

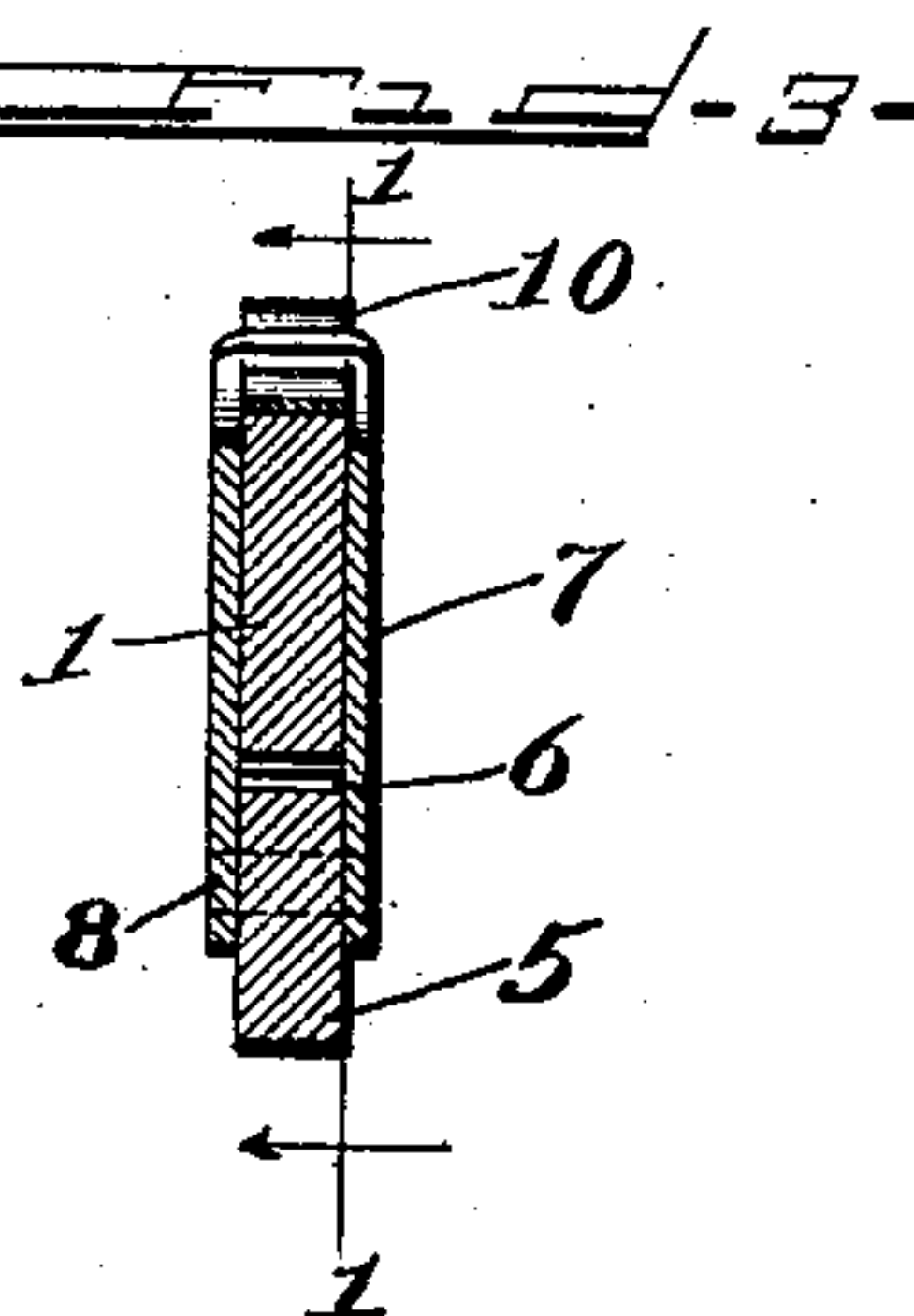
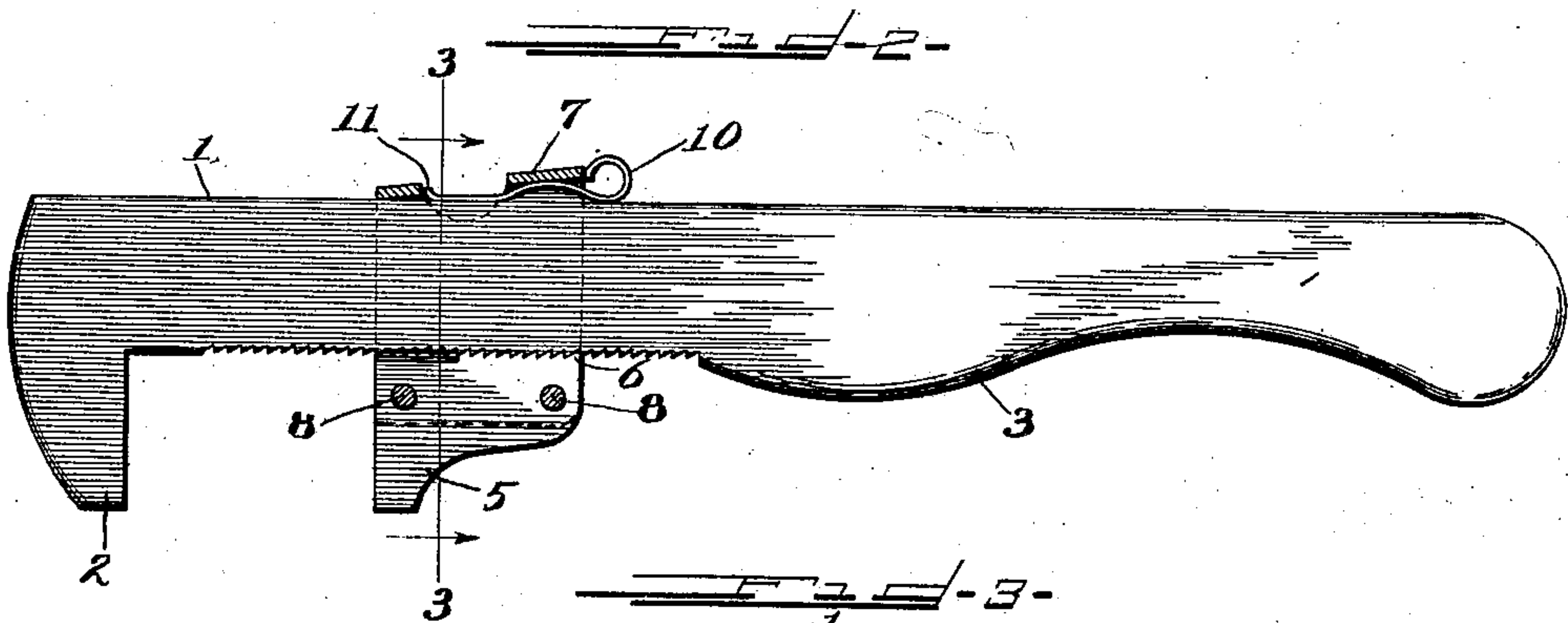
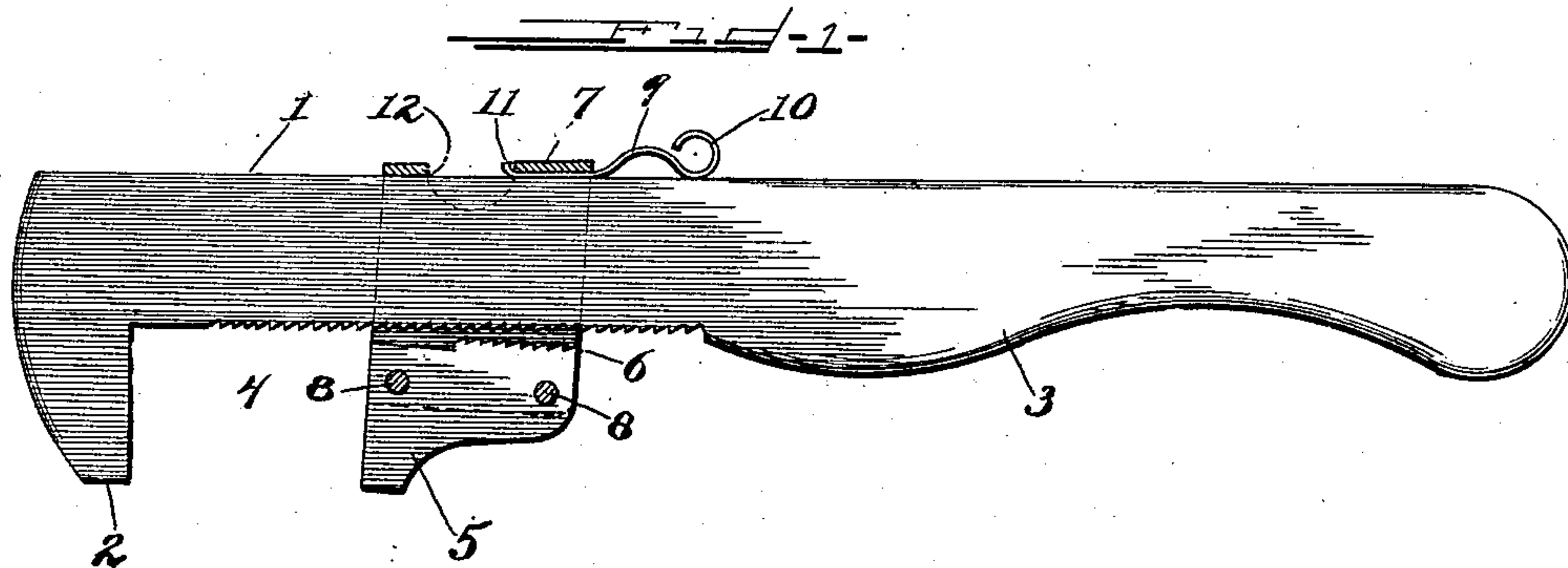
No. 685,349.

Patented Oct. 29, 1901.

F. T. ROBINSON.
WRENCH.

(Application filed Oct. 26, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 685,349, dated October 29, 1901.

Application filed October 26, 1900. Serial No. 34,447. (No model.)

To all whom it may concern:

Be it known that I, FRANK T. ROBINSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wrenches, of which the following is a full, clear, and exact specification.

My invention relates more particularly to monkey-wrenches or adjustable-jaw wrenches; and it has for its object to provide a simple, durable, and inexpensive and at the same time efficient wrench which may be readily operated and quickly adjusted from the minimum to the maximum size of nuts with one hand.

With these ends in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said objects and certain other objects hereinafter appearing are attained, all as fully described with reference to the accompanying drawings and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a longitudinal sectional view of my improved wrench, taken on the line 1 1, Fig. 3. Fig. 2 is a similar view showing the adjustable or sliding jaw locked; and Fig. 3 is a transverse section taken on the line 3 3, Fig. 2.

1 is the stem or stock of the wrench, which is provided in any suitable manner with a jaw 2, which in the example of my invention shown in the drawings is a fixed jaw formed integrally with the stem 1, and on the other end of this stem is also formed integrally a handle 3, the stem, jaw 2, and handle 3 being preferably composed of a flat bar, as better indicated in Fig. 3 of the drawings.

The under side of the frame 1 is provided with a series of notches or teeth 4, and sliding on the stem is an adjustable jaw 5, which is provided on its edge adjacent to the stem with a series of teeth 6, adapted to engage with the teeth 4 when the jaw 5 is forced toward the stem, and thus lock the two jaws against relative movement away from each other. The jaw 5 is provided with a loop or strap, which embraces the stem 1 and holds the jaw 5 firmly in place while permitting it, when desired, to be slid back and forth along

the stem. This loop, which is shown at 7, may be conveniently composed of a strip of metal or other suitable material bent around three sides of the stem 1 and riveted at 8 8 to the jaw 5, there being allowed sufficient play between the jaw 5 and the stem 1 to permit the teeth 6 to disengage from the teeth 4 when it is desired to adjust the jaw 5 in either direction.

In order that the teeth 6 of the jaw 5 may be conveniently forced into engagement with the teeth 4 and held there during the operation of the wrench, I provide locking means consisting of a slide adapted to slip between the top of the loop 7 and the back of the wrench-stem. This slide is preferably composed of a spring-blade whose inner end is flattened, so as to lie between the loop 7 and stem 1 when the slide is pulled outwardly and permit the teeth 6 to disengage from the teeth 4, while the outer end is provided with a hump or cam-like bend 9, which when the slide is forced inwardly by means of a thumb-piece 10 causes the teeth 6 to engage with the teeth 4, and thus hold the jaw firmly in the position to which it is adjusted. The slide is prevented from pulling out of the loop 7 by means of a lug 11, formed on the inner end of the spring of which the slide is composed, and which lug engages with a shoulder formed on the slide by cutting away a portion of the latter, as shown at 12, thereby also leaving room for the lug 11 to slip back and forth as the slide reciprocates. When the slide is pulled outwardly, its portions 9 10 constitute a convenient means for adjusting the sliding jaw by means of the thumb of the same hand which holds the wrench, enabling the thumb to force the slide inwardly and lock the jaw when the proper adjustment is attained.

As clearly indicated in Figs. 1 and 2, the teeth 6 are formed at the outer edge only of the jaw 5, and the loop 7 at the same edge is wider than it is at the opposite edge, so that the loop at the latter edge may fit the stem 1 with but slight play, while the opposite edge of the jaw, carrying the teeth 6, may be permitted to rock or oscillate to and from the stem for engaging and disengaging the teeth 4. This widening of the loop 7 on one side

or edge results in the line of teeth 6 and inner top side of the loop being formed out of parallelism and the engaging face of the jaw 5 being out of parallelism with the engaging face of the jaw 2 when the teeth disengage; but when the teeth are in engagement, as shown in Fig. 2, the engaging faces of the jaws 2 5 return to their parallel position.

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

1. A wrench comprising in combination a toothed stem having a jaw thereon, a sliding jaw provided with teeth engaging the teeth of the stem, a loop secured to the sliding jaw and embracing said stem, and a spring between the stem and sliding jaw having a sliding movement independent of the sliding jaw for locking the same to the stem, substantially as described.

2. A wrench comprising in combination a toothed stem having a jaw thereon, a sliding jaw provided with teeth for engaging the teeth of the stem, a loop secured to the sliding jaw and embracing said stem, a spring

between the sliding jaw and the stem having a sliding movement independently of the sliding jaw and provided with a hump insertible and withdrawable from between the sliding jaw and the stem for locking and unlocking said sliding jaw from said stem, substantially as set forth.

3. A wrench comprising in combination a toothed stem having a jaw thereon, a sliding jaw provided with teeth for engaging with the teeth of the stem, a loop secured to the sliding jaw and embracing said stem, a spring between the stem and sliding jaw having a sliding movement independently of the sliding jaw and provided with a stop adapted to engage said loop and with a hump insertible and withdrawable from between the sliding jaw and stem in locking and unlocking said sliding jaw therefrom, substantially as described.

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Witnesses:

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