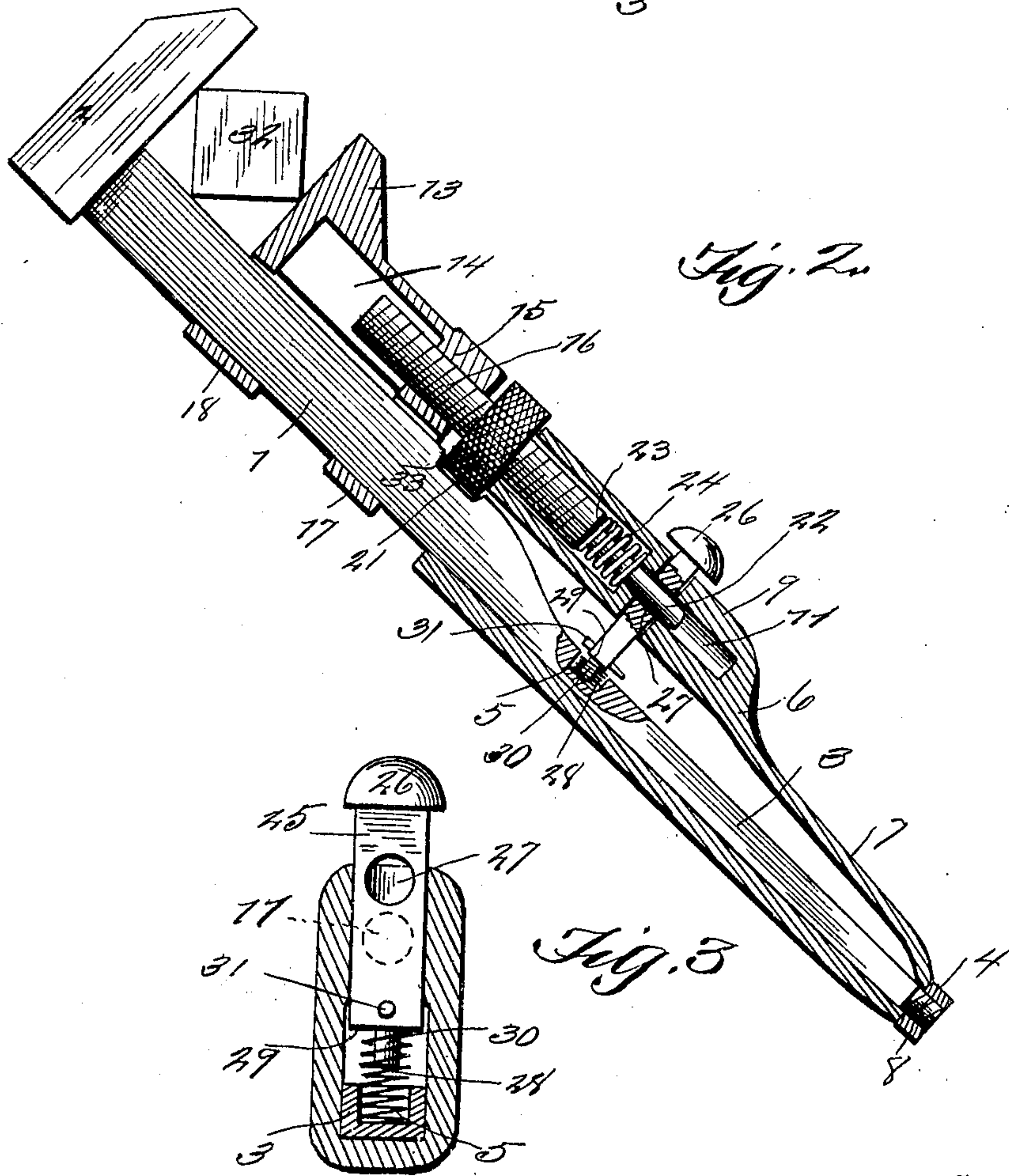
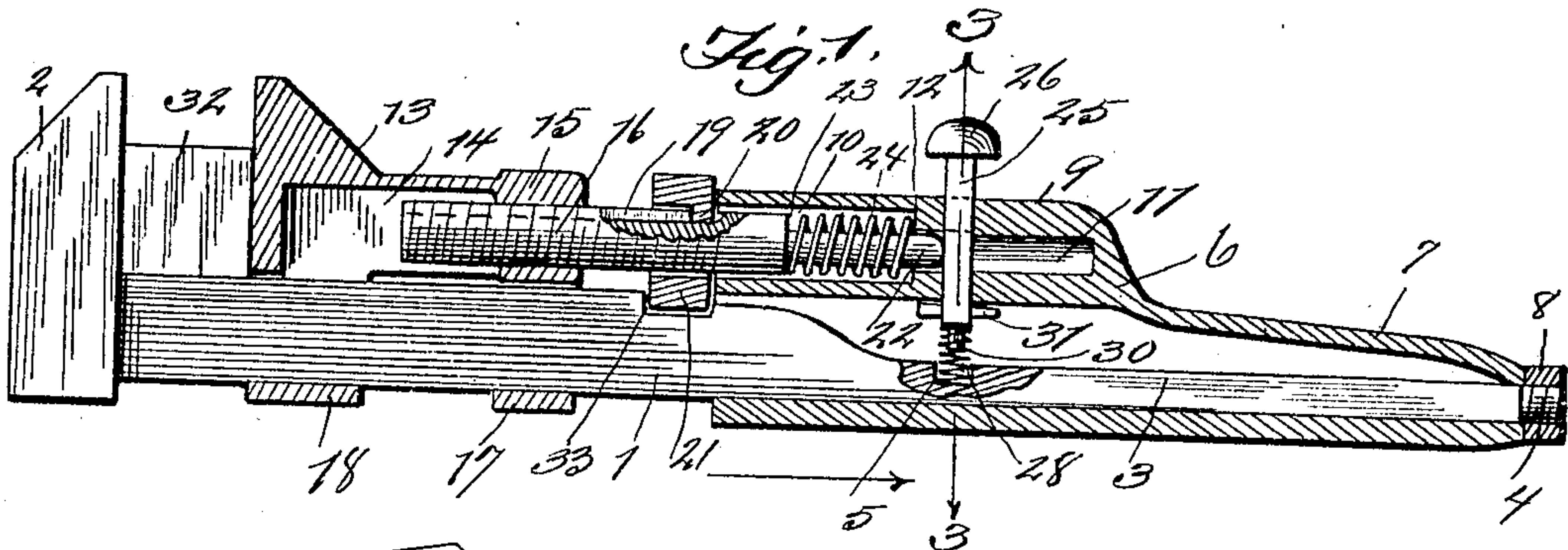


No. 885,596.

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J. C. FREY.
WRENCH.

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JOHN C. FREY, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO GEORGE B. FINK,
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WRENCH.

No. 885,596.

Specification of Letters Patent.

Patented April 21, 1908.

Application filed January 4, 1908. Serial No. 409,326.

To all whom it may concern:

Be it known that I, JOHN C. FREY, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Wrenches, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

This invention relates to certain new and useful improvements in wrenches of that class generally known as monkey wrenches, and it has for its objects among others to provide a simple and cheap construction of monkey wrench having provision permitting the traveling jaw to retreat when turning the wrench backward on a bolt head or nut, thus allowing it to pass over the angles of the bolt head or nut preparatory to catching a new grip for another forward swing of the handle of the wrench.

The wrench is designed primarily for use in a cramped place upon a bolt head or nut difficult of access, in which case a continuous forward and backward swing of the handle will serve to turn the threaded body as required, each backward swing of the handle being idle and merely to bring the jaws of the wrench in position to take a new hold. This action, as will be readily understood as the description proceeds, is like a pawl acting with a toothed ratchet, all backward swingings of the wrench being recovering or idle movements. The wrench will be found very useful for mechanics of different callings when it becomes necessary for them to turn bolts or nuts where it is inconvenient for them to remove the wrench each time to get a new hold or bite on the threaded body.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings which, with the numerals of reference marked thereon, form a part of this specification and in which

Figure 1 is a substantially central longitudinal section through the improved wrench, with parts in elevation and portions broken away. Fig. 2 is a similar view showing the movable jaw in its retreated position. Fig. 3 is a section on the line 3—3 of Fig. 1 looking

in the direction of the arrow, the view being on an enlarged scale.

Like numerals of reference indicate corresponding parts throughout the several illustrations.

Referring to the drawings 1 designates the shank and 2 the fixed jaw carried thereby. This shank toward its end farthest from the fixed jaw is shown as reduced, as at 3, and this reduced end provided with screw threads, as seen at 4, for a purpose which will hereinafter be made apparent. This reduced portion is provided with a socket, as shown at 5, the object of which will soon appear.

6 is the handle portion. It has one portion, as at 7, reduced to constitute a gripping portion for the handle, this portion receiving the reduced portion of the shank, a nut 8 engaging the threaded portion 4 of the shank and bearing against the end of said gripping portion 7 serves to hold the handle portion in position upon the shank. This handle portion upon its enlarged part 9 is provided with a bore or chamber 10 and with a supplemental bore 11 of less diameter, a shoulder 12 being formed at the junction of the supplemental bore with the said bore 10, as seen clearly in Fig. 1.

13 is the movable jaw. It is provided with a chamber 14 and with a member 15 into which is threaded the screw 16. This movable jaw has the yoke portions 17 and 18 which loosely receive the shank 1, as seen clearly in Fig. 1. The screw 16 is provided with a longitudinal groove or race 19 in which works the spline 20 on a knurled ring or nut 21 through which latter the screw slides freely. This screw has a reduced portion 22 forming the shoulder 23, while 24 is a spring coiled about this reduced portion within the socket or chamber 10 and finding a bearing at one end against the shoulder 12 at the inner end of said socket and the shoulder 23 of the screw.

25 is a stop or member mounted to slide through the walls of the enlarged portion of the handle and traversing the bore 11 thereof. This stop member is provided with a head 26 and an aperture 27 of a size to readily permit of the passage of the reduced portion 22 of the screw. This stop member is normally forced outward by means of the

spring 28 having one end seated within the socket 5 of the reduced portion 3 of the shank and its other end bearing against the shoulder 29 of the stop member, in this instance being shown as coiled about a stud 30 projecting from said member. Any suitable means as a transverse pin 31 may be provided for limiting the outward movement of the stop member, as seen clearly in Fig. 1.

The operation will be clearly understood from the foregoing description when taken in connection with the annexed drawings. Briefly stated, it is as follows:—The button or head 26 of the stop member is in position to conveniently receive the thumb of the hand of the one holding the wrench. With the parts shown in the position in Fig. 1, the wrench is designed to act merely as an ordinary wrench, a spring 28 serving to force the stop member 25 outward so that the part 22 cannot pass through the hole 27 in said stop member. When it is desired that the wrench act in its new capacity, that is, to turn a bolt or nut without removing the wrench therefrom, the stop member 25 is pushed inward by pressure of the thumb on its head 26; this compresses the spring 28, as seen in Fig. 2, and when the member 25 reaches the position where its opening 27 is coincident with the bore 11 of the handle the wrench may be swung into the position relatively to the nut or bolt head 32, as seen in Fig. 2, when the jaw 13 is caused to retreat, compressing the spring 24 and forcing the reduced portion 22 of the screw through the opening 27 of the member 25 and into the bore 11. Then when the wrench is brought into position relatively to the bolt head or nut, shown in Fig. 1, the spring 24 forces the screw and consequently the movable jaw 13 into close contact with the side of the bolt head or nut, and as soon as the reduced portion 22 is forced out of the opening 27 in the stop member 25, the spring 28 acts to force said stop member outward, throwing it from the position seen in Fig. 2 into that in which it is shown in Fig. 1, thus bringing a solid portion of the stop member in alinement with the reduced portion 22 of the screw, so as to prevent the latter from retreating.

It will be understood that the ordinary adjustments of the movable jaw 13 are attained in the usual way by manipulating the knurled ring or nut 21. This knurled ring or nut is received in a notch 33 in the shank to hold the same against movement in the direction of the length of the screw.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is:

1. In a wrench, a fixed jaw and its shank, a movable jaw, a screw and relatively fixed ring for adjusting said movable jaw, a handle portion, and a stop member slidable in the

handle portion at right angles to the length of the screw and having an opening for the passage of the end of the latter.

2. In a wrench, a fixed jaw and its shank, a movable jaw, a screw and relatively fixed ring for adjusting said movable jaw, a handle portion, a stop member slidable in the handle portion at right angles to the length of the screw and having an opening for the passage of the ends of the latter, and a spring acting on said stop member to normally hold it with its opening out of the path of said ends of the screw.

3. In a wrench, a fixed jaw and its shank, a movable jaw, a screw and relatively fixed ring for adjusting said movable jaw, a handle portion, a stop member slidable in the handle portion at right angles to the length of the screw and having an opening for the passage of the end of the latter, and a spring confined within the handle portion and acting on said screw.

4. In a wrench, a fixed jaw and its shank, a movable jaw, a screw and relatively fixed ring for adjusting said movable jaw, a handle portion, a stop member slidable in the handle portion at right angles to the length of the screw and having an opening for the passage of the end of the latter, a spring confined within the handle portion and acting on said screw, and a spring acting on said stop member to normally hold it with its opening out of the path of said end of the screw.

5. In a wrench, a fixed jaw and its shank, a handle portion, a movable jaw, a screw for adjusting the same, a relatively fixed ring splined to the screw and through which the latter freely moves, a spring acting on said screw to force the movable jaw in one direction, and a stop member disposed on the handle portion at right angles to the line of movement of the screw and slidably mounted to permit the screw and movable jaw to retreat when desired.

6. In a wrench, a fixed jaw and its shank, a handle portion, a movable jaw, a screw for adjusting the same, a relatively fixed ring splined to the screw and through which the latter freely moves, a spring acting on said screw to force the movable jaw in one direction, a stop member disposed on the handle portion at right angles to the line of movement of the screw and slidably mounted to permit the screw and the movable jaw to retreat when desired, and a spring acting on said stop member to normally hold it projected.

7. In a wrench, a fixed jaw and its shank, a handle portion, a movable jaw, a screw for adjusting the same, a relatively fixed ring splined to the screw and through which the latter freely moves, a spring acting on said screw to force the movable jaw in one direction, a stop member disposed on the handle portion at right angles to the line of move-

ment of the screw and slidably mounted to permit the screw and the movable jaw to retreat when desired, a spring acting on said stop member to normally hold it projected, and means preventing complete withdrawal of said stop member.

In witness whereof, I have hereunto set

my hand this 30th day of December, 1907,
in the presence of two subscribing witnesses.

JOHN C. FREY.

Witnesses:

ENOS B. WHITMORE,
A. M. WHITMORE.