Sept. 18, 1923. 1,468,415

W. J. PURNELL ET AL

QUICK ADJUSTING WRENCH

Filed May 5, 1921

Fig. 2.

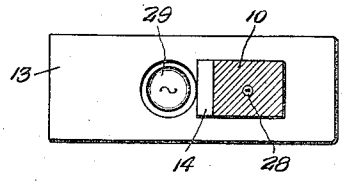
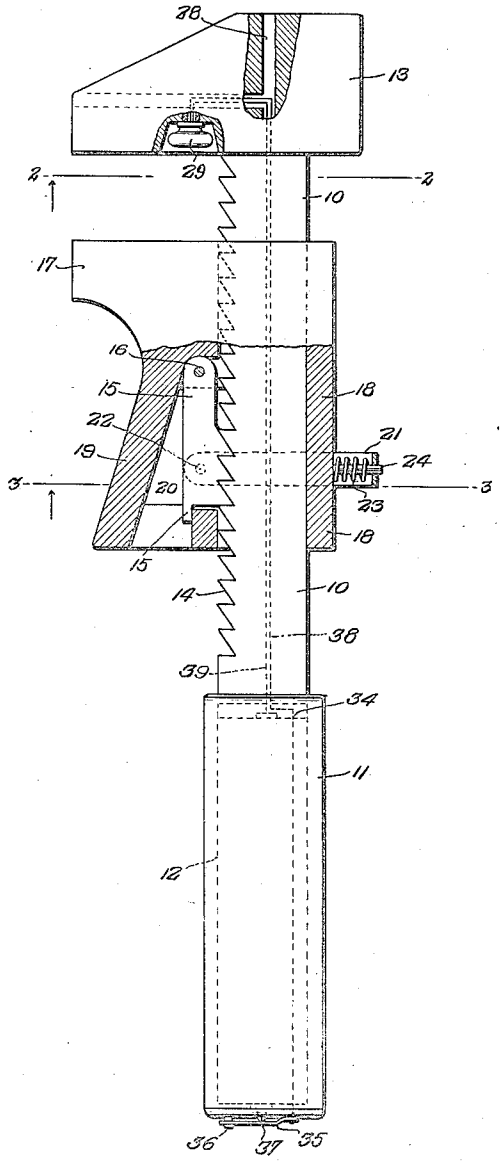


Fig. 1.



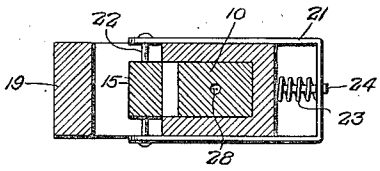


Fig. 3.

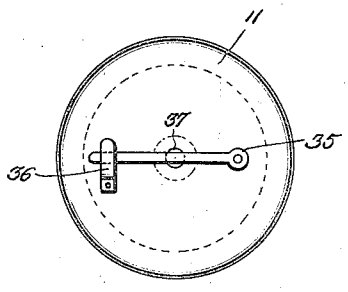


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM JOHN PURNELL, JOHN C. CHASE, AND ROBERT S. YOUNG, OF WOODLAWN, PENNSYLVANIA, ASSIGNORS TO SAFETY APPLIANCES CORPORATION, OF WOODLAWN, PENNSYLVANIA, A CORPORATION OF DELAWARE.

QUICK-ADJUSTING WRENCH.

Application filed May 5, 1921. Serial No. 467,050.

To all whom it may concern:

Be it known that we, WILLIAM J. PURNELL, JOHN C. CHASE, and ROBERT S. YOUNG, citizens of the United States, residing at Woodlawn, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Quick-Adjusting Wrenches, of which the following is a specification.

The present invention relates to wrenches of the type ordinarily called "monkey wrenches", and has special reference to a "quick-adjusting" wrench provided with illuminating means carried by the wrench structure.

Fig. 1 is a side view, partly in section, of the entire wrench structure.

Fig. 2 is a section on the line 2—2, looking in the direction of the arrow.

Fig. 3 is a section on the line 3—3, looking in the direction of the arrow.

Fig. 4 is a view of one form of switch which may be placed on the end of the wrench handle.

The wrench forming the subject matter of our present application, and which is illustrated in the annexed drawing, has a shank 10, provided with a handle 11, this handle preferably being made hollow, and within the same is located a battery 12, conveniently of the dry-battery type. Rigidly attached to the upper end of the shank 10 is an immovable jaw 13.

The front side of the shank, for most of its length, is formed with ratchet teeth 14, these being preferably made with the front of the teeth perpendicular to the length of the shank, and the back of the teeth placed at an angle, say about 30° to the length of the shank. Thus the angle between the back of the teeth and the front of the teeth is about 60°. This particular angle, however, is immaterial, and is given for the purpose of illustration only.

Meshing with the teeth 14 are the teeth of a rack catch 15, these teeth being preferably similar in size and shape, but are reversed in position with relation to the teeth 14. The rack catch is preferably pivoted at 16, this being the end of the rack catch nearest to the fixed jaw 13 of the wrench.

The movable jaw 17 of the wrench is carried by, and preferably made integral with the sleeve 18, surrounding the shank 10, and fitting upon the same sufficiently loose to allow the same to slide readily toward and away from the shank 10, when the rack catch 15 is moved out of engagement with the teeth 14, but sufficiently tight to prevent wobbling to any great extent. The part of the casing surrounding the front of the sleeve below the point of attachment of the rack catch 15 recedes considerably from the locking position of 15, as shown at 19, in order to leave a space 20, in which the rack catch 15 may swing back and forth out of and into engagement with the teeth 14. Surrounding the sleeve 18 is a hand-presser member, composed for example of a yoke 21, the ends of which are attached to a pin 22, passing through the rack catch 15. The yoke and hence the rack catch, are pressed toward the right, as viewed in Fig. 1, by the compression spring 23. At 24 is shown a pin which may be rigidly attached to the back side of the sleeve 18, and which may pass through a hole in the end of the yoke 21, to guide the said yoke and to maintain the same in its desired position, substantially perpendicular to the shank 10.

For the purpose of opening jaw 17, that is to say, for increasing the distance between the jaw 17 and the jaw 13, to accommodate a larger sized nut than that for which the wrench is set, it is necessary only to press the yoke 21 to the left, as viewed in Fig. 1, thus disengaging the rack catch 15 from the teeth 14, when the entire sleeve 18, and the parts carried thereby, can readily be slid up and down.

It frequently is necessary to use a wrench in a dark place, and for this purpose the battery 12 is connected, through the medium of wires in passageway 28, with the lamp-bulb 29. The lamp-bulb is, as shown in Fig. 1, inset in a recess in the bottom edge of the fixed jaw, so that the nut being operated upon will not come into contact with the glass bulb of the lamp. Located within the hollow handle 11 is a battery 12, which has a wire 39 leading from the carbon pole to the lamp. The wire 38 from the other side of the lamp leads, as shown at 34, to a metallic switch-piece 35, on the end of the handle. This locks in the latch 36 when desired, and when in this position it contacts with the metallic projection 37,

which projection contacts with the zinc casing of the battery 12. Accordingly closing the switch will light the lamp. Of course, it is to be understood that the lamp should be readily removable for inserting a new lamp, should the same become broken.

In the above description we have repeatedly referred to "up," "down," "right" and "left," as referring to the positions shown in Fig. 1. It is of course to be understood that the wrench does not have to be in this position.

We claim:

An adjustable wrench comprising a handle connected to a shank, a fixed jaw at one end of said shank, a movable jaw carried upon a sleeve slidably mounted on said shank, said sleeve being much shorter than said shank, the face of said shank toward the jaw being provided with ratchet teeth, a rack catch, one end of which is pivotally connected to said movable jaw, said sleeve being wider at the end remote from said jaw than at the point of connection thereto of said rack catch, said rack catch having teeth adapted to mesh with the ratchet teeth on said shank, to hold the movable jaw from movement away from said fixed jaw, a spring for normally holding said rack catch into engagement with the ratchet teeth on said shank, and a hand-press member attached to said rack catch and surrounding said sleeve, whereby, when said member is pressed, the rack catch is disengaged from the ratchet teeth on said shank.

In testimony whereof we affix our signatures.

WILLIAM JOHN PURNELL.
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ROBERT S. YOUNG.