No. 645,665. Patented Mar. 20, 1900.

H. B. HARTFORD.

WRENCH.

(Application filed July 22, 1899.)

(No Model.)

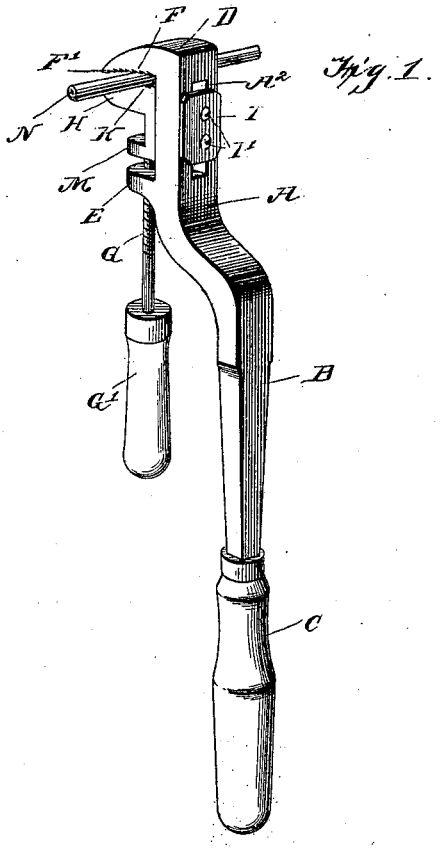
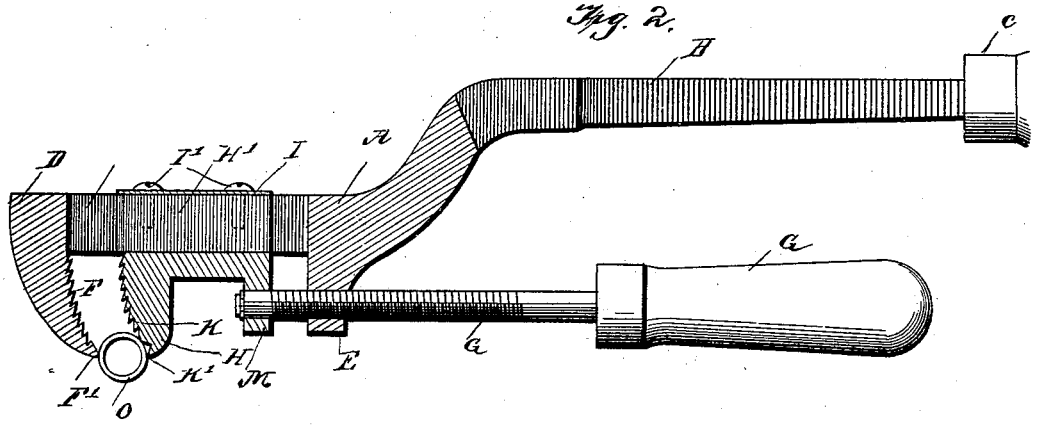


Fig. 1.

Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY B. HARTFORD, OF STANDISH, MAINE, ASSIGNOR TO ORLANDO P. WEEKS AND BION B. WHITNEY, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 645,665, dated March 20, 1900.

Application filed July 22, 1899. Serial No. 724,837. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. HARTFORD, a citizen of the United States, residing at Standish, in the county of Cumberland and State of Maine, have invented a new and useful Wrench, of which the following is a specification.

My invention relates generally to wrenches, but more particularly to that class used for holding or turning pipes or cylindrical bars known as "pipe-wrenches," the object of the invention being to provide a simple, cheap, durable, and effective wrench of this class.

With this object in view my invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the appended claim.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying drawings, forming part hereof, in which—

Figure 1 is a perspective view of a wrench constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view thereof on an enlarged scale, the handles being broken away.

Like letters of reference mark the same parts in both the figures of the drawings.

Referring to the drawings by letters, A indicates the main body of the wrench, which comprises a bar B, to which is secured a handle C, said bar bent aside or offset at C′ to afford room for actuating the handle of the movable jaw.

The bar B is provided with the fixed jaw D and a lug E, secured to or forming a part of the bar, the jaw D being curved upward and inward on its inner face, which is toothed at F, the outer tooth F′ being made with a sharp edge. The lug E is provided with a screw-threaded opening parallel with bar B to receive a screw-rod G, which has a handle G′ secured on its outer end.

H indicates the movable jaw, which is provided with a flange or rib H′ to enter and slide in a slot A″ in the bar B and secured in the slot by a washer-plate I and screws I′ passing through said plate and into the flange or rib. The movable jaw H is curved on its face to correspond with the face of the stationary jaw and toothed, as at K, a transverse groove K′ being formed in the upper edge of the face opposite the tooth F′ of the stationary jaw, said groove being V-shaped in cross-section. At the inner end of the movable jaw is a lug M, provided with a smooth opening parallel with bar B, in which opening the end of the screw-threaded rod G is swiveled.

The construction of my invention will be readily understood from the foregoing description, and its operation is as follows: A pipe or bar, as at N in Fig. 1, within the space between the two jaws may be securely clamped and held or turned by turning the screw-rod G inward by means of the handle G′, the teeth F and K biting into the surface thereof, or a smaller pipe or rod, as at O in Fig. 2, may be securely clamped for holding or turning in the groove K′ of the movable jaw by bringing the jaws together in the same manner, the outer tooth F′ of the stationary jaw biting into its surface.

The simplicity, cheapness, durability, and effectiveness will be obvious from the foregoing, my wrench being composed of a minimum number of simple and cheaply-producible parts.

While I have illustrated and described what I consider to be the best means now known to me for carrying out my invention, I do not wish to be understood as restricting myself to the exact forms of construction shown, as many slight changes therein or variations therefrom might suggest themselves to the ordinary mechanic, all of which would be clearly included within the limit and scope of my invention.

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

In a wrench, the combination with the main body, having a slot, the bar bent backward from the body, then downward in a different plane from the body forming a handle, the jaw integral with the top of the body having a curved toothed under face, an outer tooth formed on said jaw, an integral, forwardly-projecting lug, having a screw-threaded opening, of a vertical, movable jaw comprising

the rearwardly-extending rib, a forwardly-extending jaw having a downwardly-extending, toothed upper face, a V slot or groove in the outer end of the same, an integral forwardly-extending lug having an opening therein, and an operating screw-threaded handle adapted to work in the screw-threaded opening of the above lug, the extreme upper end of the handle being smooth and swiveled in the opening in the lug of the movable jaw, all as described.

HENRY B. HARTFORD.

Witnesses:
ALVIN C. DRESSER,
BION B. WHITNEY.