

(No Model.)

J. W. STEELE.
WRENCH.

No. 489,273.

Patented Jan. 3, 1893.

Fig. 1.

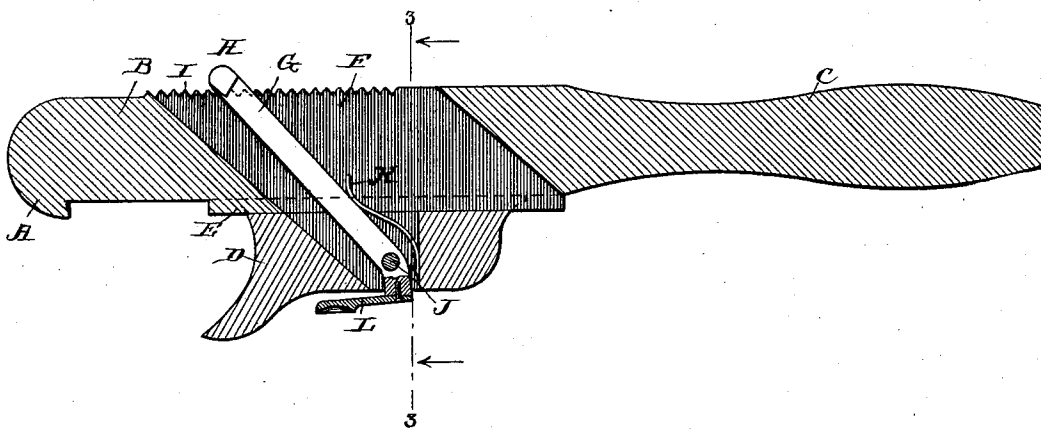


Fig. 2.

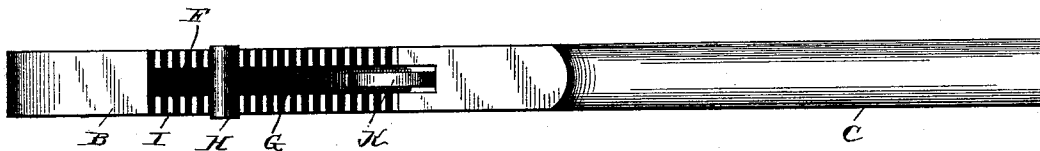
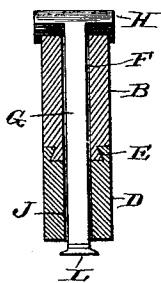


Fig. 3.



Witnesses.

M^{rs} M. Rhein.
R. B. Quinlan

Inventor:
James H. Steele
By Elliott H. Quimby
Atty's.

UNITED STATES PATENT OFFICE.

JAMES W. STEELE, OF CHICAGO, ILLINOIS, ASSIGNOR TO GEORGE D. COOK,
OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 489,273, dated January 3, 1893.

Application filed May 13, 1890. Serial No. 351,632. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. STEELE, a citizen of the United States, residing in the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to improvements in wrenches adapted for use upon pipes, nuts, and similar articles, in which a movable and adjustable jaw opposes a fixed jaw, but is more especially designed as an improvement upon the invention set forth in the application of James H. Craig, filed April 11, 1890, Serial No. 347,433.

The objects of this invention are to simplify the construction of such a wrench as that illustrated in the aforesaid application, reduce the cost of manufacture thereof, to promote its compactness and durability, and to avoid the employment of externally applied locking devices for the movable jaw, whereby, not only is the appearance of the wrench enhanced, and its usefulness promoted, but the locking device for the movable jaw is confined within, and protected from external injury by, the body of the wrench. These objects are attained by the devices illustrated in the accompanying drawings, in which,

Figure 1, represents a central longitudinal section through a wrench embodying my invention. Fig. 2, a plan view thereof. And Fig. 3, a transverse vertical section on the line 3, 3, of Fig. 1, looking in the direction indicated by the arrows.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A, indicates the fixed jaw of my wrench, preferably formed integral with the body portion B, thereof, consisting of a straight bar terminating at its rear end in a handle C, for convenience of manipulation. Upon the underside of the body B, works a movable jaw D, connected therewith, and guided in its movements by a dove-tail connection E, of any suitable character, which permits a free longitudinal movement of the

jaw upon the body, while preventing any lateral or vertical movement thereof, this connection serving as a guide for maintaining a fixed relation between the movable jaw and the body throughout the movements of the latter. The body is provided with a central longitudinal slot F, through which loosely works a lock-lever G, terminating at its upper free end in a T head H, constituting a tooth for engagement with teeth - racks I, formed in, or otherwise rigidly secured to the back or upper surface of the body, at each side of the slot therein. This lock-lever is pivoted at J, to the sliding-jaw D, working in a slot in said jaw, of suitable dimensions, and in an inclined position with relation to the body, and the upper end thereof is normally maintained in engagement with the rack by a suitable spring K, secured to the jaw D, and bearing upon the lever between the pivot and the T-head thereof, the opposite free end of the lever terminating in an angular portion L, lying beneath the jaw D, parallel therewith, and constituting a thumb-piece by means of which the tension of the spring K, may be overcome, and the T head disengaged from the racks upon the body, whenever it is desired to move the jaw freely and quickly upon the body.

It will of course be understood that the slot F, in the body of the wrench is of such length and shape as to permit the extreme movements of the lever G, when carried by the jaws, and that the racks upon the body, and the corresponding engaging tooth upon the T head of the lever will be of such shape as to absolutely lock the sliding jaw against a retreating movement from the fixed jaw, when under the strain of operation.

The peculiar characteristics of both the fixed and movable jaw in their broad sense, and their adaptability for operation either upon a nut or pipe, are fully set forth and claimed in the aforesaid application of James H. Craig, and therefore need not herein be enlarged upon as the use and operation of my wrench are substantially identical in every respect with that of the aforesaid application. But the construction of my wrench possesses numerous advantages, both as to

convenience, utility, and economy of construction, chief among which is the disposal of the locking-device within, instead of upon the outside of the wrench, thereby protecting the same against external injury, and at the same time rendering the wrench capable of use and manipulation in places where the other wrench could not be employed because of the external disposition of the locking device for the movable jaw thereof; besides which the convenience of manipulation of the locking-device, for releasing the same from the racks whenever it is desired to move the sliding jaw freely upon the body, is greatly promoted, and rendered possible by such a construction as herein shown and described.

Having described my invention, what I claim and desire to secure by Letters Patent is:—

1. In a wrench, the combination with the body provided with a central longitudinal slot, and racks thereon at each side of the slot, and the fixed jaw thereof, of a sliding jaw, and a spring actuated lock-lever pivoted to said jaw working through the slot in the

body, and terminating at one end in a T-head engaging the rack on the body, and at its opposite end in an angular thumb-piece, substantially as described.

2. In a wrench, the combination of the sliding jaw having a central slot provided with inclined and perpendicular end walls, the body portion having a central slot of greater length than the aforesaid slot and having inclined substantially parallel end walls, said body being provided with a fixed jaw and a rack, an inclined lever pivoted in said sliding jaw and projecting through the slot therein and through the slot in said body portion, said lever having a "T" head at one end engaging said rack and an angular thumb piece at its other end, and a spring secured to the perpendicular wall of said slot in said sliding jaw and bearing against said lever, substantially as set forth.

JAMES W. STEELE.

Witnesses:

R. C. OMOHUNDRO,
A. MILO BENNETT.