No. 649,321. Patented May 8, 1900.

S. S. LEACH.

SLIDING JAW WRENCH.

(Application filed Feb. 28, 1900.)

(No Model.)

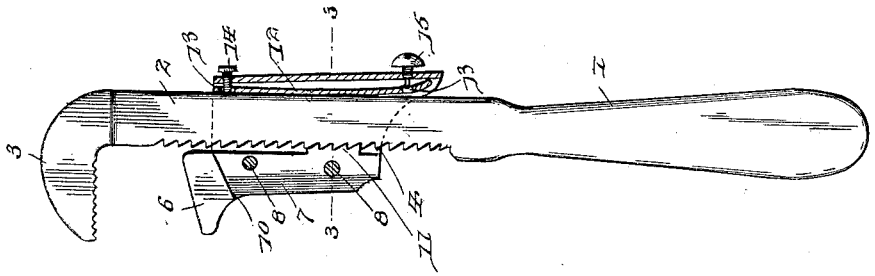

Fig. 2.

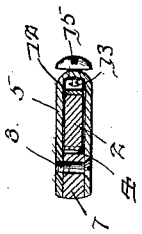

Fig. 3.

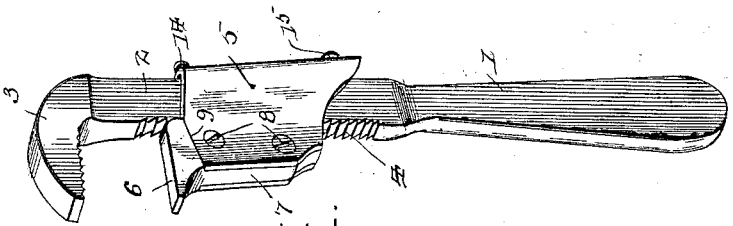

Fig. 1.

Witnesses
F. E. Alden

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By Its Attorneys.

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UNITED STATES PATENT OFFICE.

SAMUEL S. LEACH, OF EVERETT, PENNSYLVANIA.

SLIDING-JAW WRENCH.

SPECIFICATION forming part of Letters Patent No. 649,321, dated May 8, 1900.

Application filed February 28, 1900. Serial No. 6,829. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. LEACH, a citizen of the United States, residing at Everett, in the county of Bedford and State of Pennsylvania, have invented a new and useful Sliding-Jaw Wrench, of which the following is a specification.

This invention relates to wrenches, and has for its objects to provide an improved sliding jaw for use with either pipe or nut wrenches, and is particularly designed to provide an improved adjustable engagement between the jaw and the shank or stem of the wrench, so that the former may be readily adjusted longitudinally of the shank toward or away from the fixed jaw. It is furthermore designed to employ an improved arrangement of spring for effecting the adjustable engagement of the jaw, so that the spring may be wholly housed within and protected by the jaw, while at the same time said spring may be readily replaced should it become worn or otherwise damaged.

With these and other objects in view, the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of a sliding-jaw wrench constructed in accordance with the present invention. Fig. 2 is an enlarged longitudinal sectional elevation thereof. Fig. 3 is a transverse sectional view taken on the line 3 3 of Fig. 2.

Corresponding parts in the several figures of the drawings are designated by like characters of reference.

Referring to the accompanying drawings, 1 designates the handle of the wrench, having the usual straight shank or stem 2, at the outer end of which is a fixed jaw 3, and the inner edge of the shank or stem is provided with a series of ratchet-teeth 4, that incline toward the fixed jaw. Mounted to slide upon the shank or stem and to coöperate with the fixed jaw is a sliding jaw 5, which comprises a substantially U-shaped casing that slidably embraces the shank and the jaw 6 proper, which has a stem or body portion 7 to fit between the opposite sides of the casing. As best indicated in Fig. 3 of the drawings, the opposite side pieces of the casing project a suitable distance beyond the inner toothed edge of the stem 2, and between these projecting sides is seated the body portion of the jaw proper, the latter being held in place by means of suitable screw-threaded fastenings 8, that extend entirely through the casing and the jaw and outwardly beyond the shank of the wrench. The upper edges of the respective sides of the casing are beveled or inclined outwardly and downwardly, as indicated at 9, and the opposite sides of the jaw are provided with the similarly-inclined outwardly-directed shoulders 10 to fit snugly against said inclined edges to form a rigid connection between the jaw and the casing. Adjacent to the outer end of the body portion of the jaw and opposite the latter there is provided a toothed projection or shoulder 11, which is formed upon the inner side of the body and designed to register with the toothed portion of the shank of the wrench, and thus space the remaining portion of the jaw away from the shank, as plainly shown in Fig. 2.

In order that the toothed portions of the sliding jaw and the shank of the wrench may be normally held in engagement, I employ a bowed leaf-spring 12, which is interposed between the outer side or back of the wrench and the inner side of the back of the casing, so as to bear in opposite directions against said parts and to draw the toothed portion of the jaw into engagement with the toothed portion of the shank of the wrench. Each end of the spring is provided with a perforation 13 for the reception of the respective screw-threaded fastenings 14 and 15, whereby the spring is held against accidental displacement. It will be observed that the screw-threaded fastenings form lugs or projections which are loosely received within the perforations, so that the spring may have a slight movement thereon when pressure is made inwardly upon the back of the sliding jaw to disengage the interlocked portions of the latter and the shank of the wrench, as will be understood.

The peculiar shape of the present spring is important, and in this connection it will be noted that the greater portion of the spring, from the forward end thereof, is comparatively straight, and the bowed portion thereof is located adjacent to the rear end of the spring, whereby the latter provides for a rocking yielding movement of the sliding jaw to disengage the latter and inclines the jaw normally across the shank of the wrench to insure a positive engagement of the correspondingly-toothed portions. It is preferable to provide the rear stud or fastening 15 with an enlarged head to form a thumb-piece for convenient engagement by the thumb of the hand which grasps the handle 1, so that the jaw may be readily adjusted by a single hand.

It will be observed that the outer screw-threaded fastening 14 is normally in slidable engagement with the adjacent side of the shank of the wrench, so that there may be no unnecessary looseness of the the slidable jaw, and is screw-threaded in order that it may be adjusted to take up wear on the teeth and other parts of the device. The opposite projection 15 is normally out of engagement with the adjacent side of the shank, so as to permit of the rocking movement of the slidable jaw to disengage the same, but is longitudinally adjustable, so that its inner end may always be in engagement with the adjacent opening 13 in the spring to prevent accidental displacement thereof.

What I claim is—

1. A wrench, having a shank, a fixed jaw thereon, a slidable jaw embracing the shank and having an adjustable and frictionally-interlocked engagement therewith, opposite lugs or studs projecting inwardly from the sliding jaw and opposite the interlocking engagement thereof, and a bowed leaf-spring, having opposite perforations to loosely receive the respective studs, and also to bear in opposite directions against the shank of the wrench and the slidable jaw.

2. A wrench, having a shank, provided with a toothed longitudinal edge, a fixed jaw at one end of the shank, a slidable jaw embracing the shank, and having a toothed portion to adjustably interlock with the toothed portion of the shank, opposite studs or projections extending inwardly from the slidable jaw and opposite the toothed portion thereof, one of the studs having an outwardly-extending enlarged head to form a finger-piece, and a bowed leaf-spring interposed between the slidable jaw and the back of the shank to bear in opposite directions against the latter and the jaw, and also provided with opposite perforations to loosely receive the respective studs or projections and permit of a laterally-yieldable movement of the spring.

3. A wrench, comprising a shank, having a toothed longitudinal inner edge, a fixed jaw projecting at the toothed edge of the shank, a slidable jaw, comprising a substantially U-shaped casing to slidably embrace the shank, and a jaw proper having a body portion received between the opposite sides of the casing, opposite outwardly-directed shoulders to fit the outer edges of the sides of the casing, and a toothed portion to adjustably engage the toothed portion of the shank, fastenings connecting the body to the casing, and a spring interposed between the casing and the shank, to normally interlock the toothed portions of the shank and the slidable jaw.

4. A wrench, comprising a shank, having a fixed jaw, a slidable jaw mounted upon the shank, and provided with an adjustable interlocked engagement therewith, a bowed spring interposed between the slidable jaw and the shank and having an opening, and a longitudinally-adjustable fastening carried by the slidable jaw, extending loosely through the opening in the spring, and normally in slidable engagement with the shank.

5. A wrench, comprising a shank, having a fixed jaw, a slidable jaw embracing the shank and having an adjustable interlocked engagement therewith, opposite longitudinally-adjustable screw-threaded fastenings projecting inwardly from the slidable jaw, one of the fastenings being normally in slidable engagement with the shank, and a bowed spring, having opposite perforations or openings loosely receiving the respective fastenings.

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

SAMUEL S. LEACH.

Witnesses:

GEO. W. RICHEY,

REUBEN W. COOK.