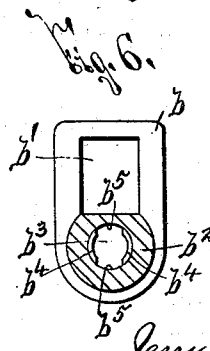
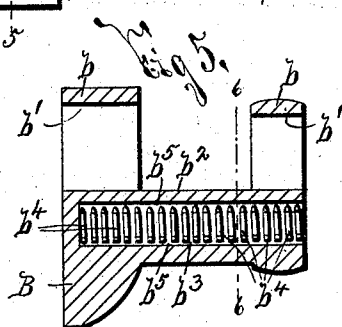
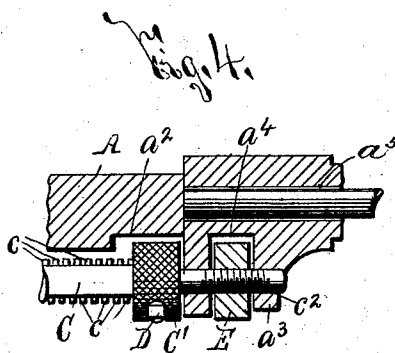
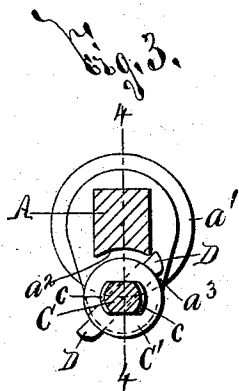
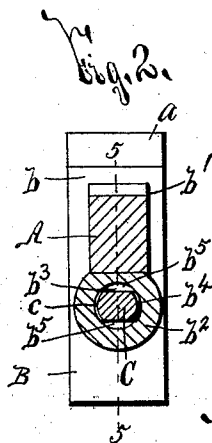
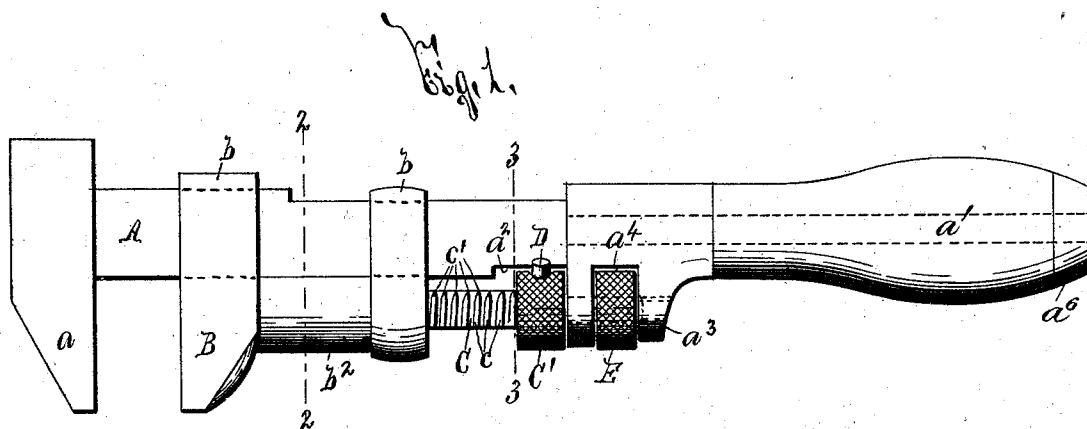


(No Model.)

J. FOLEY.
WRENCH.

No. 505,513.

Patented Sept. 26, 1893.



Witnesses:

C. Schoneck

M. D. Lewis.

Inventor.
J. Foley
By
H. W. Wilkins & P. S. Paine
Attorneys.

UNITED STATES PATENT OFFICE.

JERRY FOLEY, OF SYRACUSE, NEW YORK.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 505,513, dated September 26, 1893.

Application filed April 17, 1893. Serial No. 470,590. (No model.)

To all whom it may concern:

Be it known that I, JERRY FOLEY, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful
5 Improvements in Wrenches, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in
10 wrenches, and has for its object the production of a practical and effective construction in which one of the clamping jaws moves toward the other with a maximum degree of rapidity, and firmly and positively clamps
15 the article interposed between said jaws; and to this end it consists, essentially, in the general construction and arrangement of the parts, all as hereinafter more particularly described and pointed out in the claims.

20 In describing this invention, reference is had to the accompanying drawings, forming a part of this specification, in which, like letters indicate corresponding parts in all the views.

25 Figure 1 is an elevation of my improved wrench, its movable jaw being shown as somewhat separated from the jaw provided upon the bar or shank. Figs. 2 and 3 are transverse vertical sectional views taken on lines
30 —2—2— and —3—3—, Fig. 1. Fig. 4 is a longitudinal vertical sectional view, taken on line —4—4—, Fig. 3. Fig. 5 is a vertical sectional view of the detached movable jaw, taken on line —5—5—, Fig. 2, and Fig. 6 is
35 a transverse vertical sectional view taken on line —6—6—, Fig. 5.

—A— is a bar or shank provided at one end with a clamping jaw —a— and at the other with a hand engaging portion —a'—. This bar or
40 shank —A— is formed with a cut-out or groove —a²— in one face thereof, and with a projecting lug —a³— arranged at one side of the groove or cut-out —a²— and having a groove or cut-out —a⁴— extending inwardly from its
45 outer face. The lug a³ is preferably formed separable from the shank A in order to facilitate the ready assemblage of the parts of my invention, and is consequently formed with a central aperture a⁵, and the extremity of the
50 shank A unprovided with the jaw a is reduced in diameter and is passed through the

aperture a⁵. The extreme end of said reduced extremity of the shank A extends beyond the corresponding end of the hand engaging portion a', and is secured to a suitable cap or shoulder a⁶. 55

—B— is a second clamping jaw, movable lengthwise of the bar or shank —A—, and preferably provided with separate ears —b—b— having openings —b'—b'— in corresponding extremities for receiving the bar or shank
60 —A— and guiding said jaw in its movement. These ears —b—b— are connected together at their opposite extremities by a barrel, —b²—, which is formed with a lengthwise socket or
65 guide-way —b³— provided with lengthwise oppositely arranged series of shoulders or threads —b⁴—b⁴— and lengthwise grooves —b⁵—b⁵— interposed between the adjacent edges of said shoulders. 70

—C— is a spindle having one end journaled in the lug or arm —a³— and the other mounted in the socket —b³— and provided with lengthwise oppositely arranged series of
75 shoulders or threads —c—, formed with pointed extremities —c'— and movable into engagement with the corresponding shoulders or threads —b⁴—b⁴— of the socket or guide-way —b³—, or out of engagement with said
80 shoulders into the grooves —b⁵—b⁵—.

—C'— is an engaging shoulder upon the spindle —C— for enabling the user to rock said spindle and force the shoulders or threads —c— thereon into or out of engagement with the corresponding shoulders of the movable
85 jaw —B— for clamping said movable jaw —B— against the article engaged by the wrench or permitting of the rapid lengthwise movement of said jaw along the bar or shank
90 —A— without retardment by the engaging shoulders or threads of said spindle. This shoulder —C'— is aligned with the cut-out or groove —a²— in the shank —A—, and, as
95 clearly seen at Figs. 1 and 4, said groove or cut-out is of greater width than the thickness of said shoulder for permitting the shoulder to move lengthwise within said groove as the spindle —C— is correspondingly moved.

—D—D— are stop shoulders for engaging the opposite faces of the bar or shank —A—
100 and limiting the rocking movement of the spindle —C—, and as preferably constructed

these shoulders consist of the opposite projecting ends of a bar extending through the shoulder —C'—.

—E— is an adjuster or nut mounted within the cut-out or groove — a^4 — upon the rear end of the spindle —C—, which is of less diameter than said spindle and is provided with screw threads — c^2 —. By means of the adjuster or nut —E— the spindle —C—, after its shoulder —C'— has been rocked to the limit of its movement can be forced lengthwise for additionally clamping the article engaged by the jaw, and, as previously stated, the shoulder —C'— does not prevent said lengthwise movement of the spindle —C— as the cut-out or slot — a^2 — is of greater width than the thickness of said shoulder.

It will be readily apparent to one skilled in the art that the movable jaw of my improved wrench is adjusted with great rapidity to the approximate separation from the opposite jaw; that when so adjusted the shoulders of the spindle —C— are readily engaged with the corresponding shoulders of said jaw, and serve to force the same toward the former jaw a limited distance, and that, if the article engaged by the wrench is not sufficiently clamped by its jaws, the nut —E— may be operated to additionally clamp said article.

My invention is economically manufactured, and is, as is evident, simple, practical, and effective.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a wrench, the combination of a shank A provided at one end with a fixed jaw a and having a projecting arm a^3 and a cut out a^2 interposed between the jaw a and the arm a^3 in proximity to said arm a^3 , a jaw B supported upon and movable lengthwise of the shank A between the jaw a and the arm a^3 and provided with a socket b^3 closed at one end and extending inwardly from the opposite face of the jaw B and having a series of engaging shoulders b^4 and a groove b^5 , a spindle C having one end journaled in the arm a^3 and the other end arranged within the socket b^3 and provided with a series of shoulders c for engaging the shoulders b^4 and registering with the groove b^5 , a shoulder C' of greater diameter than the spindle C fixed thereto and projecting within the cut out a^2 , and oppositely arranged stop shoulders —D—D— for engaging the opposite faces of the shank A consisting of the projecting ends of a pin passed through the shoulder C', substantially as and for the purpose described.

2. In a wrench, the combination of a shank A provided at one end with a fixed jaw a and having a projecting arm a^3 and a cut out a^2

interposed between the jaw a and the arm a^3 in proximity to said arm a^3 , a jaw B supported upon and movable lengthwise of the shank A between the jaw a and the arm a^3 and provided with a socket b^3 closed at one end and extending inwardly from the opposite face of the jaw B and having a series of engaging shoulders b^4 and a groove b^5 , a spindle C having one end journaled in the arm a^3 and the other end arranged within the socket b^3 and provided with a series of shoulders c for engaging the shoulders b^4 and registering with the groove b^5 , said shoulders c having at corresponding ends pointed engaging extremities — c' —, a shoulder C' of greater diameter than the spindle C fixed thereto and projecting within the cut out a^2 , and oppositely arranged stop shoulders —D—D— for engaging the opposite faces of the shank A, substantially as and for the purpose specified.

3. In a wrench, the combination of a shank A provided at one end with a fixed jaw a and having a projecting arm a^3 provided with a cut out a^4 extending inwardly from its outer face, and a cut out a^2 interposed between the jaw a and the arm a^3 in proximity to said arm a^3 , a jaw B supported upon and movable lengthwise of the shank A between the jaw a and the arm a^3 and provided with a socket b^3 closed at one end and extending inwardly from the opposite face of the jaw B and having a series of engaging shoulders b^4 and a groove b^5 , a spindle C having one end journaled in the arm a^3 and formed of less diameter than the spindle C and provided with screw-threads c^2 , and the other end arranged within the socket b^3 and provided with a series of shoulders c for engaging the shoulders b^4 and registering with the groove b^5 , said shoulders c having at corresponding ends pointed engaging extremities c' , a shoulder C' of greater diameter than the spindle C fixed thereto and projecting within the cut out a^2 and formed of less width than the width of said cut out, and oppositely arranged stop shoulders —D—D— for engaging the opposite faces of the shank A, and an adjusting nut E mounted upon the screw-threaded extremity of said spindle —C— and arranged within the cut out a^4 whereby said spindle C and jaw B may be lengthwise adjusted, substantially as and for the purpose described.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 28th day of March, 1893.

JERRY FOLEY.

Witnesses:

E. A. WEISBURG,
CLARK H. NORTON.