steel plate used in connection with the sliding jaw K. Figs. 4 and 5 are perspective views, respectively, of a socket-wrench and screw-driver which may be substituted for the wrench shown in Fig. 1.

A represents a wrench-handle having at one end a projecting or semicircular head A', provided with a recess B and a series of tapering sockets B', extending at different angles from such recess to the curved face of the head.

D represents a wrench, one of whose jaws K' terminates in a tapering shank C, adapted to fit and be held in any one of the sockets B' of the head B and secured in place by a thumb-screw H. The wrench D may be readily reversed in position and adjusted to operate on taps or nuts at different angles by inserting its shank in different sockets. The jaw K' of the wrench D has a pin F, having a threaded end, and a flat bar E firmly secured thereto. The jaw K of the wrench slides upon this bar and pin, and a swelled head upon the plate E prevents the separation of these parts. The thumb-nut I has a rim or flange

at its inner end, which rests in a countersunk recess in the jaw K. The U-shaped plate V is also sunk in the face of the jaw K and serves to retain the adjusting thumb-nut upon the threaded pin F. By turning the thumb-nut upon the pin the jaw K will be moved toward or from the stationary jaw K'. The plate V may be secured in place by a screw or any other suitable means. Upon the outer face of the jaw K is a projection or ridge which protects the thumb-nut and strengthens the jaw.

N and L (shown in Figs. 4 and 5 of the drawings) are respectively a simple form of socketed wrench and screw-driver which may be substituted for the wrench D where the size of the latter renders it unsuitable for use.

Having fully described my invention, what I claim is—

1. The combination of a handle having a projecting or semicircular head provided with a series of sockets arranged at different angles, with a wrench having a shank to engage any of the sockets, and means acting within a recess in the head common to all the sockets, for holding the shank secured, as set forth.

2. A wrench having fixed jaw K' provided with guide-plate E and adjusting-pin F, a jaw K sliding on the plate and pin, a thumb-nut threaded on the pin and having a flange countersunk in the jaw K and a U-shaped plate to retain the thumb-nut in place, all combined as set forth.

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Witnesses:

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