

No. 819,536.

PATENTED MAY 1, 1906.

Z. T. FURBISH.
SHIFTER LOCK FOR PAWL AND RATCHET TOOLS.
APPLICATION FILED JAN. 30, 1904.

Fig. 1.

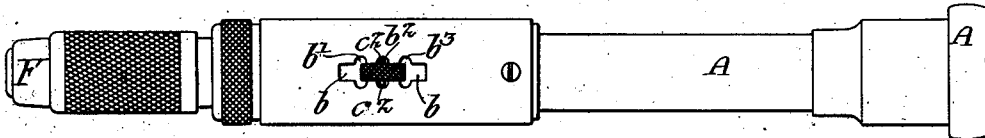


Fig. 2.

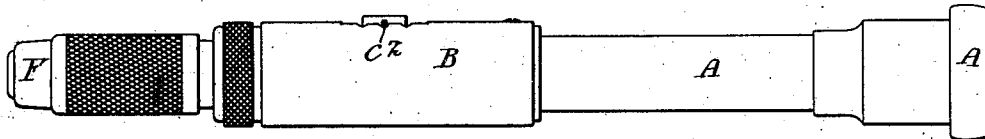


Fig. 3.

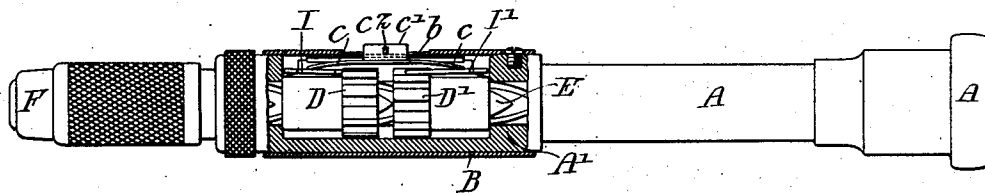


Fig. 4.

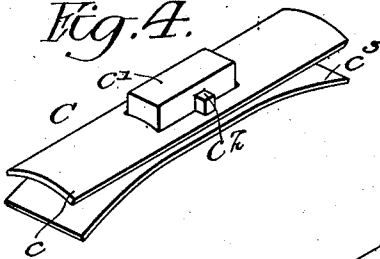


Fig. 5.

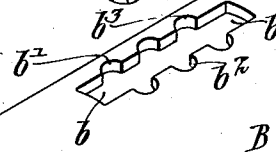
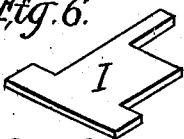


Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

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SHIFTER-LOCK FOR PAWL-AND-RATCHET TOOLS.

No. 819,536.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed January 30, 1904. Serial No. 191,370.

To all whom it may concern:

Be it known that I, ZACHRY T. FURBISH, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Shifter-Locks for Pawl-and-Ratchet Tools, of which the following is a specification.

The object of my invention is to provide means for retaining the shifter of a pawl-and-ratchet tool so that it will be locked against
10 accidental movement, yet can be readily adjusted when required.

Referring to the accompanying drawings, Figure 1 is a plan view of a ratchet-tool, illustrating my invention. Fig. 2 is a side view.
15 Fig. 3 is a sectional view. Fig. 4 is a perspective view of the shifter. Fig. 5 is a perspective view of the casing, and Fig. 6 is a perspective view of one of the pawls.

I have illustrated my invention as applied to ratchet screw-drivers; but it will be understood that it may be applied to any ratchet-tool without departing from my invention.

A is the handle of a ratchet screw-driver.

25 B is a casing inclosing the ratchet mechanism. The ratchet mechanism in the present instance consists of two ratchet-wheels D D', mounted in a bearing A', carried by the handle A. Passing through the wheels D D' is a
30 spindle E, having cut therein a double spiral groove. A spline on one wheel travels in one groove and a spline on the other wheel travels in the other groove. Carried by the spindle E is a tool-chuck F, and pivoted to the
35 bearing A' are two pawls I I', having projections which engage their respective wheels D D'.

C is a shifter for throwing one or other, or both, of the pawls I I' out of engagement
40 with the wheels D D'. This shifter in the present instance has a body c, which conforms to the shape of the casing B, and an operating projection c', which extends through a slot b in the casing B. The upper surface of
45 the projection is preferably roughened, so that it can be engaged by the fingers of the operator.

c³ is a spring-plate carried by the shifter. This plate rests on the pawls and throws

them into or out of engagement with the 50 ratchet-wheels.

Heretofore no means were provided for locking the shifter after adjustment and it would be accidentally shifted in many instances when in use. I overcome this objection
55 by forming notches in the walls of the slot b, three in the present instance, as at b' b² b³, and on each side of the projection c' of the shifter C, I form lugs c² c², which enter the notches and hold the shifter against acciden-
60 tal movement, the spring of the shifter allowing the shifter to be depressed, so that the lugs c² clear the casing when it is desired to move the shifter from one position to another. Furthermore, by the use of my in-
65 vention the shifter can always be adjusted properly in respect to the pawls.

It will be understood that when my invention is applied to a single-pawl tool then only one or two notches need be made in the casing, and in some instances the notches may
70 be made only on one side of the slot and a single lug used.

I claim as my invention—

The combination in a ratchet-tool, of a casing having a slot therein and a series of
75 notches in one of the walls of the slot, ratchet-wheels mounted in the casing, pawls pivoted to the casing and arranged to engage the ratchet-wheels, a spring-shifter bearing upon
80 the pawls and arranged to throw one pawl into engagement and the other out of engagement when it is shifted longitudinally, a projection on the shifter extending through the slot, and a lug on the shifter resting in one of
85 the notches when the shifter is in its normal position but when the shifter is depressed said lug will be out of the plane of the slot, so that the shifter can be moved longitudinally, substantially as described. 90

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ZACHRY T. FURBISH.

Witnesses:

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JOS. H. KLEIN.