

No. 782,572.

PATENTED FEB. 14, 1905.

W. H. LEISTER.  
WRENCH.

APPLICATION FILED SEPT. 28, 1904.

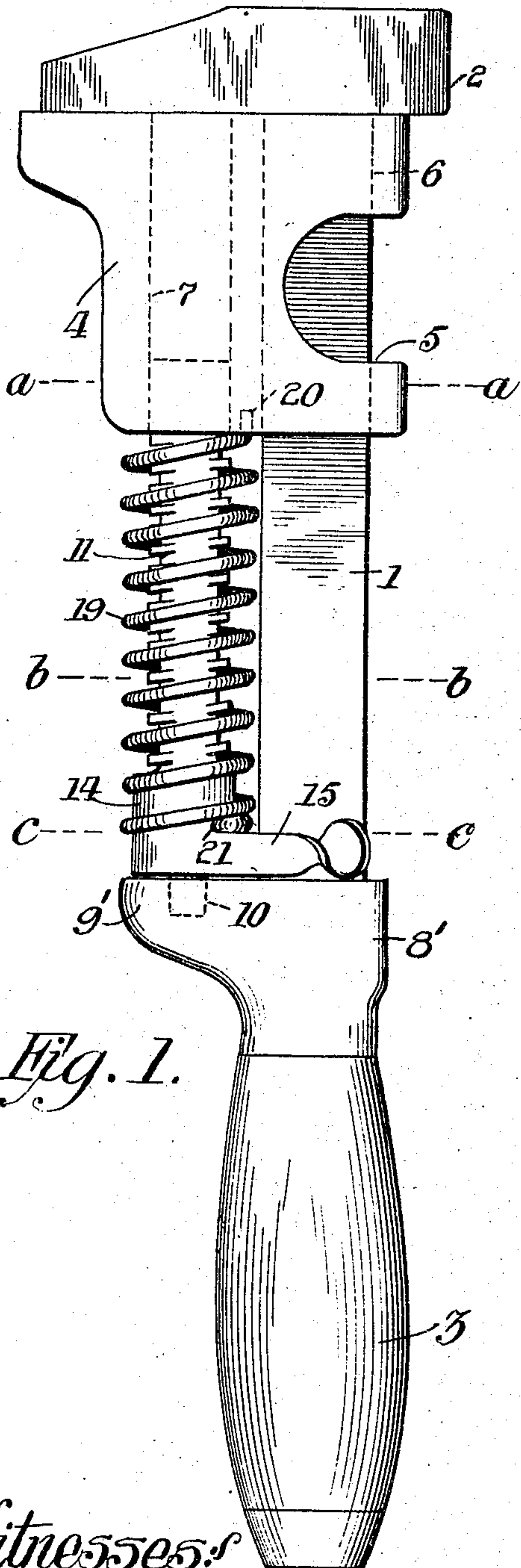


Fig. 1.

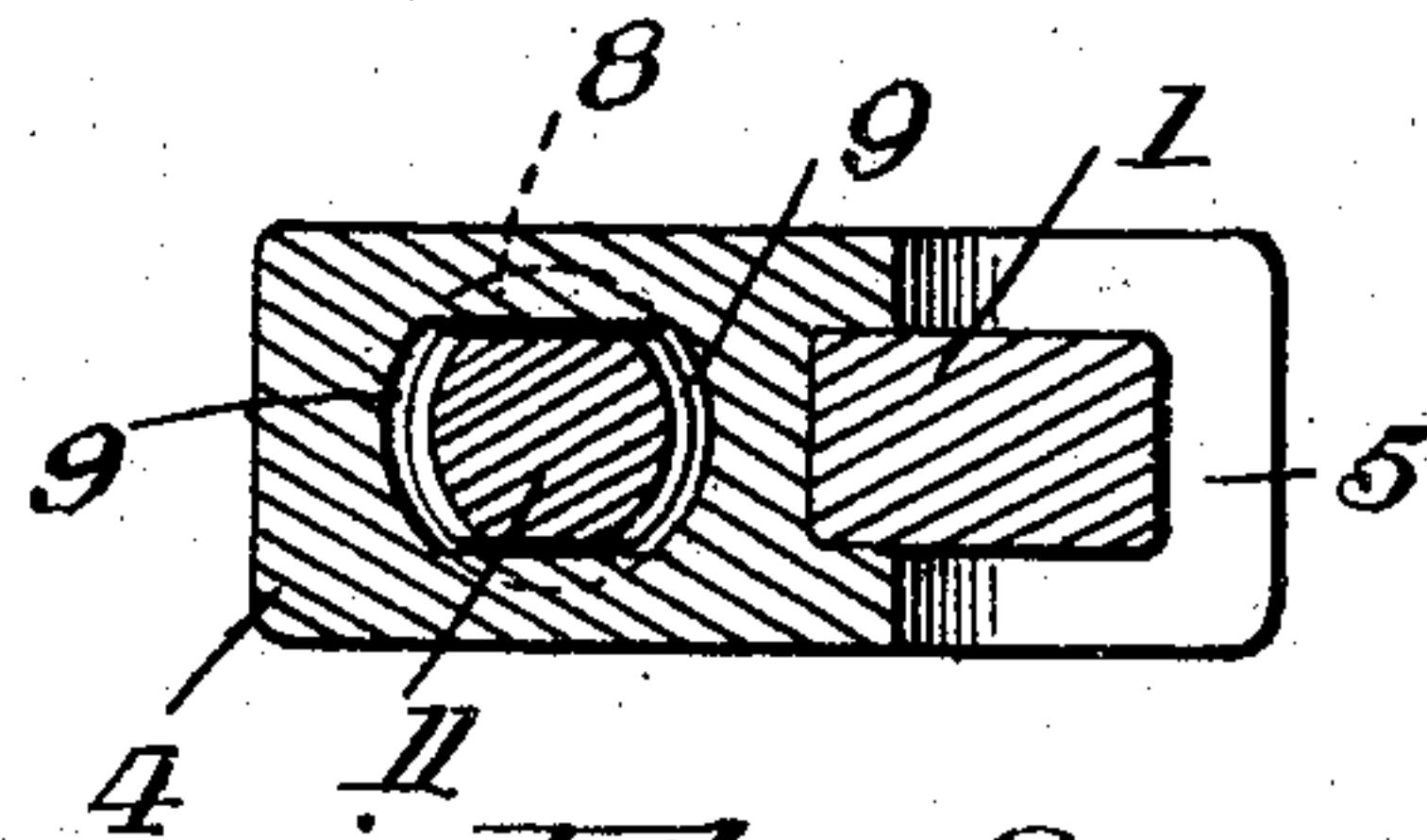


Fig. 2.

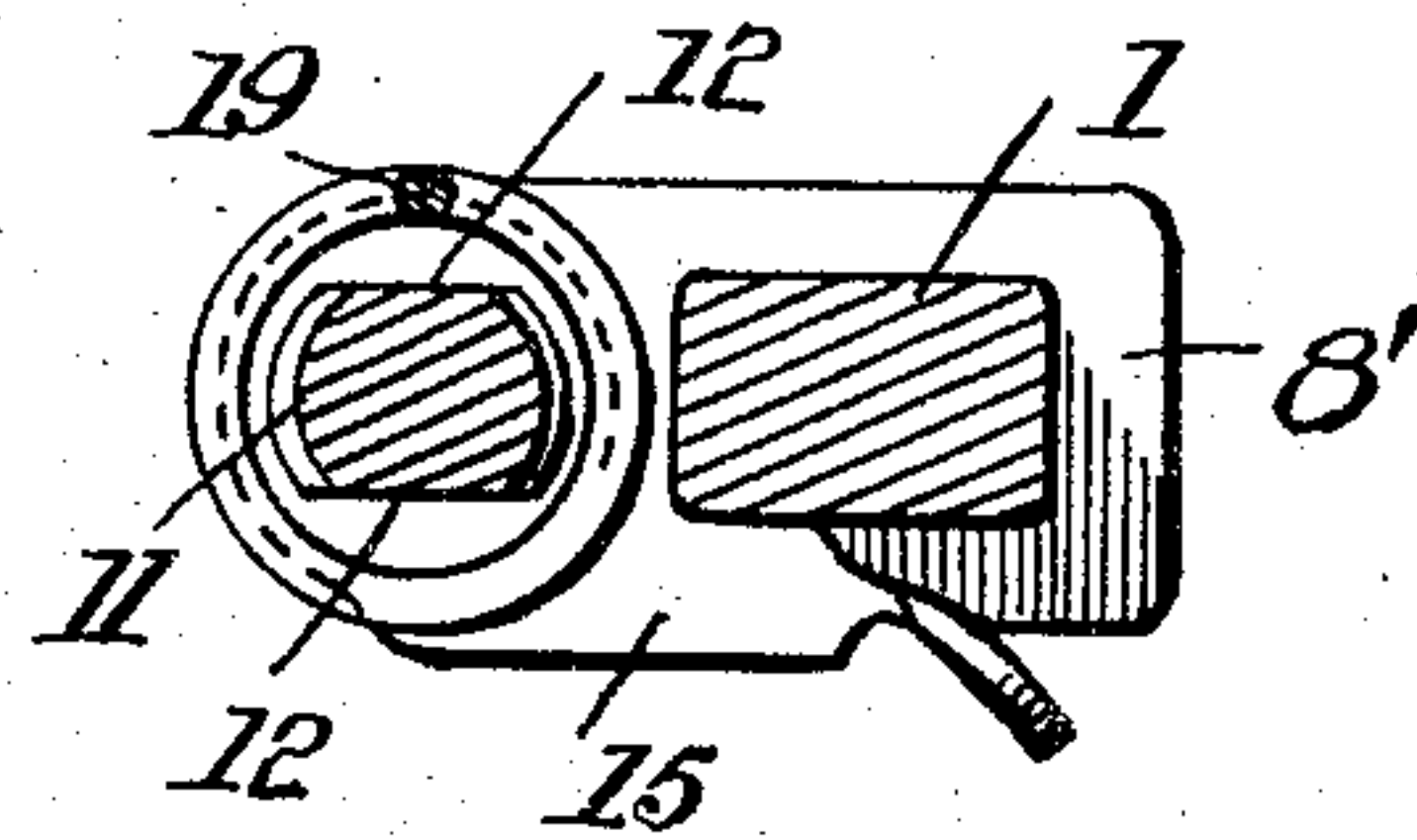


Fig. 3.

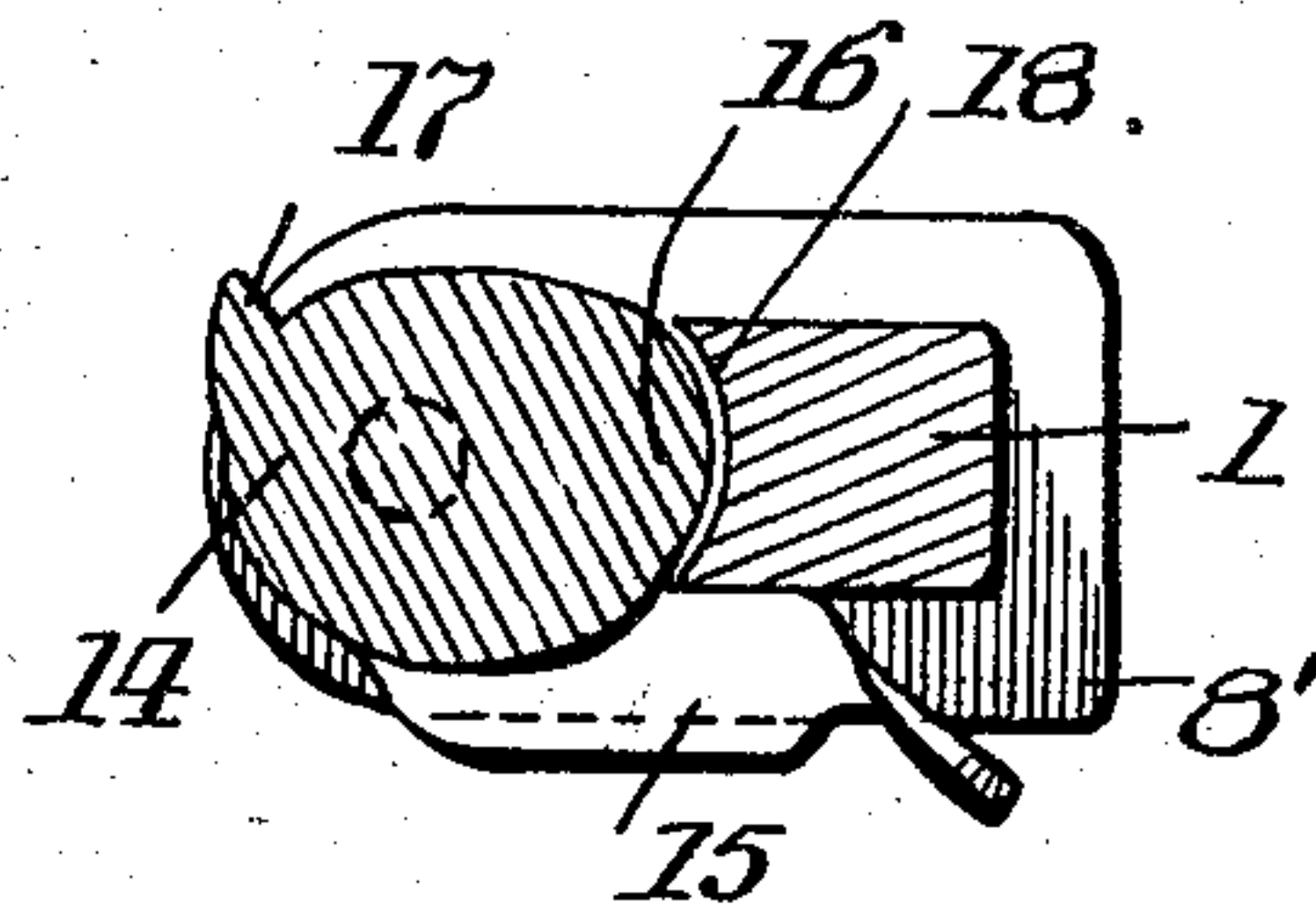


Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## WRENCH.

SPECIFICATION forming part of Letters Patent No. 782,572, dated February 14, 1905.

Application filed September 28, 1904. Serial No. 226,295.

*To all whom it may concern:*

Be it known that I, WILLIAM H. LEISTER, a citizen of the United States of America, residing at Kittanning, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to certain new and useful improvements in wrenches, and more particularly to that type of wrench commonly known as a "monkey-wrench."

The invention has for its primary object the provision of novel means for rapidly and automatically adjusting the sliding jaw of said wrench.

Another object of this invention is the provision of novel means for quickly adjusting the sliding jaw of the wrench and locking the same in any desired position to which it is adjusted, and in providing my improved wrench I have embodied a construction which will be extremely simple to operate, strong and durable, and comparatively inexpensive to manufacture.

Briefly described, my improved wrench comprises a shank having an integral jaw and a suitable handle. Upon the shank is slidably mounted a jaw which is provided with an opening having mutilated threads formed therein, and in connection with the handle of my improved wrench I employ a screw having mutilated threads, and between the sliding jaw and the handle of said wrench I mount a spring which is adapted to surround said screw and govern the movement of the sliding jaw. In connection with the screw I employ novel means for rotating the same, whereby it may be locked within the sliding jaw.

The above construction, together with the details entering into the same, will be hereinafter more fully described and then specifically pointed out in the appended claim.

Referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of my improved wrench. Fig. 2 is a transverse sectional view

taken on the line *a a* of Fig. 1. Fig. 3 is a transverse sectional view taken on the line *b b* of Fig. 1, and Fig. 4 is a similar view taken on the line *c c* of Fig. 1.

To put my invention into practice, I employ a shank 1, which upon its one end is provided with an integral head or jaw 2, while upon the other end of said shank is secured, by the ordinary means, a suitable handle 3, these parts just described being of the ordinary and well-known form of construction. My invention resides in the sliding jaw and the mechanism employed for adjusting the same.

The reference-numeral 4 designates the sliding jaw, which is cut away, as indicated at 5, to reduce the weight of the same and is provided with an opening 6, through which the shank 1 of the wrench is adapted to pass. The sliding jaw 4 is provided with an opening 7, having screw-threads 8 formed therein. A portion of these threads are stripped or mutilated, forming two diametrically opposite plane surfaces 9 9.

Upon the shank 1 of the wrench and formed integral with the upper knurl or sleeve 8' of the handle of said wrench is an outwardly-extending lug 9', this lug having formed in its upper face a central aperture 10. Upon the lug 9' is mounted a screw 11, which has two diametrically opposite faces stripped of its threads, as designated at 12 12. Formed integral with the lower end of said screw is an enlarged collar 14, this collar being provided with an operating-handle 15 and projections 16 and 17. The projection 16 is adapted to lie within a recess 18, formed in the shank 1 of the wrench, and the projection 17 serves as a stop to limit the movement of rotation of said screw 11.

The reference-numeral 19 designates a spiral spring which is mounted upon the screw 11, this spiral spring being adapted to surround said screw and have its one end secured, as designated at 20, in the sliding jaw, while the other end of said spring is secured, as indicated at 21, in the collar 14 of said screw.

The operation of my improved wrench is as follows: It will be observed from Fig. 1 of the drawings that the gripping-surface of the adjustable jaw extends a slight distance be-



yond the fixed or integral jaw 2 of the wrench, and this projection of the jaw serves a useful function when adjusting my improved wrench. We will assume that the wrench is to be placed  
5 upon a nut that is to be rotated by my improved wrench. To engage the jaws of the wrench upon a nut, the projecting edge of the sliding jaw is brought into contact with one of the sides of the nut and by forcing the wrench  
10 toward the nut the sliding jaw 4 will be opened until the nut is embraced by both jaws of the wrench. The movement of the sliding jaw 4 is permitted by the position of the screw by which it is normally held. The normal position of the screw is shown in Figs. 1 and 2 of  
15 the drawings, in which position the plane surfaces of the screw lie opposite the plane surfaces of the opening 7, formed in the sliding jaw, and the jaw will be permitted to slide  
20 upon said screw when in this position, so as to be adjusted to the nut, as heretofore described. When the wrench has been placed upon a nut, the handle 15 is moved outwardly or rotated a quarter of a revolution until the  
25 threads of the screw have engaged the threads 8 of the sliding jaw, this being determined when the stop 17 has moved into engagement with the shank 1 of the wrench. When the screw has been so rotated, the spring 19 has  
30 been placed under tension, and upon the wrench being removed from the nut the spring will serve two functions—namely, to return the screw to its normal position and to close the sliding jaw to the position shown in Fig.  
35 1 of the drawings, at which time the wrench is again ready to be used.

It will be observed that when the flat sides of the screw 11 are disposed with respect to

the flat sides of the opening in the jaw 4, as shown in Figs. 1 and 2, pressure against the  
40 projecting part of the jaw 4 or a pull on said jaw 4 will compress the spring 19 and force the jaw 4 toward the handle of the wrench and when the handle 15 is thrown outwardly from the shank that the threads of the screw  
45 will be engaged with the threads in the opening which receives the screw in jaw 4. The screw 11 is not adapted to have any longitudinal movement, as will be observed, and to prevent this I provide the screw, near its lower  
50 or inner end, with a projection or lug 16 to work in a recess 18 of the shank 1, and thereby hold the screw against longitudinal movement.

It will be noted that various changes may  
55 be made in the details of construction without departing from the general spirit and scope of the invention.

What I claim, and desire to secure by Letters Patent, is—

In a wrench the combination with a shank having a fixed jaw and a handle, of a sliding jaw mounted on said shank a screw carried by said handle and extending into an opening in said sliding jaw said opening and said screw  
60 being each formed with two flat sides, a handle projecting laterally from said screw and a spiral spring surrounding said screw and attached at one end to the sliding jaw and at the other end to said screw.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM H. LEISTER.

Witnesses:

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E. E. POTTER.