March 29, 1932. R. BUTLER 1,851,562

WRENCH

Filed June 5, 1931

Fig. 1

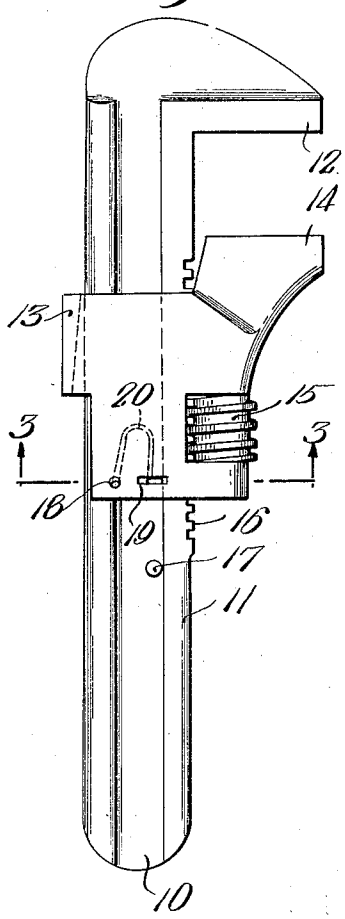


Fig. 2

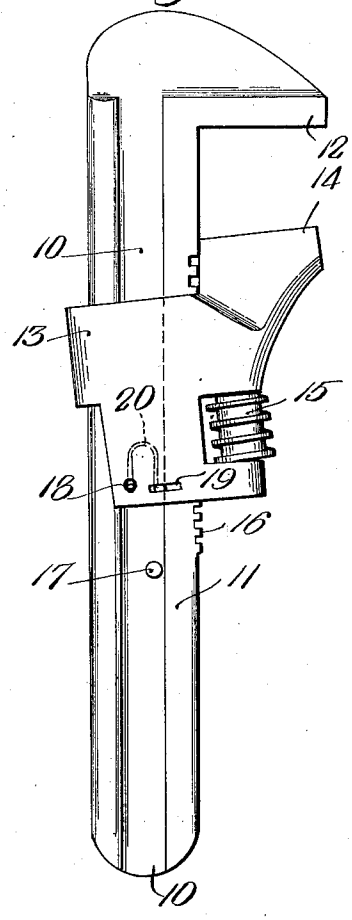


Fig. 3

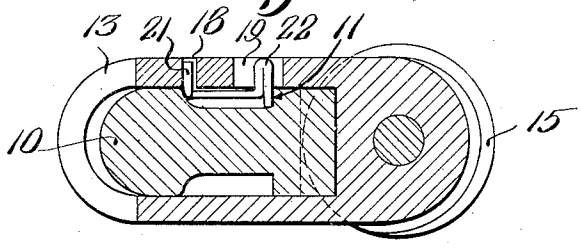
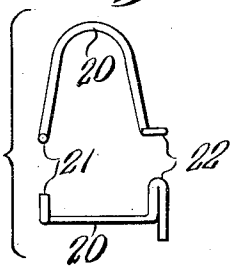


Fig. 4



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UNITED STATES PATENT OFFICE

ROBERT BUTLER, OF BOSTON, MASSACHUSETTS

WRENCH

Application filed June 5, 1931. Serial No. 542,301.

An object of this invention is to provide a wrench of the quick adjusting type which is of simple and durable construction, economical to manufacture, and which may be quickly and conveniently adjusted. Another object is to provide a wrench designed to minimize the danger of accidental disengagement of the movable jaw from its adjusted or locked position, and further to provide means affording a protection against accidental injury to the spring mechanism which normally holds the movable jaw in locked or adjusted position.

Further objects and advantages will be apparent from a consideration of the following description and accompanying drawings which exemplify one embodiment of this invention chosen for the purpose of illustration.

In the drawings:

Fig. 1 is a side elevation of the wrench with the movable jaw in operative position;

Fig. 2 is a view similar to Fig. 1 showing the movable jaw moved from its operative position;

Fig. 3 is an enlarged section on the line 3—3 of Fig. 1; and

Fig. 4 is a composite view of the spring member.

Referring to the drawings, the improved wrench shown therein comprises a shank 10 having a ribbed portion 11 providing a longitudinally extending abutment, and a fixed jaw 12 integral with one end of the shank. The sleeve 13 slidably mounted on the shank 10 is integral with the movable jaw 14 and carries the worm or thumb screw 15 which engages the teeth 16 on the shank. The sleeve is provided with a flaring opening or bore, as shown in Figs. 1 and 3, which permits a rocking movement on the shank to disengage the worm 15 from the teeth 16 thereby permitting the sleeve to be moved freely along the shank, its movement away from the fixed jaw being limited by the stop pin 17.

The sleeve is provided with an opening 18 and a slot 19 adjacent to the rib 11 of the shank. The bent-up end 21 of the U-shaped spring 20 is anchored in opening 18 and its opposite end 22, disposed in slot 19, yieldingly engages the rib 11 irrespective of the relative position of the sleeve and shank and normally holds the worm 15 in operative engagement with the teeth 16. If desired a similar spring may be similarly mounted on the other side of the sleeve.

By rocking the sleeve into the position shown in Fig. 2 the movable jaw may be quickly adjusted to the desired position, and under the action of the spring 20 the sleeve returns to its normal position with the worm engaging the teeth thereby locking the movable jaw in adjusted position and permitting a fine adjustment from that position.

It will be noted that the wrench herein shown and described is free from projecting parts and consequently the danger of accidental disengagement of the movable jaw from its locked or adjusted position is greatly minimized. Furthermore the spring member 20 being housed between the sleeve and shank is afforded a substantial protection against accidental injury. The spring 20 is of such simple and efficient design that it may be manufactured economically, assembled with facility and, in emergency, replaced by an improvised spring.

I claim:

A wrench of the character described comprising a shank having teeth on one of its longitudinal edges, a fixed jaw integral with one end of the shank, a longitudinally extending abutment on said shank, a sleeve slidably mounted on said shank and provided with an opening and a slotted portion adjacent to said abutment, a movable jaw integral with said sleeve, a worm carried by the sleeve and engageable with the

teeth on said shank, said sleeve having a rocking movement on said shank to disengage the worm from the teeth thereby to permit the sleeve to be moved longitudinally of said shank, and means normally holding the worm and teeth in operative engagement, said means comprising a U-shaped spring having bent-up end portions, one of said ends being anchored in the opening in said sleeve and the other end disposed in said slot and yieldingly engaging said abutment irrespective of the relative position of said sleeve and shank.

Signed by me at Boston, Massachusetts, this 3d day of June, 1931.

ROBERT BUTLER.