W. L. BESSOLO.

QUICK ADJUSTABLE WRENCH.

APPLICATION FILED MAY 22, 1919.

1,319,946.

Patented Oct. 28, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

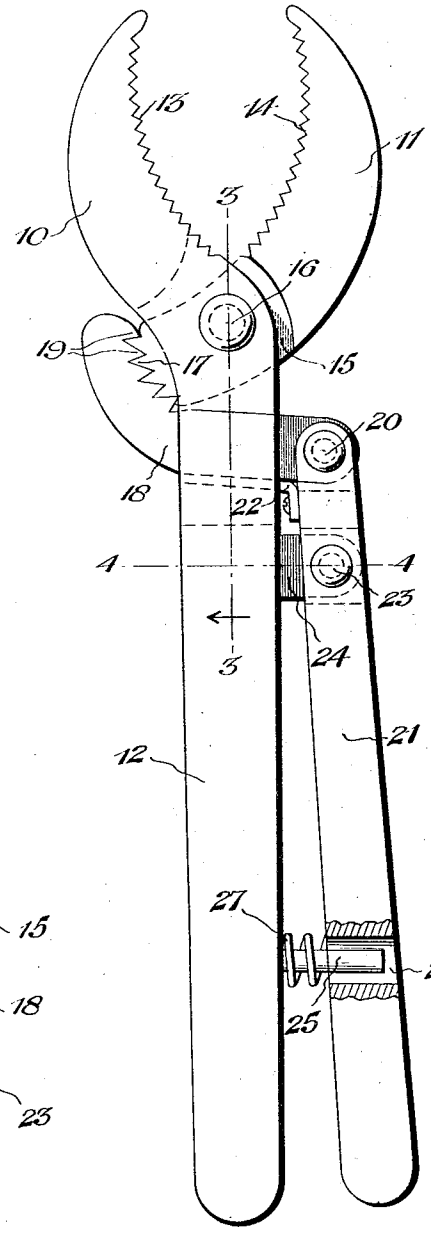


Fig. 3.

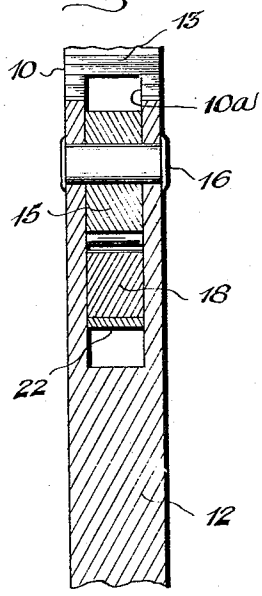


Fig. 2.

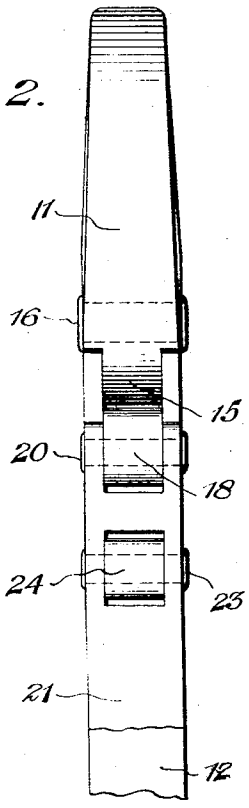
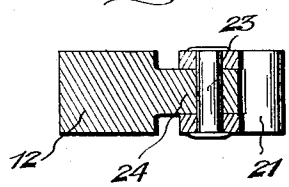


Fig. 4.



WITNESSES

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2 SHEETS-SHEET 2.

Fig. 5.

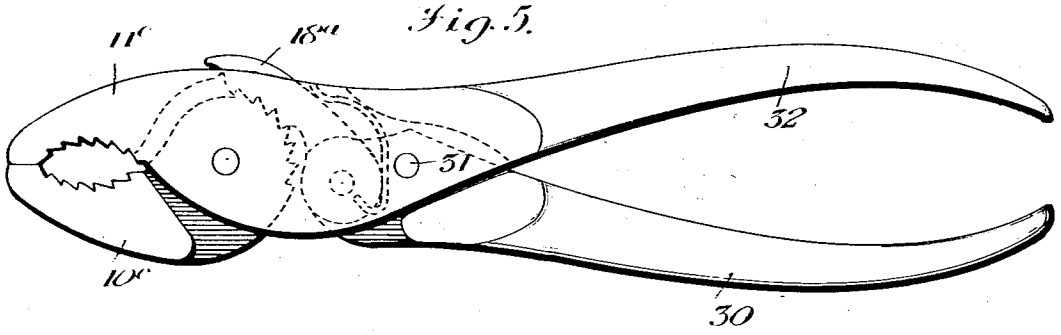


Fig. 6.

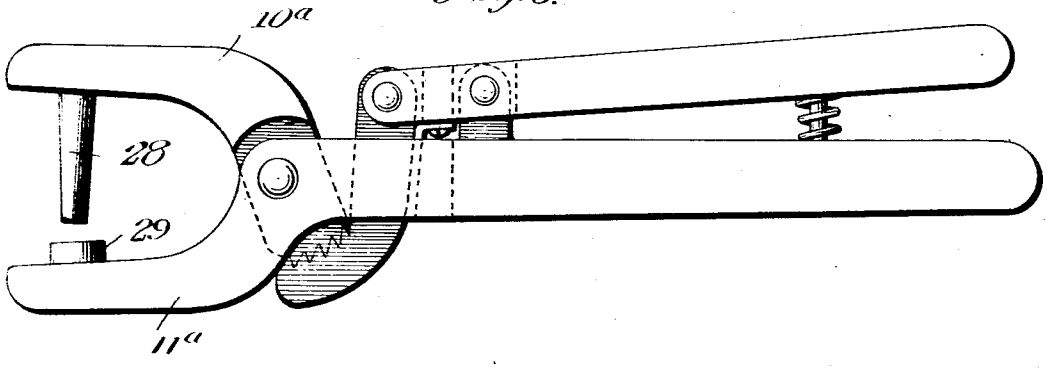
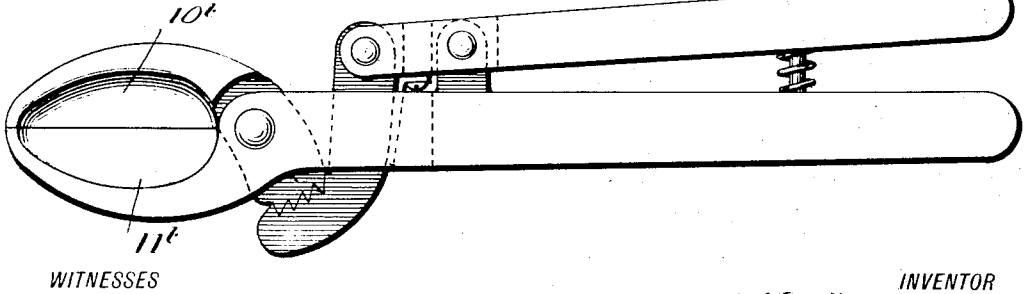


Fig. 7.



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QUICK-ADJUSTABLE WRENCH.

1,319,946. Specification of Letters Patent. Patented Oct. 28, 1919.

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To all whom it may concern:

Be it known that I, WILLIAM LOUIS BESSOLO, a citizen of the United States, and a resident of San Diego, in the county of San Diego and State of California, have invented a new and useful Improvement in Quick-Adjustable Wrenches, of which the following is a specification.

My present invention relates generally to wrenches, and more particularly to a quick adjustable type of wrench capable of a variety of uses, and to this end consists of a pair of curved jaws having inner toothed faces and having a crossed and pivoted relation to one another, one of the jaws being rigid with a shank forming a part of the handle of the wrench, and the other being adjustably engaged by a transversely extending spring controlled jaw actuating member in turn actuated through its connection with a jaw actuating lever constituting the movable shank and extending along, and fulcrumed upon the rigid shank to form the other part of the handle. My object in the presentation of a construction of this type is obviously to permit of quickly adjusting the movable jaw with respect to the rigid jaw, and quickly bringing into action strong and effective pressure upon the same in creating the desired pressure upon the article to be engaged.

In the accompanying drawings illustrating my present invention:

Figure 1 is a side elevation of my improved wrench, partly broken away and in section.

Fig. 2 is a side view of the upper portion of the wrench.

Fig. 3 is a longitudinal section taken substantially on line 3—3 of Fig. 1.

Fig. 4 is a transverse section taken substantially on line 4—4 of Fig. 1, and,

Figs. 5, 6, and 7 are side views illustrating the adaptability of the invention to different uses.

Referring now to Figs. 1 to 4 inclusive, my present construction proposes a pair of jaws 10 and 11, the former of which is fixed, and is rigid with one end of the rigid shank 12, and provided with a longitudinal slot 13 as seen best in Fig. 3, along that point at which the jaw 10 and the shank 12 join one another.

The jaws 10 and 11 have inner toothed faces 13 and 14, and the movable jaw 11 has its inner end 15 reduced and extending through the slot 13, and this jaw is pivoted to the fixed jaw 10 by a pivot 16, beyond which the reduced portion 15 of the movable jaw 11 terminates in an arcuate toothed extremity 17, pressure upon which away from the fixed jaw serves to move the jaw 11 toward the fixed jaw by virtue of the crossing of the jaws and their pivoted connection at 16.

Extending also through the slot 13 below the jaws, is a transverse arm 18, one end of which adjacent the extremity of the movable jaw 11, is curved upwardly and toothed as at 19 to engage the teeth 17 of the movable jaw. The opposite end of the jaw actuating arm 18, at the relatively opposite side of the shanks 12, is pivotally connected at 20 to one end of a jaw actuating lever 21 forming the movable shank and extending generally along one side of the rigid shank 12.

Adjacent its outer end, the shank 21 supports a spring 22 which bears outwardly against the jaw actuating arm 18 and serves to thrust the latter outwardly at all times, against the movable jaw 11, shank 21 being fulcrumed at 23 upon a lug 24 projecting laterally from the rigid shank 12 at a point between the ends of the latter.

Adjacent its inner end, the shank 12 may also have a laterally projecting lug 25 extending into a transverse opening 26 of the movable shank 21 and serving as a support and guide for a coil spring 27, the function of which is to normally hold the shank 21 in outer inactive position so that slight inward pressure upon the free end of the arm 18 will permit of manual adjustment of the movable jaw 11 toward and away from the fixed jaw and with respect to the said arm 18.

It is obvious that in action when the movable jaw 11 has been properly adjusted to the article to be engaged, and the arm 18 is released so that its teeth 19 engage the teeth 17 of the movable jaw, inward movement of the free end of the movable shank 21 within the grasp of the operator, toward the fixed shank 12, serves to move the arm 18 longitudinally with the pivot 20 in a direction away from the fixed shank and to thus swing the effected portion of the movable jaw 11 toward the fixed jaw 10, to produce the necessary pressure against the article to be engaged, whether of rectangular, oval, or cylindrical form, and providing for a direct grip thereof by means of the teeth

13 and 14 upon the inner concave faces of the jaws.

It is thus obvious that my invention provides an effective quick acting wrench of simple and inexpensive construction, which may be adapted to a variety of uses and articles and which will be durable and efficient in such uses, for the reasons above stated.

It will also be obvious from the foregoing and from an inspection of Figs. 5, 6 and 7, that the invention is adaptable to various uses as, for instance, in connection with pliers, leather and light metal punches, dental forceps, and it is to be understood that these figures are in no sense limitative but are merely intended to illustrate to some extent this adaptability. In Figs. 6 and 7 the construction very closely follows that of Figs. 1 to 4 inclusive. Fig. 6 differs slightly as to the jaws alone, its jaws 10^a and 11^a being comparatively straight and having a punch member 28 and an anvil 29. The dental forceps of Fig. 7 are also similar, the jaws 10^b and 11^b being however shaped as with the conventional forceps.

Fig. 5 however shows a somewhat modified arrangement in which the jaws 10^c and 11^c are of the conventional shape of plier jaws, and the handle 30 operating one jaw is pivoted at 31 in partially crossed relation to the handle 32 with which the other jaw is rigid. The general construction involving the movement of the jaw 10^c through a spring controlled jaw actuating arm 18^a remains the same as previously described in Figs. 1 to 4 inclusive.

I claim:

1. A wrench comprising a pair of crossed pivoted jaws having toothed inner concave faces opposing one another, a shank with which one of said jaws is rigid, said rigid jaw having a slot adjacent to its juncture with the said shank and in which a portion of the other jaw is movable, a pivot connecting the said jaws and upon which the last mentioned jaw is movable, said movable jaw terminating in a toothed extremity at a point beyond the fixed jaw, a transverse jaw actuating arm also extending through the slot of the fixed jaw and having a curved toothed end engaging the toothed extremity of the movable jaw, said fixed shank having a laterally projecting lug intermediate its ends, and a movable shank extending along the fixed shank and fulcrumed upon its said lug, one end of said movable shank being pivotally connected to the other end of said jaw actuating member and carrying a spring engaging the jaw actuating member to normally hold the same in engagement with the movable jaw.

2. A wrench comprising a pair of crossed pivoted jaws, a shank with which one of said jaws is rigid, the other jaw terminating at a point adjacent to its pivot and having an arcuate toothed extremity, a transversely extending spring-controlled jaw actuating member having one end curved and toothed to engage the toothed extremity of the said jaw and yieldable with respect thereto and disengageable therefrom, and a movable shank extending along and fulcrumed in connection with the rigid shank and having one end pivotally connected to the other end of said jaw actuating member.

3. A wrench comprising a pair of crossed pivoted jaws, each having an inner toothed concave face, and one of which jaws is provided beyond its pivot with a curved toothed end, a shank with which the other jaw is rigid, a jaw actuating lever extending along and fulcrumed upon the said shank, and a spring controlled jaw actuating arm pivotally connected at one end to the outer end of said lever and having its opposite end curved and toothed for engagement with and disengagement from the curved toothed end of the movable jaw.

4. A wrench comprising a pair of crossed pivoted jaws, one of which is movable and terminates slightly beyond its pivot, a shank with which the other jaw is rigid, a spring controlled arm movable in a direction at right angles to the longitudinal axis of the shank, and adjustable into and out of engagement with one end of the movable jaw, and a lever fulcrumed upon the said shank and pivotally connected at one end to the said jaw actuating member, for the purpose described.

WILLIAM LOUIS BESSOLO.