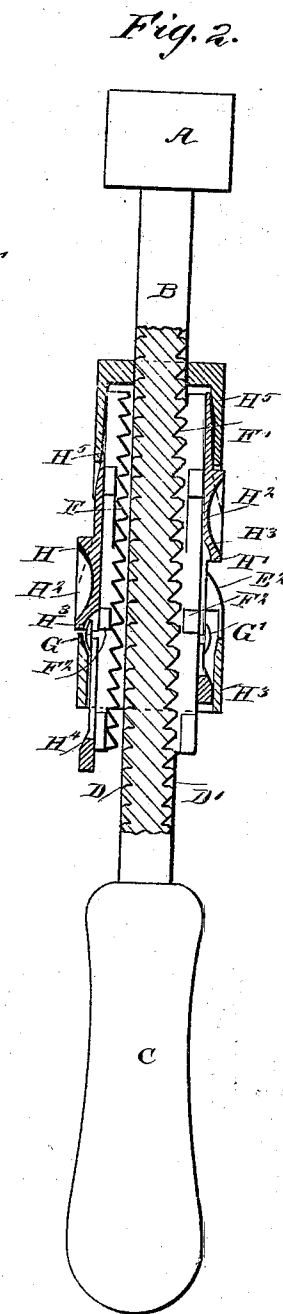
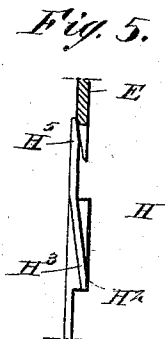
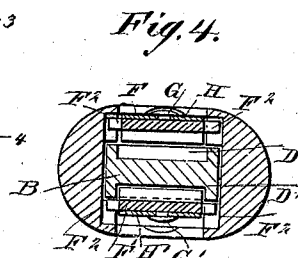
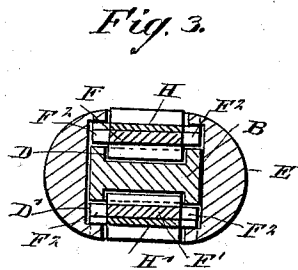
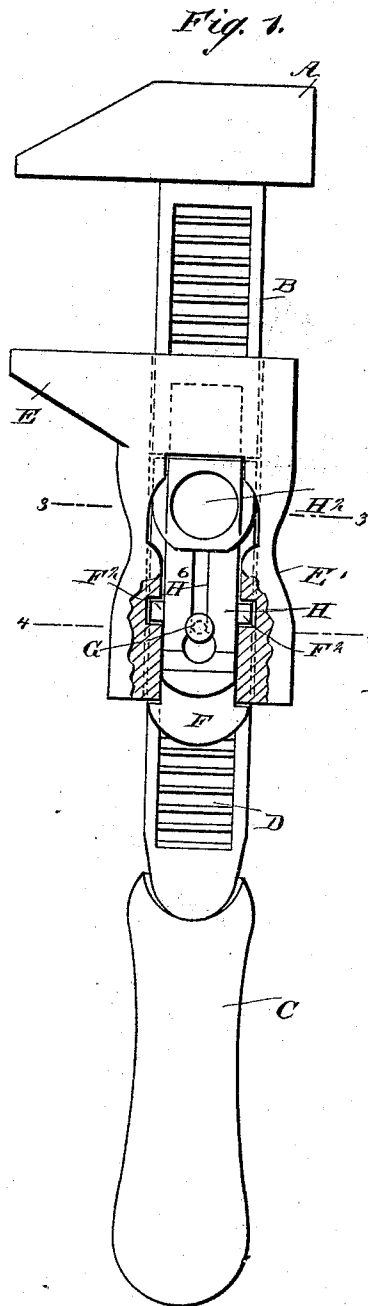


(No Model.)

W. A. PAPOUN.
WRENCH.

No. 513,594.

Patented Jan. 30, 1894.



WITNESSES:

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 513,594, dated January 30, 1894.

Application filed April 17, 1893. Serial No. 470,675. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. PAPOUN, of Baker City, in the county of Baker and State of Oregon, 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 which is simple and durable in construction, and arranged for conveniently locking and unlocking the movable jaw to adjust the wrench to various sized objects.

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

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement with parts in section. Fig. 2 is a vertical transverse section of the same. Fig. 3 is a sectional plan view of the same on the line 3—3 of Fig. 1. Fig. 4 is a similar view of the same on the line 4—4 of Fig. 1; and Fig. 5 is a side elevation of one of the finger pieces with part of the movable jaw.

The improved wrench is provided with a fixed jaw A secured on the upper end of a shank B provided at its lower end with the usual handle C taken hold of by the operator when using the wrench, in the usual manner.

On the sides of the shank B are arranged teeth D and D' and on the said shank is fitted to slide the movable jaw E provided with a handle E' for conveniently sliding the movable jaw up or down on the shank B. The teeth D and D' of the shank B are adapted to be engaged by the toothed plates F and F' respectively, mounted to slide laterally in the movable jaw E, the said plates being provided for this purpose with lugs F² fitting into correspondingly-extending transverse recesses arranged in the movable jaw E, as plainly indicated in Fig. 1. The plates F and F' are connected by buttons G and G' respectively, with finger pieces H and H' respectively, mounted to slide longitudinally in the movable jaw E on opposite sides of the shank B, as plainly shown in the drawings. Each of the finger pieces H or H' is provided with a finger rest H² adapted

to be engaged by the finger of the operator to move the finger piece forward or backward, in the jaw E, so as to move the corresponding toothed plate F or F' in or out of contact with the corresponding set of teeth D or D', in opposite sides of the shank B.

In order to cause the finger pieces to move transversely I provide each finger rest H² on its under side with a bevel or incline H³ adapted to engage or travel up a corresponding incline E² formed on the handle part E' of the movable jaw E. Each of the finger pieces is also provided at its lower end with a wedge H⁴ and a similar wedge H⁵ is formed on the upper end of the finger piece, the said wedges engaging the hollow handle part E' of the movable jaw as shown plainly in Fig. 2. Now, when the finger rest H² of the finger pieces H or H' is in an uppermost position, that is, has traveled with its incline H³ up the incline E² in the handle part E' of the movable jaw, then the said finger pieces are in an outermost position, and as they are connected by the buttons G or G', with the corresponding toothed plates F or F', they hold the latter out of contact with the sets of teeth D and D' on the shank B. When the finger pieces are in this position, the jaw E can be conveniently moved up or down on the shank B, as no engagement of the toothed plates F and F' with the teeth D and D' in the said shank, can take place. The movable jaw E can thus be moved toward or from the fixed jaw A so as to properly engage the object to be acted on by the wrench. When this has been done, the operator, by inserting the thumb and fore-finger in the finger-rests H² of the finger pieces H and H' slides the latter forward so that the inclines H³ travel down the inclines E² and at the same time the wedges H⁴ and H⁵ pass into the hollow handle part E' of the jaw E, so that the said finger pieces slide inwardly toward the shank B and carry the toothed plates F and F' in the same direction, whereby the said toothed plates are moved in mesh with the sets of teeth D and D'. The movable jaw E is thus locked onto the toothed shank B. When it is desired to unlock the movable jaw E, the operator slides the finger pieces downward so as to cause the inclines H³ to travel up the inclines E² thereby moving the finger pieces outward away from the shank B.

It is understood that the buttons G and G' travel in longitudinal slots H⁶ formed in the finger pieces H and H', as the toothed plates F and F' are fitted to slide transversely in the handle part E' of the jaw E, as previously described. For lighter objects it is only necessary to move one of the toothed plates F or F' into mesh with the corresponding set of teeth D or D', the other toothed plate then remaining in its outermost position.

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

1. A wrench provided with a toothed shank carrying the fixed jaw, a movable jaw provided with a handle part and mounted to slide on the said shank, a finger piece mounted to slide longitudinally in the said movable jaw and provided with bevels engaging bevels on the said movable jaw to move the finger piece laterally toward and from the shank, a toothed plate adapted to engage the said toothed shank, and a button projecting from the said toothed plate through a longitudinal slot of the finger piece for connecting the latter with the toothed plate, substantially as shown and described.

2. A wrench comprising a toothed shank carrying the fixed jaw, a movable jaw provided with a handle part and mounted to slide on the said shank, finger pieces mounted to slide longitudinally in the said movable jaw on opposite sides of the toothed shank and

provided with bevels engaging bevels on the said movable jaw to move the finger pieces laterally toward and from the shank, toothed plates adapted to engage the said toothed shank, and buttons for connecting the said toothed plates with the said finger pieces, substantially as shown and described.

3. A wrench comprising a shank carrying a handle at one end and the fixed jaw at the opposite end, and provided with two rows of teeth between said jaw and the handle, a sleeve adapted to slide on the shank and carrying a movable jaw, toothed plates located between the inner wall of said sleeve and the shank and adapted to engage the teeth thereon, said plates being capable of a transverse movement in relation to the sleeve, but incapable of a longitudinal movement in relation thereto, and finger pieces fitted to slide longitudinally in the sleeve and formed with wedges adapted to engage corresponding arms on the sleeve to impart a lateral movement to the finger pieces on moving them longitudinally in the sleeve, the said finger pieces having a sliding connection with the said toothed plates and being adapted to move the same in and out of engagement with the toothed shank, substantially as shown and described.

WILLIAM A. PAPOUN.

Witnesses:

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