No. 681,487. Patented Aug. 27, 1901.

J. QUIST.

WRENCH.

(Application filed Nov. 9, 1899.)

(No Model.)

Fig. 1.

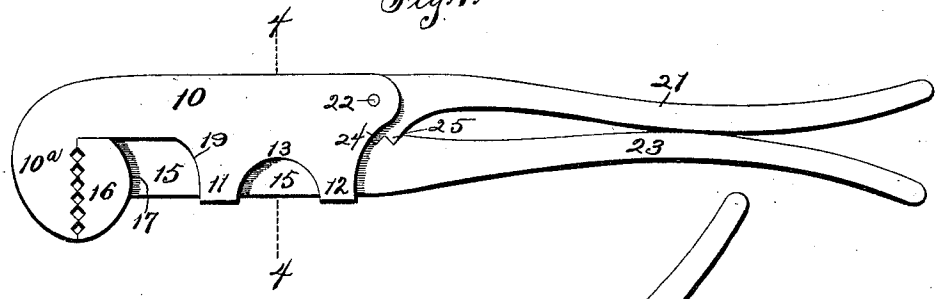


Fig. 2.

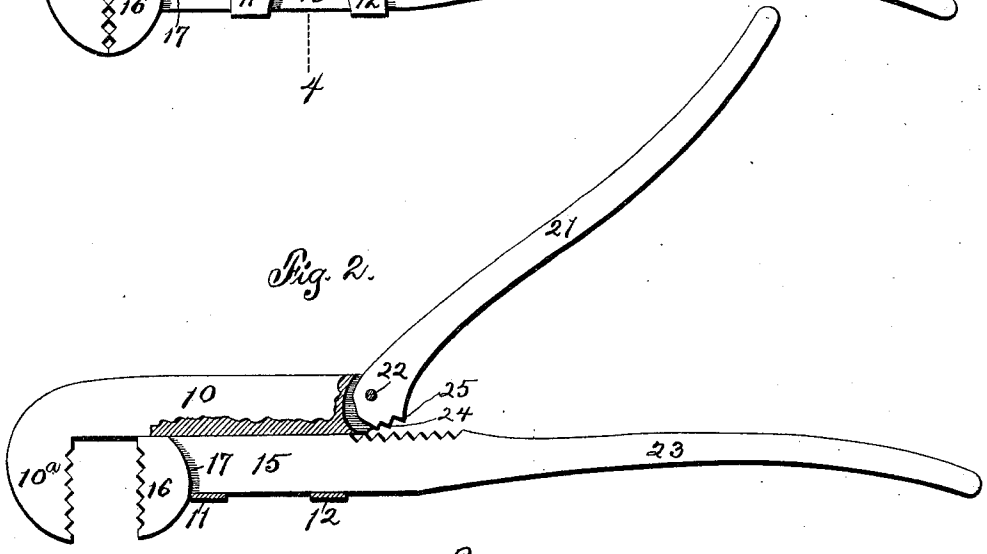


Fig. 3.

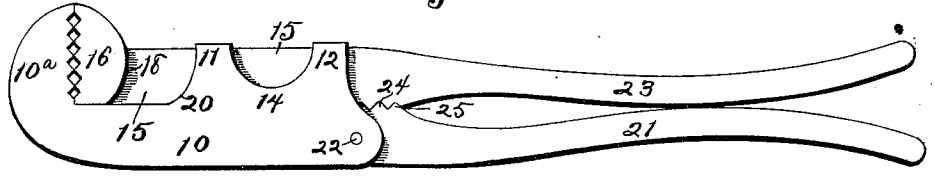
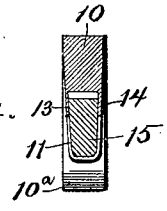


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN QUIST, OF MYSTIC, IOWA, ASSIGNOR OF ONE-HALF TO J. H. STEVENS, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 681,487, dated August 27, 1901.

Application filed November 9, 1899. Serial No. 736,334. (No model.)

To all whom it may concern:

Be it known that I, JOHN QUIST, a citizen of the United States of America, and a resident of Mystic, Appanoose county, Iowa, have invented certain new and useful Improvements in Wrenches and Pipe-Tongs, of which the following is a specification.

The object of this invention is to provide an improved form and construction for a wrench or pipe-tongs, wherein simplicity, convenience in operation, and durability are attained.

My invention consists in the construction, arrangement, and combination of elements hereinafter set forth, pointed out in my claims, and illustrated by the accompanying drawings, in which—

Figure 1 is a side view showing the wrench closed. Fig. 2 is a side view, partly in section, showing the wrench open. Fig. 3 is a view from the opposite side from Fig. 1, showing the wrench closed. Fig. 4 is a cross-section on the indicated line 4 4 of Fig. 1.

In the construction of the device as shown the numeral 10 designates a jaw member having a jaw 10^a, formed on and at right angles to one end thereof, the inner face of which jaw may be plane or serrated. Loops 11 12 are formed on and extend laterally from the jaw member 10 in alinement with the jaw 10^a, but project from the member a less distance than the jaw. The loops 11 12 are connected and strengthened by webs 13 14, integral therewith and with the member 10 on either side of said member. A jaw member 15 is mounted to slide in the loops 11 12 and is of less transverse dimension than the member 10 in order that the side faces of the loops may be flush with the side faces of the member 10. The jaw member 15 is formed with a head 16 on one end, and said head is formed with a plane or serrated face in opposition to the face of the jaw 10^a. The jaw 16 is of the same length and thickness as the jaw 10^a and is formed with curved shoulders 17 18 on opposite sides of the member 15, which shoulders are so shaped and arranged as to engage and fit curved forward edges 19 20 of the loop 11 when the wrench is open to the fullest extent, as shown in Fig. 2. Thus when the wrench is open the engagement of the shoulders with the loop forms and provides a firm and secure backing for and materially strengthens the jaw 16, the curved formation of the forward edges of the loop strengthening the connection of the loop to the member 10 and permitting the maximum range of reciprocation on the part of the member 15.

The rear end portion of the member 10 is bifurcated, and a handle 21 is mounted on a pin 22, traversing the ears formed by the bifurcation. A handle 23 is formed on and extends longitudinally from the rear end portion of the member 15, and the handles 21 23 are curved in opposite directions, so that when the wrench is closed the central portion of the handles contact with each other and the extremities thereof diverge, thus forming a secure grip for the hand of the operator and rendering the grasp thereof sure and convenient. The inner edge of the member 15 is serrated or notched adjacent the point of jointure of the member and handle 23, and the notches and teeth formed thereby are right-angled and of strong formation. The end portion of the handle 21 within the bifurcation of the member 10 is rounded, and teeth 24 25 are formed on the inner face or edge thereof. The teeth 24 25 are of right-angled formation and so positioned as to engage the teeth of the member 15 when the handles contact with each other and prevent longitudinal movement of the member 15, as shown in Figs. 1 and 3. The handle 21 is pivoted on the pin 22, eccentric to the curvature of the end thereof, in order that when the handle is moved into the position shown in Fig. 2 the teeth 24 25 will release from the teeth of the member 15 and permit longitudinal movement of said member 15. Thus in the operation of bringing the handle 21 into contact with the handle 23 the teeth 24 25 will engage the teeth of the member 15 and clamp the jaw 16 firmly to the jaw 10^a, as required to grip an object between said jaws. By reason of the same construction the teeth 24 25 will relax the jaw 16 from the jaw 10^a by moving the member 15 outwardly in the upward movement of the handle 21.

I claim as my invention—

The tool, comprising the member 10, the jaw 10^a thereon, the loops formed on the mem-

ber 10 and projecting therefrom in alinement with the jaw, the member 15 inclosed by and slidingly mounted in both of said loops, the jaw on the member 15 in opposition to the jaw 10^a and formed with shoulders curved to fit curved edges of one of the loops, teeth formed on the inner edge of the member 15 and shaped with right-angled apices, a lever-handle fulcrumed on the member 10, teeth 24, 25 on said lever-handle arranged and so shaped as to engage some two of the teeth on the member 15 at times, the forward end of said lever-handle being curved eccentric to the fulcrum thereof, and a handle formed on and longitudinally extended from the member 15, the handles lying in contact when the tool is closed and having their extremities in divergent planes.

Signed by me at Mystic, Iowa, this 12th day of June, 1899.

JOHN QUIST.

Witnesses:
CHAS. N. STARK,
WM. C. NOAH.