J. S. BIRCH.
Wrench.

No. 208,059. Patented Sept. 17, 1878.

Fig. 1.

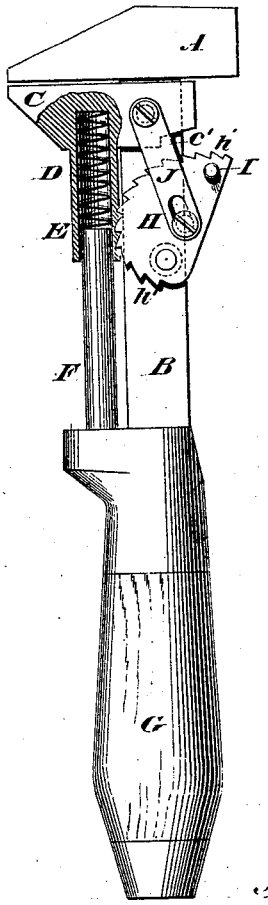


Fig. 2.

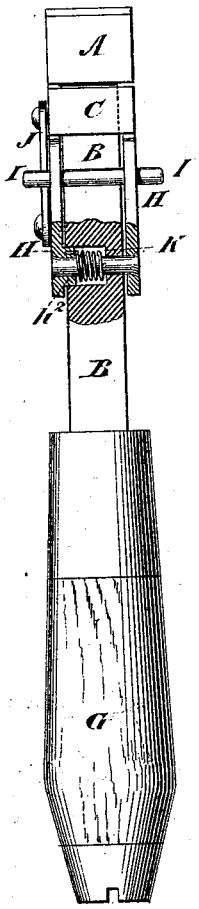
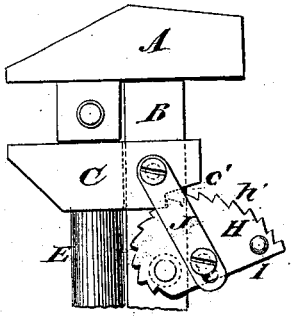


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN S. BIRCH, OF ORANGE, NEW JERSEY.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **208,059**, dated September 17, 1878; application filed March 12, 1878.

To all whom it may concern:

Be it known that I, JOHN S. BIRCH, of Orange, in the county of Essex and State of New Jersey, have invented a new and Improved Wrench, of which the following is a specification:

Figure 1 is a side view of my improved wrench, part being broken away to show the construction. Fig. 2 is a rear view of the same, part being broken away to show the construction. Fig. 3 is a view of the head of the wrench, shown as grasping a nut.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved wrench, which shall be simple in construction and convenient in use, the jaws adjusting themselves to the object to be turned, which will not be liable to slip off the object to be held, and which will hold a nut after it has been screwed off, and thus prevent the annoyance of dropping the nut.

The invention will first be described in connection with the drawing, and then pointed out in the claims.

A is the outer or stationary jaw of the wrench, which is formed upon or attached to the outer end of the shank B. C is the inner or movable jaw, which slides upon the shank B, and is held out or toward the jaw A by a spring, D.

The spring D may be placed in a socket or tube, E, attached to the jaw C, and against its outer end rests the end of a rod, F, attached to the collar or ferrule of the handle G or to the shank B. The spring D may be arranged in different ways. The one shown in the drawings is suggested as a very convenient way.

To one or both sides of the shank B is pivoted a cam, H, in the curved edge of which are formed a series of notches or shoulders, h^1, each of which is formed upon the arc of a circle having its center in the pivot of the said cam. Each of the shoulders h^1 should have a slight rise toward its inner end, so as, when the said cam is pressed forward, to set the jaw C against the object to be held. The shoulders or notches h^1 engage with a shoulder, c', formed upon the rear part of the jaw C. To the outer end of the cam H is attached a knob or pin, I, which pin passes through both cams H when two are used, and which enables the said cam or cams H to be readily drawn back to release the movable jaw C.

The cam H is connected with the jaw C by a connecting-bar, J, one end of which is pivoted to the said jaw C, and its other end is pivoted to the cam H. One of the pivot-holes of the bar J is elongated into a short slot to give the necessary play.

By this construction the jaw C will be drawn back to enable the wrench to be applied to a nut or other object to be held by drawing back the cam H, and will be pressed against the said object when the cam H is released or moved forward, and will be locked against the said object by pressing a shoulder, h^1, of the said cam H beneath the shoulder c' of the said jaw C. A collar, h^2, is formed upon the inner side of the cam H around its pivot, which enters a recess formed in the shank B, and which is designed to support the said cam H against and relieve its pivot from the strain.

In the said recess is also placed a small spring, K, which is connected with the collar h^2 of the cam H, and which is designed to move the said cam forward when released.

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

1. In a wrench, the shank B, movable jaw C, and spring K, combined with a cam, H, having shoulders or notches in its curved edge, as and for the purpose described.

2. The combination of the cam H, provided with shoulders or notches in its curved edge, with the shoulders c' of the movable jaw C, and with the shank B of the wrench, substantially as herein shown and described.

JOHN S. BIRCH.

Witnesses:
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