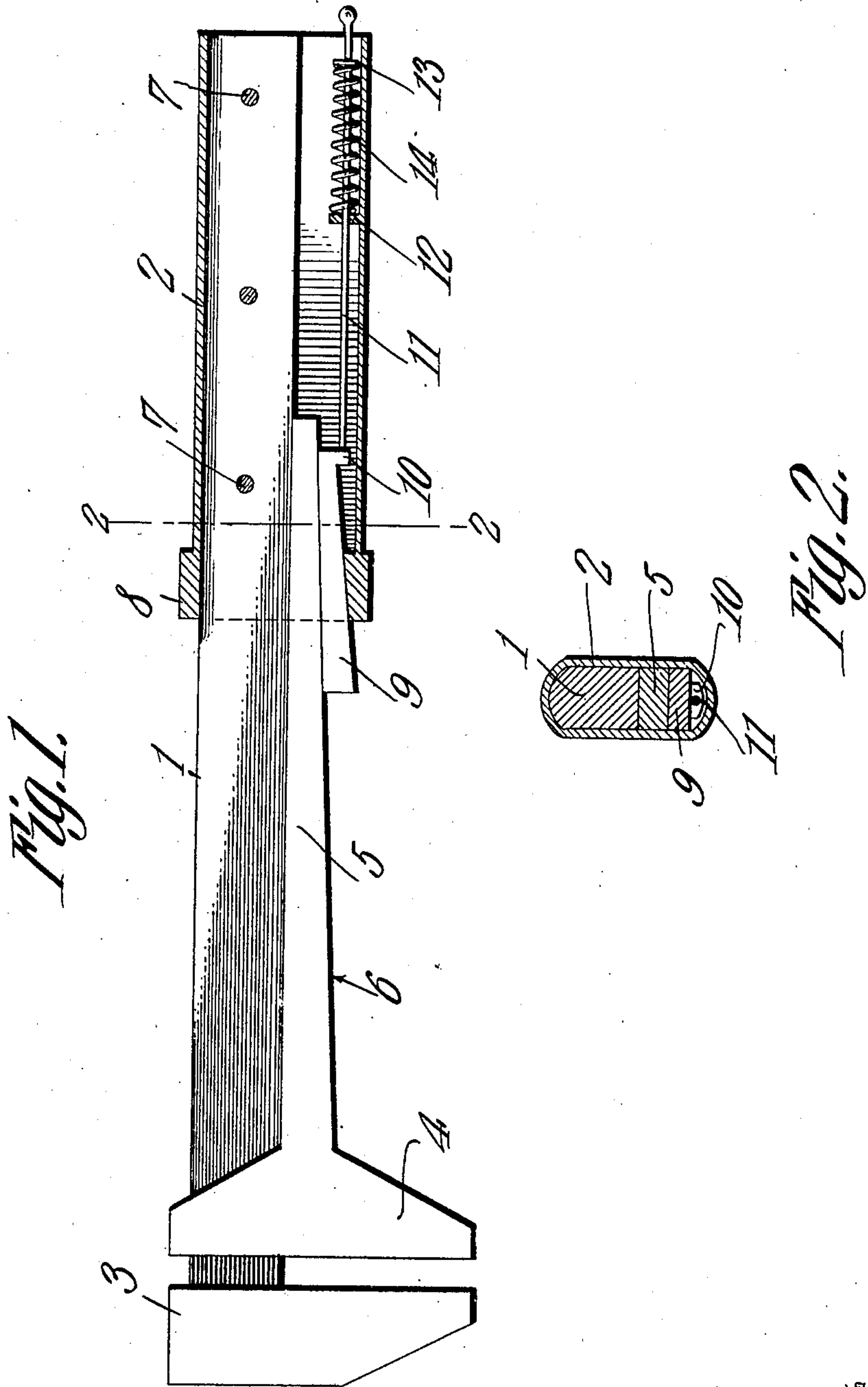


H. F. HOWLAND.  
WRENCH.

APPLICATION FILED JUNE 1, 1908.

918,450.

Patented Apr. 13, 1909



Witnesses

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# UNITED STATES PATENT OFFICE.

HARRY F. HOWLAND, OF CINCINNATI, OHIO.

## WRENCH.

No. 918,450.

Specification of Letters Patent.

Patented April 13, 1909.

Application filed June 1, 1908. Serial No. 436,087.

*To all whom it may concern:*

Be it known that I, HARRY F. HOWLAND, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to wrenches; and has for its object to provide a simple, strong and quickly adjustable tool of few parts and economical construction, and so arranged that its jaws can be opened to any extent within the limit of the tool without removing the grasp of the hand on the handle or manipulating any of its parts by the fingers. Further, the movable jaw is closed and automatically locked upon the fixed jaw or upon an object by the simple act of sliding said movable jaw toward the fixed jaw.

To more fully present the invention and render its construction and operation clearer reference is directed to the following detailed description and the accompanying drawing forming a part of this specification in which—

Figure 1 is a side view of the wrench with the handle in section; and Fig. 2, a cross section through the handle on the line 2—2 of Fig. 1.

Like reference characters are used for the same parts in both figures.

In the drawing, the numeral 1 indicates the shank of the wrench on one end of which is fastened a handle 2 and provided with a fixed jaw 3 on its opposite end. The shank 1 is preferably rectangular in cross section between the handle and the fixed jaw, but for convenience in handling, the rear side may be rounded as represented in Fig. 2.

Slidably mounted on the shank 1 below the fixed jaw 3 is the movable jaw 4 resembling in most respects the ordinary form of movable jaws, but having on its upper side a long depending integral finger 5 extending a short distance into the upper end of the handle when the jaws are closed. The rear side of the finger 5 lies in contact with the shank 1 throughout its length, but gradually tapers inward, on its opposite or front side 6 from the movable jaw to its lower end.

The handle 2 is made preferably, in the form of a flattened shell into which the lower end of the shank 1 extends and is secured therein by any suitable means, such as screws or rivets 7. At the upper end of the handle

and surrounding the shank 1 is a band or collar 8 which may be integral with or fastened to said handle or disconnected therefrom and attached to the shank. The finger 5 is as wide laterally as the shank 1 and passes through the collar 8, between the front inner wall of which and the inclined side of the finger 5 is a sliding wedge block 9 projecting longitudinally a short distance above and below the collar. The lower end of said wedge block within the handle has a forwardly projecting foot 10 thereon to which a straight rod 11 is attached that extends to the lower end of the handle and a short distance below. A lug 12 projects from the wall of the handle through which the rod 11 passes and is guided thereby. Between the lug 12 and a collar 13 on the rod below the lug is placed a coiled spring 14 tending to draw the wedge block 9 into the handle and press the finger 5 against the shank 1, the effect of which is to prevent the movable jaw 4 sliding downwardly when power is applied to the wrench to turn a bolt, nut or other object.

The operation of the wrench is very simple. Hold it in vertical position and press the end of the rod 11, which may be enlarged as shown, against some object to force the rod upwardly. This loosens the wedge and permits the movable jaw separating from the fixed jaw to a greater or lesser extent. The extent of separation of the jaws may in a measure be regulated by withdrawing the pressure applied to the rod 11 and permitting the quick return of the wedge and, consequently the extent of movement of the lower jaw. It is only necessary to slide the movable jaw toward the fixed jaw when sufficiently separated, to clamp firmly anything between them.

A wrench constructed as above described can be made to clamp an object firmly with its jaws and eliminate all "play", nor can it be loosened by shaking or jarring owing to the novel means employed for fastening the lower jaw.

Having described the invention what I claim is:—

1. A wrench having a tapered finger on its movable jaw and projecting below the same, a wedge block adapted to coact with said tapered finger for locking said movable jaw against downward movement, and means extending through and beyond the lower end



of the wrench and slidable longitudinally therein for loosening said wedge block and freeing said movable jaw.

2. A wrench having a shank and a fixed jaw thereon, a movable jaw slidable on said shank and provided with a tapered finger projecting below said movable jaw and in contact with the shank, a wedge block coacting with said tapered finger for preventing downward movement of said movable jaw, and means extending through and beyond the lower end of the wrench and slidable longitudinally therein for disengaging said wedge block from said tapered finger.

3. A wrench having a shank, a fixed jaw on one end and a handle on the opposite end, a movable jaw slidable on said shank and provided with a tapered finger projecting into said handle, a wedge block between the tapered finger and the handle normally locking the movable jaw against downward movement, and an attachment on the lower end of said wedge block for lifting the same to disengage the tapered finger and permit downward movement of the movable jaw.

4. A wrench having a shank, with a fixed jaw on one end and a hollow handle on the opposite end, a movable jaw slidable on said

shank and provided with a tapered finger projecting into said handle and bearing throughout its length against said shank, a wedge block extending into said handle and held between said tapered finger and a part fixed to said shank by a spring for locking said movable jaw against downward movement, and a rod extending from said wedge block beyond the end of the handle for loosening said wedge block.

5. A wrench having a shank, a fixed jaw on one end and a hollow handle on the other end, a movable jaw slidable on said shank and provided with a tapered finger projecting into said handle, a wedge block between said tapered finger and a surrounding collar fixed to the shank, a rod attached to said wedge block for unlocking said wedge, and a spring on said rod for holding said wedge block in normal position to lock said movable jaw against downward movement.

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

HARRY F. HOWLAND.

Witnesses:

EDWIN W. FRANKS,  
EARL K. FRANKS.