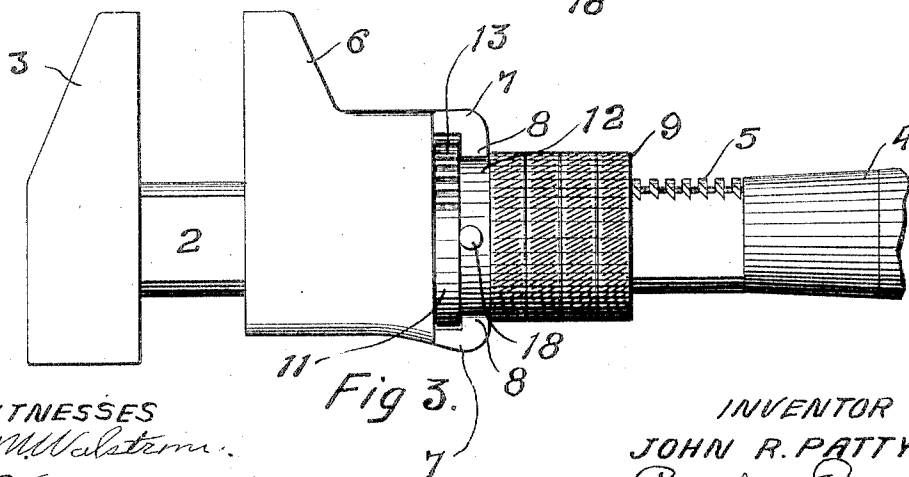
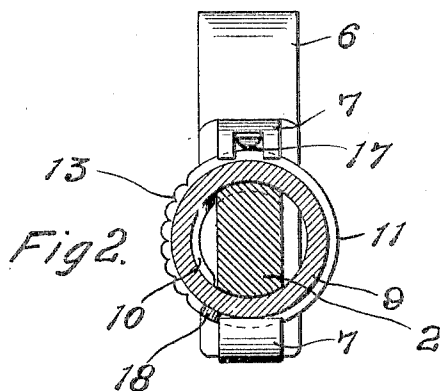
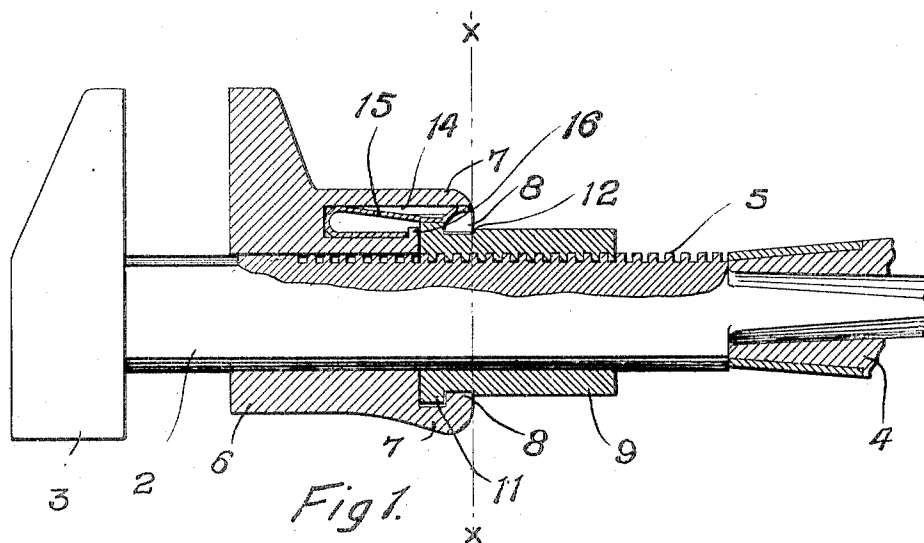


J. R. PATTY.

WRENCH.

APPLICATION FILED DEC. 5, 1904.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOHN R. PATTY, OF ST. PAUL, MINNESOTA.

WRENCH.

No. 802,360.

Specification of Letters Patent.

Patented Oct. 17, 1905.

Application filed December 5, 1904. Serial No. 235,436.

To all whom it may concern:

Be it known that I, JOHN R. PATTY, of St. Paul, Ramsey county, Minnesota, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to wrenches of the quick opening and closing type; and the object of the invention is to provide improved means to prevent the bur or sleeve which operates the movable jaw from accidentally becoming unlocked while the wrench is in use.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a sectional view of a wrench embodying my invention. Fig. 2 is a transverse section on the line *x x* of Fig. 1. Fig. 3 is a plan view of the wrench, showing the movable jaw locked on the shank.

In the drawings, 2 represents a flat shank having a head or fixed jaw 3 at one end and a removable handle 4 at the other end, secured to the shank in the ordinary way. The shank is in the form of a flattened bar and is provided on one edge with a series of threads 5, similar to those usually employed in quick opening and closing wrenches of this type.

6 represents a movable jaw slidably arranged on the shank and provided above and below the shank with lugs 7, that extend parallel with the shank and have ends 8, that are inwardly turned toward the same. A sleeve 9 is slidably mounted on the shank and provided on one side with interiorly-arranged threads 10, that are adapted to enter the spaces between the threads 5 and lock the sleeve on the shank and at the same time forcing the movable jaw slightly toward the fixed jaw to clamp securely the object between them. The sleeve 9 at its inner end is provided with an annular flange 11, that is adapted to slip in between the end of the movable jaw and the inwardly-turned ends 8 of the lugs 7, and a slight annular depression or groove 12 is preferably provided in the surface of the sleeve to receive the ends 8 and prevent inward movement of the sleeve. The walls of the groove act as guides when the sleeve is revolved.

The periphery of the flange 11 is provided with a series of ratchet-teeth 13, having rounded faces, as shown in Fig. 2, and a recess or socket 14 is provided in the movable jaw, wherein a flat spring 15 is inserted. One end of this spring is held in place by a shoulder 16 and the other end extends out past the flange 11 and is provided with a V-shaped under surface 17 to engage the ratchet-teeth 13 and prevent premature or accidental movement of the sleeve. A pin 18, provided in the surface of the sleeve, engages the sides of the lugs 7 and limits the revolution of the sleeve. When the pin engages the lug on the under side of the shank, as shown in Fig. 2, the sleeve will be unlocked and it and the movable jaw can be adjusted back and forth on the shank, as desired. When the pin is revolved to engage the upper lug, the threads 10 will engage the shank-threads and lock the sleeve and jaw firmly on the shank. The spring engaging the ratchet-teeth will yield slightly, slipping back and forth over the teeth and allowing the sleeve to be revolved freely when grasped with the fingers, but preventing it from turning when the wrench is in use.

I claim as my invention—

1. A wrench comprising a flat shank having a fixed head at one end and a series of threads on its edge, a movable jaw slidably arranged on said shank and having lugs extending parallel with said shank and terminating in inwardly-turned ends, an interiorly-threaded sleeve carried by said shank and engaging the threads thereof and provided at its inner end with an annular flange having a series of teeth, said flange being adapted to slip into the space between the end of said movable jaw and the inwardly-turned ends of said lugs, means for limiting the rotation of said sleeve and a spring having a loop at one end adapted to fit into a socket provided in said jaw parallel, substantially, with said shank, one end of said spring projecting out of said socket past said flange and engaging said teeth, substantially as described.

2. A wrench comprising a flat shank having a fixed head at one end and a series of threads on one edge, a movable jaw slidably mounted on said shank and provided with lugs projecting parallel with said shank and spaced therefrom, said lugs having inwardly-turned ends, a sleeve interiorly threaded to engage the threads on said shank and provided with an

annular flange at its inner end adapted to slip
into the space between the end of said lugs and
said movable jaw and having a series of pe-
5 ripheral teeth, a flat spring having a loop at one
end adapted to fit into a socket provided in said
jaw parallel with said shank, one end of said
spring projecting out of said socket past said
annular flange and having a V-shaped under

surface to engage said teeth, and means for
limiting the rotation of said sleeve. 10

In witness whereof I have hereunto set my
hand this 28th day of November, 1904.

JOHN R. PATTY.

Witnesses:

RICHARD PAUL,
C. MARNAMARA.