

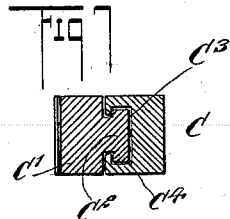
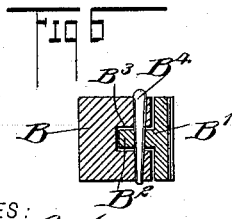
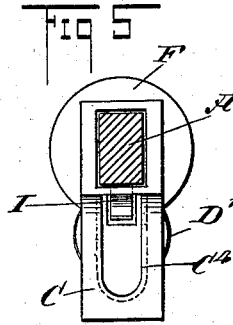
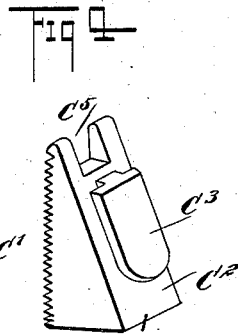
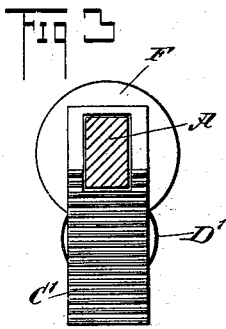
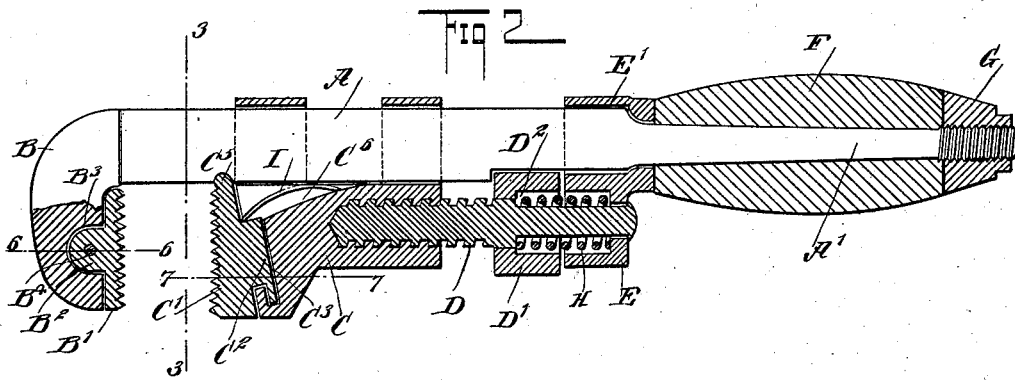
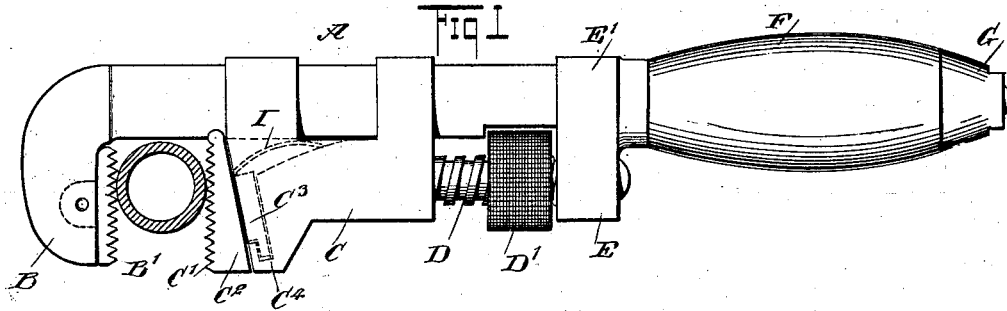
No. 657,391.

Patented Sept. 4, 1900.

T. H. BROSNIHAN.
WRENCH.

(Application filed Dec. 15, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

THOMAS H. BROSNIHAN, OF LIVERMORE FALLS, MAINE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 657,391, dated September 4, 1900.

Application filed December 15, 1899. Serial No. 740,448. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. BROSNIHAN, a citizen of the United States, residing at Livermore Falls, in the county of Androscoggin and State of Maine, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved wrench arranged to permit a convenient, quick, and accurate adjustment of the movable jaw and to securely grip the object, especially a pipe, without danger of the jaws slipping on the pipe.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of my invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement as applied, the pipe being shown in section. Fig. 2 is a sectional side elevation of the improvement. Fig. 3 is a transverse section of the same on the line 3 3 in Fig. 2. Fig. 4 is a perspective view of the cheek-piece for the movable jaw. Fig. 5 is a cross-section of the shank, showing the movable jaw with the cheek-piece removed. Fig. 6 is a sectional plan view of the fixed jaw and its cheek-piece, the section being on the line 6 6 in Fig. 2; and Fig. 7 is a like view of the movable jaw and its cheek-piece, the section being on the line 7 7 in Fig. 2.

The improved wrench has a shank A, on which is integrally formed a fixed jaw B, opposite which is arranged a movable jaw C, mounted to slide on the shank A, preferably made rectangular in cross-section, as is plainly indicated in the drawings. In the movable jaw C screws the threaded end of a screw-rod D, mounted to turn or to slide in a bearing E, formed on a collar E', held on the shank A, adjacent to the tapering end A' thereof, to form an abutment for the inner end of a handle F, held in place on the end A' and pressed against the collar E' by a nut G, screwing on the extreme outer portion of the threaded end A'.

On the screw-rod D, adjacent to the bear-

ing E, but slightly separated therefrom, is secured a head D', adapted to be taken hold of by the operator to turn the screw-rod in its bearing E and move the jaw C outward or inward on the shank A, according to the direction in which the head D' is turned. The opposite ends of the bearing E and the head D' are recessed to receive a spring H, coiled around the smooth end of the screw-rod, one end of said spring resting against the bearing E and the other against a shoulder D² in the head D' to normally hold the rod D in the position shown in Fig. 2, the head D' being somewhat separated from the bearing E. When pressure is applied against the jaw C upon gripping a pipe or other object, then the spring H is free to yield until the head D' abuts against the bearing E.

The jaw B is provided with a cheek-piece B', formed at its outer face with teeth and on its back with an apertured lug B², fitting into a recess B³, formed in the fixed jaw B, said apertured lug being engaged by a tapering pin B⁴, driven transversely through the jaw B, so as to hold the cheek-piece securely in position on the jaw, but to allow of removing the latter in case it is worn out. Opposite the cheek-piece B' is arranged a cheek-piece C' for the movable jaw C, and said cheek-piece is provided on its face with teeth similar to those of the cheek-piece B', and the back C² of this cheek-piece C' is inclined or made wedge-shaped, a tongue C³ being formed on the back and engaging an inclined guideway or dovetailed groove C⁴, formed on the forward end of the jaw C. The guideway C⁴ extends in an oblique direction toward the shank A, and the bottom of said guideway is closed to limit the downward or outward sliding movement of the cheek-piece C', it being understood that the latter, owing to the construction described, is free to slide inward in the guideway C⁴ and in an oblique direction toward the shank A, but with the face of the cheek-piece at all times parallel with that of the cheek-piece B'. The upper end C⁵ of the cheek-piece C' is preferably forked to straddle the shank A, thus preventing lateral movement of the cheek-piece when the wrench is used. A spring I presses the top of the tongue C³ and normally holds the cheek-piece in an outermost position, the spring extending in a recess C⁶ in the

jaw C and abutting against the under side of the shank A, as is plainly shown in Fig. 2. Now by the arrangement described the cheek-piece C' is free to slide in its guideway C⁴, and consequently when an object is gripped between the cheek-pieces B' and C' and pressure is applied then the cheek-piece slides toward the shank A to more securely grip the object. Previously to using the device for gripping the object the operator presses the head D', so as to bring the movable jaw C in position, the cheek-pieces B' and C' just engaging the object on opposite sides, the cheek-piece C' being in an outermost position. Now when pressure is applied said cheek-piece C' moves toward the shank A, as above described, to insure a firm gripping of the object.

It is understood that the spring H has a tendency to move the cheek-piece C' in engagement with the work, and when it is desired to release the latter then the spring is compressed in the head D', so that the cheek-piece C' easily moves out of engagement with the object to allow of removing the wrench.

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

1. A wrench comprising a shank, a fixed jaw, a jaw movable on the shank, a bearing held on said shank, a screw-rod engaging the movable jaw to adjust the same on the shank, the said screw-rod being mounted to turn in said bearing and also having sliding movement, a head on said screw-rod for turning the same, the said head being normally separated from said bearing, and a spring held in opposing recesses in the head and bearing, substantially as described.

2. A wrench comprising a shank, a jaw fixed on the shank, a jaw movable on the shank, a cheek-piece free to slide on the movable jaw, and a spring-pressed screw-rod engaging the movable jaw to adjust the same on the shank, the said screw-rod being mounted to turn and having sliding movement, substantially as described.

3. A wrench comprising a shank, a fixed jaw, a movable jaw having a cheek-piece slidable on the movable jaw, a spring held on the movable jaw and pressing said cheek-piece, a screw-rod engaging the movable jaw to ad-

just the same on the shank, a bearing in which said screw-rod is mounted to turn and to slide, a head on said screw-rod adjacent to the bearing for turning the screw-rod, and a spring for pressing the screw-rod in a longitudinal direction, the said spring normally holding the head separated from the bearing, substantially as described.

4. A wrench comprising a handled shank, a jaw fixed on the shank, a movable jaw slidable on the shank and having a cheek-piece slidable on the movable jaw toward the shank and in an oblique direction thereto, a screw-rod screwing in said movable jaw and mounted to turn and to slide in a bearing on the shank, and a spring pressing the said screw-rod in a longitudinal direction, substantially as shown and described.

5. A wrench comprising a shank, a jaw fixed on the shank, a jaw movable on the shank, a cheek-piece free to slide on the said movable jaw, and a spring-pressed screw-rod for adjusting the movable jaw on said shank, and for releasing the movable jaw, substantially as shown and described.

6. A wrench comprising a handled shank, a jaw fixed on the shank and provided with a cheek-piece, a jaw movable on the shank a cheek-piece free to slide on the said movable jaw, a collar held on the shank adjacent to the handle and formed with a bearing at one side thereof, a screw-rod having a smooth end mounted in said bearing and a threaded end engaging the movable jaw to adjust the same on the shank, a head on said screw-rod for turning the screw-rod in its bearing, the said head being forward of the said bearing and normally slightly separated therefrom, and a spring surrounding the smooth end of the screw-rod and held in opposing recesses in said head and bearing, the said spring pressing the screw-rod in a longitudinal direction, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS H. BROSNIHAN.

Witnesses:

WM. H. ALLEN,
I. B. CLARY.