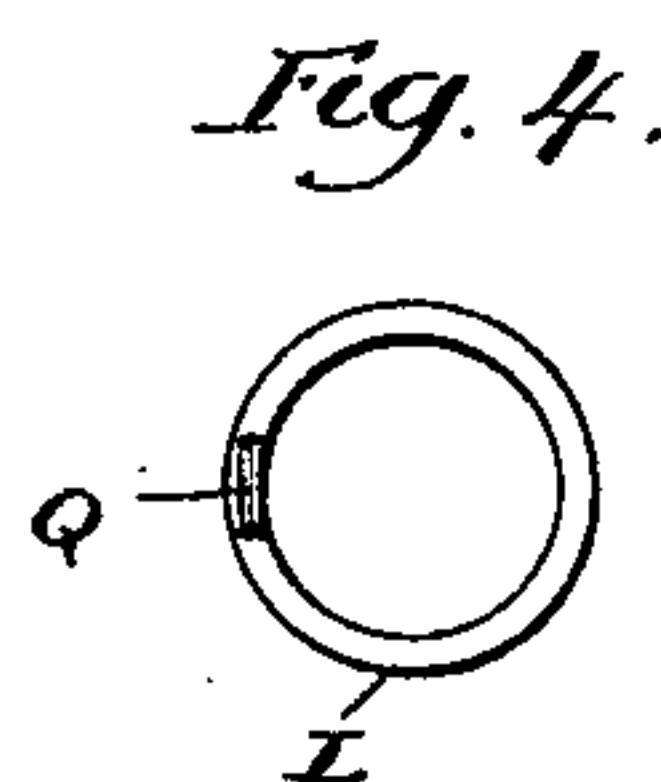
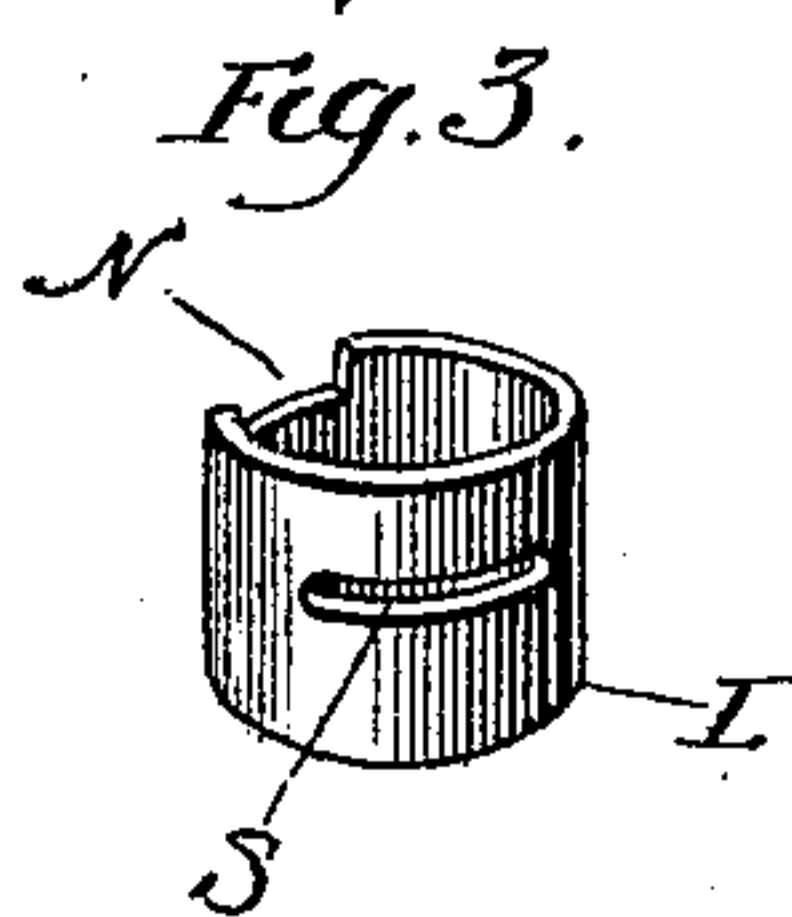
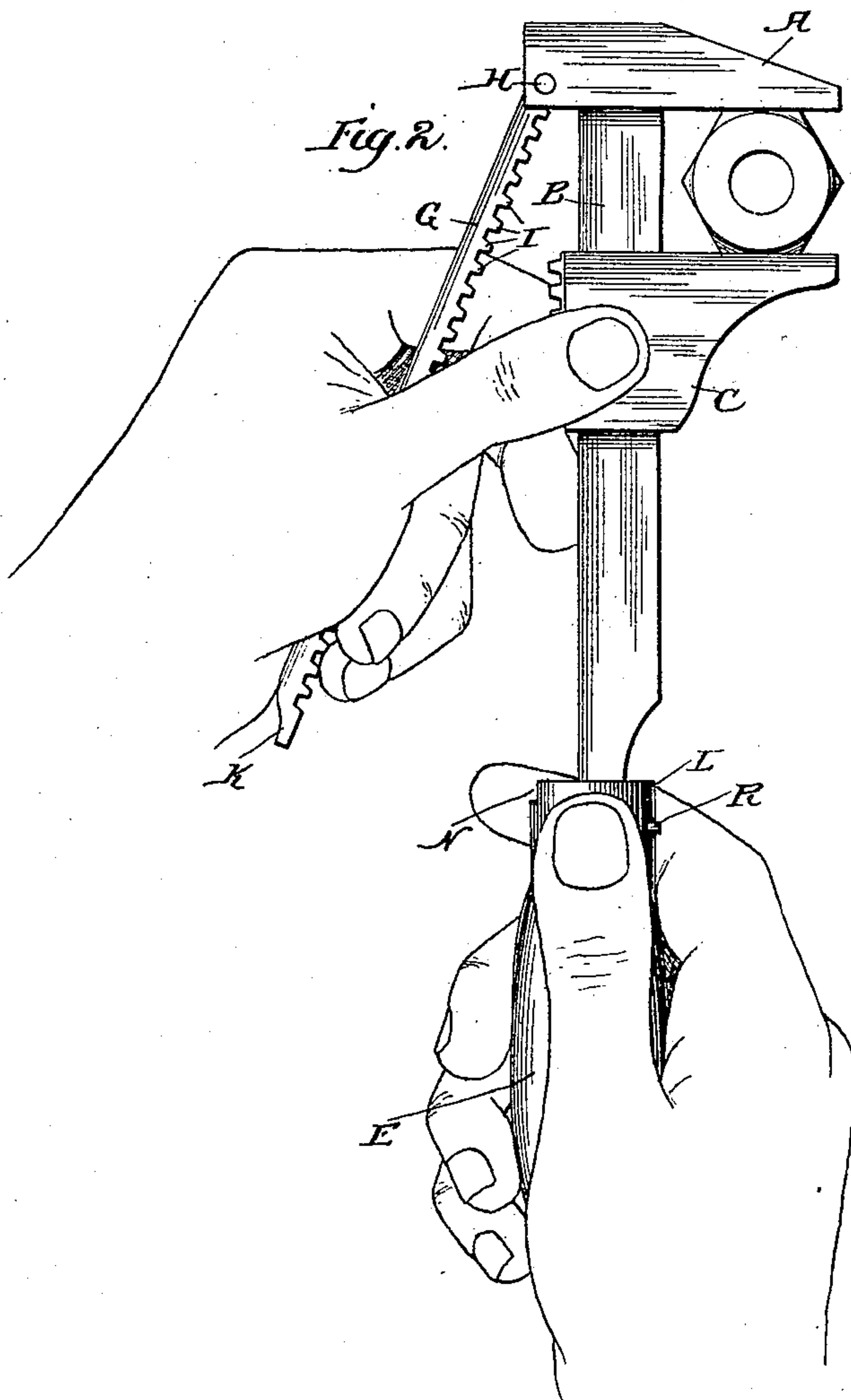
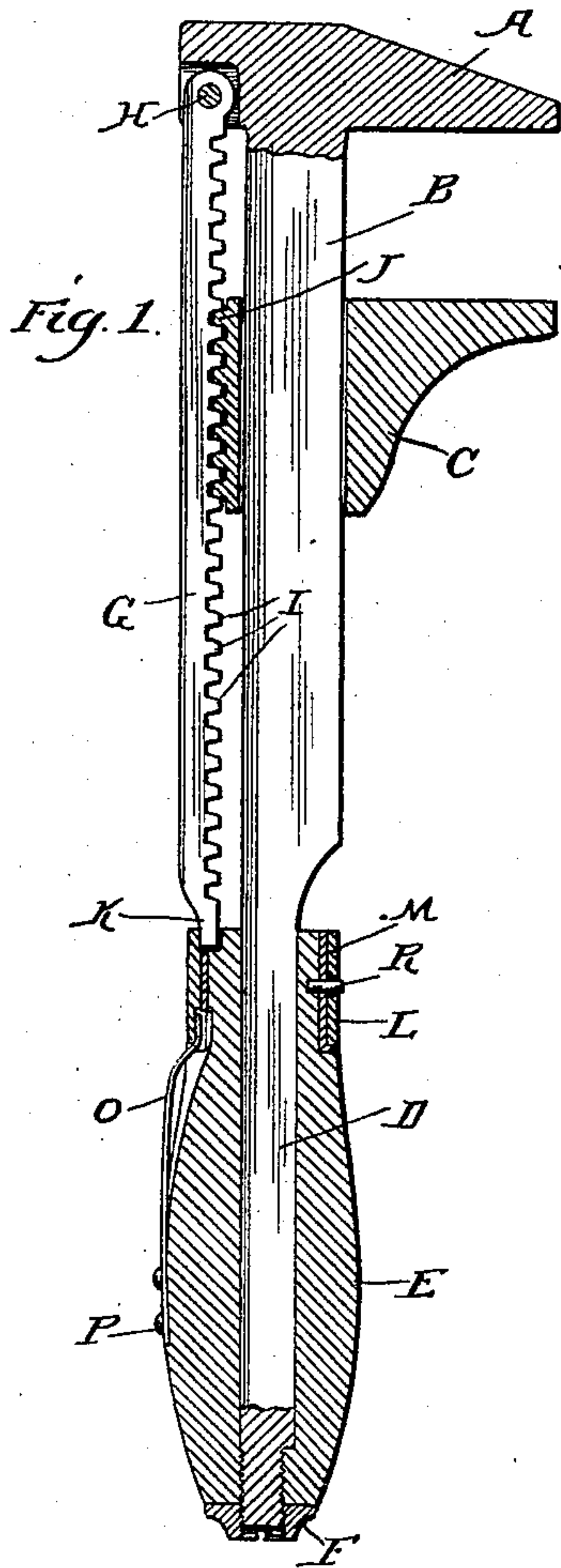


(No Model.)

J. A. HILL.  
WRENCH.

No. 594,399.

Patented Nov. 30, 1897.



Witnesses:  
H. B. Hallock  
A. Williams

Inventor:  
John A. Hill.  
By Geo. H. Holgate  
Attorney



# UNITED STATES PATENT OFFICE.

JOHN A. HILL, OF LEECHBURG, PENNSYLVANIA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 594,399, dated November 30, 1897.

Application filed February 16, 1897. Serial No. 623,590. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. HILL, a citizen of the United States, residing at Leechburg, in the county of Armstrong and State of Pennsylvania, have invented a certain new and useful Improvement in Wrenches, of which the following is a specification.

My invention relates to a new and useful improvement in sliding-jaw wrenches, and has for its object to so construct a wrench of this description as to permit the sliding of the movable jaw throughout the full length of the bar or any portion thereof without the necessity of revolving a screw, which occupies considerable time, and when the movable jaw has been brought to the proper adjustment securely hold the same against movement in either direction, after which the wrench may be used in the same manner as the ordinary monkey-wrench.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, its construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a longitudinal section of a wrench made in accordance with my improvement; Fig. 2, a side view thereof, showing the manner of adjusting the same; Fig. 3, a detail perspective of the locking-band; and Fig. 4, a rear view thereof, showing the notch with which the locking-spring engages.

In carrying out my invention as here embodied, A represents the stationary jaw or head of the wrench, which is formed upon the bar B, the latter having fitted thereon the movable jaw C in such manner that it may readily slide throughout the length of the bar. Formed with this bar is a suitable shank D, upon which is secured the handle E in any suitable manner, here shown as being accomplished by means of the nut F. A rack-bar G is pivoted at H to the head of the wrench, and when in its normal position lies parallel with the rear edge of the bar B, and this rack-bar has formed upon its inner edge a series

of teeth I, which are adapted to engage with corresponding teeth J, formed upon the rear of the movable jaw. From this it will be seen that the movable jaw after being brought to the desired adjustment may be therein secured by bringing the teeth I into engagement with the teeth J, and when a new adjustment is to be had the rack-bar is swung outward upon its pivot-point sufficiently to free the teeth thereof from the teeth upon the movable jaw, when the latter may be again adjusted and secured by the inward swinging of the rack-bar. It is necessary that the rack-bar shall be secured in its normal position when holding the movable jaw against endwise displacement, and this is accomplished by reducing its end, as shown at K, and providing a band L, which is so fitted upon the ferrule M as to turn thereon, and this band has a notch N formed in its inner edge of sufficient width to permit the end K of the rack-bar to pass therethrough, and after having so passed the band may be turned upon its axis, thus carrying the notch N out of alignment with the end K, thereby securing the latter in the position shown in Fig. 1, as will be readily understood.

If desired, the band may be held in the position which serves to hold the rack-bar in its normal position by means of a spring O, which is secured to the handle of the wrench at P, its free end projecting forward beneath the edge of the band, so as to spring within the notch Q, formed in said band for that purpose, thereby locking the band against a further movement until the spring has been depressed to disengage its end from said notch.

The band may be prevented from removal from the ferrule by means of a pin R, which is passed through the slot S and secured within the ferrule or handle, thus not only preventing the removal of the ferrule, but also limiting its axial rotation.

In practice when it is desired to adjust the wrench to fit a given-sized nut or other work the band is revolved by the fingers of the hand grasping the handle, so as to free the rack-bar, as before described, and said bar is then swung outward by the other hand and at the same time the movable jaw slid to the desired position, after which the rack-bar is returned to its normal position, bringing its



teeth into engagement with the teeth of the movable jaw, where it is locked by the returning of the band; and as these movements may be quickly accomplished it will be seen that  
5 my improved wrench will better serve the purposes for which a monkey-wrench is used, in that when it is adjusted the jaws thereof will be as securely held as though backed by a screw, and yet the adjustment may be  
10 brought about in much less time, and this is especially true when the movements of the sliding jaw are considerable, as is often the case.

The pitch of the teeth of the rack-bar, and  
15 consequently those of the movable jaw, may be varied to suit the particular work for which the wrench is to be used, and it is to be noted that the larger the wrench the greater the pitch of these teeth may be, but, upon the  
20 other hand, when a wrench is comparatively small the pitch of these teeth should likewise be small.

Having thus fully described my invention, what I claim as new and useful is—

A wrench, consisting of a stationary jaw, a 25 bar formed therewith, a movable jaw adapted to slide upon said bar, teeth formed upon said movable jaw, a rack-bar pivoted to the stationary jaw whose teeth are adapted to engage with the teeth of the movable jaw, a 30 handle secured upon the shank of the first-named bar, a revoluble band secured upon the handle having a notch cut therein for the passage of the end of the rack-bar, and a spring for locking the band in position, all arranged substantially as and for the purpose 35 set forth.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

JOHN A. HILL.

Witnesses:

JAMES B. KIFER,  
ISAAC T. KLINGENSMITH.