

(No Model.)

J. J. McCARTHY.
WRENCH.

No. 433,358.

Patented July 29, 1890.

Fig. 1.

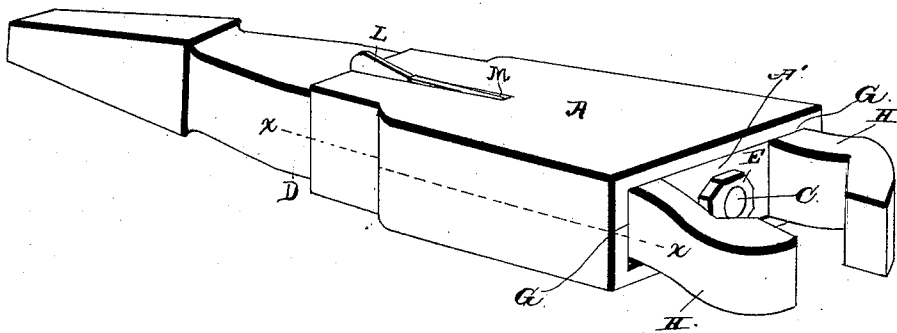


Fig. 2.

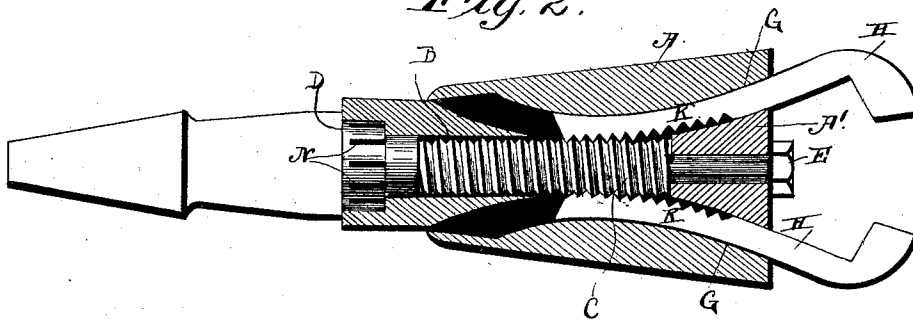
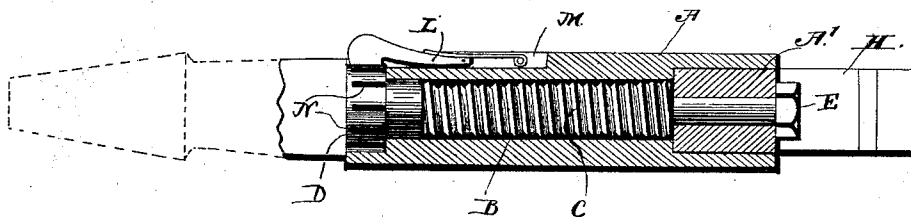


Fig. 3.



Witnesses

Frank S. O'Brien
O. E. Day

Inventor

Joseph J. McCarthy

By His Attorneys

C. H. Snowball

UNITED STATES PATENT OFFICE.

JOSEPH JEREMIAH MCCARTHY, OF DODSONVILLE, OHIO.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 433,358, dated July 29, 1890.

Application filed January 16, 1889. Serial No. 296,493. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH JEREMIAH MCCARTHY, a citizen of the United States, residing at Dodsonville, in the county of Highland and State of Ohio, have invented new and useful Improvements in Socket-Wrenches, of which the following is a specification.

The invention relates to improvements in socket-wrenches; and it consists in a certain novel construction and combination of devices fully described hereinafter in connection with the accompanying drawings, and specifically pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a wrench embodying my invention. Fig. 2 is a longitudinal central sectional view on the line $x x$ of Fig. 1, the jaws and shank being shown in elevation. Fig. 3 is a longitudinal sectional view on a plane at right angles to the plane of Fig. 2, the shank and jaw being shown in elevation and the former being partially broken away.

Referring by letter to the drawings, A designates the body or hollow casing of the wrench, having a central bore B in which is fitted the revoluble shank C. This shank is provided with a shoulder D, which bears against the lower inner end of the casing, and the upper end of the shank is engaged beyond the outer end of the casing by a nut E, that bears against the block A', that may be integral, but is preferably formed separate therefrom. The casing is further provided near its outer end with the outwardly-curved or divergent channels or ways G G, which communicate at their inner ends with the central bore and separate as they approach the outer end of the casing.

H H designate the jaws, which are provided with the curved arms K K, which fit snugly in the channels or ways G G and slide therein. It will be seen that as the jaws are drawn away from the end of the casing they will also be separated, thereby allowing any desired adjustment of the jaws to be made by drawing their arms outward or inward. The arms of the jaws are arranged in the channels or ways so that their inner sides are flush with the sides of the bore, or in contact with the threaded portion of the shank C, and the said inner sides of the arms K are

threaded to engage the shank. As the shank is rotated in the casing, the jaws are extended or drawn inward, thereby either separating or drawing them toward each other.

L designates a spring-actuated latch fitting in a slot M in the side of the casing and adapted to engage one of the notches or sockets N in the shank, to lock the latter in the desired position and thereby hold the jaws at the desired adjustment.

The advantages of the improved wrench will be readily seen. The relative arrangement of the jaws and the threaded shank gives the latter immense power over the former, and permits the former to be adjusted nicely to the size of the nut or bolt head.

Having thus described the invention, I claim—

1. In a wrench, the combination, with the jaws having curved arms fitting in curved channels or ways and provided with screw-threads on their inner sides, of the revoluble threaded shank extending between and engaging the arms of the jaws, and adapted, when rotated, to move the same in either direction, substantially as and for the purpose specified.

2. In a wrench, the combination of the casing provided with a central bore, and the divergent channels or ways on opposite sides of the said bore and communicating therewith at their inner ends, the revoluble threaded shank fitting in the said bore, and the jaws provided with arms fitting in the channels or ways and provided with screw-threads to engage the shank, substantially as specified.

3. In a wrench, the combination, with a casing provided with a bore B, and the divergent channels or ways G G communicating therewith, of the jaws provided with threaded arms fitting in the channels or ways, the threaded shank fitting in the bore and engaging the arms of the jaws, and the latch attached to the casing and engaging notches or sockets in the shank, substantially as and for the purpose specified.

4. In a wrench, the combination, with a casing provided with a bore B and divergent channels or ways G G, of the jaws provided with threaded arms fitting in the channels or

ways, the threaded shank fitting in the bore
and engaging the arms of the jaws, the shoulders on the shank bearing against the inner
end of the casing, the nut engaging the outer
5 end of the shank, and the catch engaging
notches or sockets in the shank to prevent
the rotation of the latter, substantially as and
for the purpose specified.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in 10
presence of two witnesses.

JOSEPH JEREMIAH MCCARTHY.

Witnesses:

THOMAS MONTGOMERY,
J. W. PEALE.