(No Model.)

B. T. BRYAN.

WRENCH.

No. 384,743. Patented June 19, 1888.

Fig. 1.

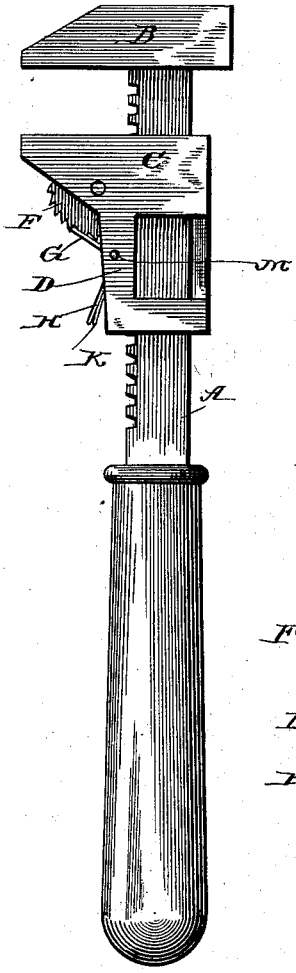


Fig. 2.

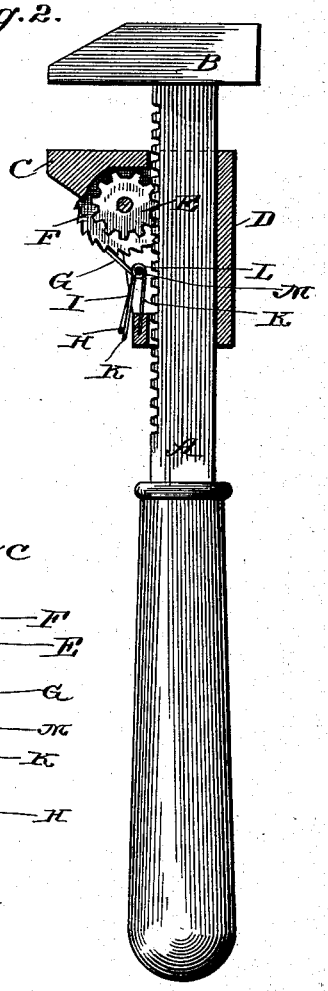
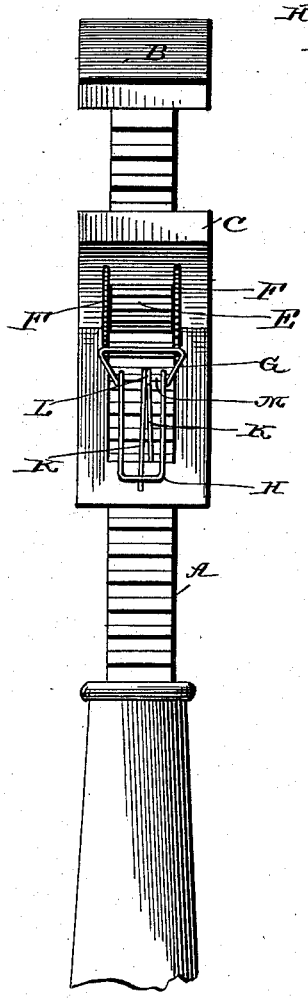


Fig. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

BELDEN THOMAS BRYAN, OF EVANSVILLE, WISCONSIN.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 384,743, dated June 19, 1888.

Application filed March 24, 1888. Serial No. 268,371. (No model.)

To all whom it may concern:

Be it known that I, BELDEN THOMAS BRYAN, a citizen of the United States, residing at Evansville, in the county of Rock and State of Wisconsin, have invented new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to improvements in wrenches, and it has for its objects to provide improved means for adjusting the sliding jaw, whereby a quicker adjustment may be made and all possibility of slipping avoided.

With this object in view the invention consists in a certain novel construction and arrangement of devices, fully set forth hereinafter in connection with the accompanying drawings, wherein—

Figure 1 is a side view of a wrench embodying my improvements. Fig. 2 is a longitudinal central sectional view. Fig. 3 is a face view.

Referring by letter to the drawings, A designates the shank of the wrench, having a rigid jaw, B, on its upper end and the handle on its lower end, and the front side of the said shank is toothed.

C represents the sliding jaw, which is provided with the depending sleeve D, and E represents a pinion mounted on the jaw and engaging the teeth on the shank. Ratchet-wheels F F are rigidly secured to the opposite sides of the pinion, and they turn with the pinion. A pawl, G, is mounted on the jaw and is provided with the thumb-hold H, and a spring, I, bears against the said thumb-hold and normally holds the pawl in engagement with the ratchet-wheels. The pawl is loop-shaped, preferably formed of wire, and it engages both ratchet-wheels simultaneously. The spring comprises the arms K K, connected by the coil L, and one of the arms is attached rigidly to the sleeve D, (or any other convenient portion of the jaw.) The other arm is attached to the thumb-hold, and the coil L encircles the shaft M, on which the pawl is mounted.

The diameters of the ratchet-wheels are greater than the diameter of the pinion, (preferably about twice,) and the teeth on the ratchet-wheels are made small and close, so that a very fine adjustment of the sliding jaw may be made.

It will be observed that the ratchet-teeth are inclined so that the sliding jaw may be moved toward the rigid upper jaw without disengaging the pawl; but it cannot be moved in the opposite direction.

The improved wrench possesses a very decided advantage in the fact that the thumb-hold for the manipulation of the pawl is within reach of the thumb of the hand which grasps the handle, so that the wrench may be adjusted and operated with one hand.

Having thus described my invention, I claim—

1. In a wrench, the combination, with the toothed shank having a jaw rigid therewith, of the sliding jaw, the pinion mounted thereon and engaging the toothed shank, the ratchet-wheels rigidly attached to the pinion, and the pawl engaging the ratchet-wheels, substantially as specified.

2. In a wrench, the combination, with the toothed shank having a jaw rigid therewith, of the sliding jaw, the pinion mounted thereon and having the ratchet-wheels attached thereto, the pawl engaging the ratchet-wheels and having a thumb-hold, and the actuating-spring attached to the pawl and adapted to normally hold it in the engaging position, substantially as specified.

3. In a wrench, the combination, with the toothed shank having a jaw rigid therewith, of the sliding jaw, the pinion mounted on the jaw and engaging the teeth on the shank, the ratchet-wheel attached rigidly to the pinion and having a longer diameter than the pinion, and the spring actuated pawl engaging the ratchet-wheels, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

BELDEN THOMAS BRYAN.

Witnesses:

JENNIE BRYAN,

ROBERT BRYAN.