June 19, 1945. A. T. JOHNSON 2,378,775

SCREW DRIVER

Filed March 31, 1944

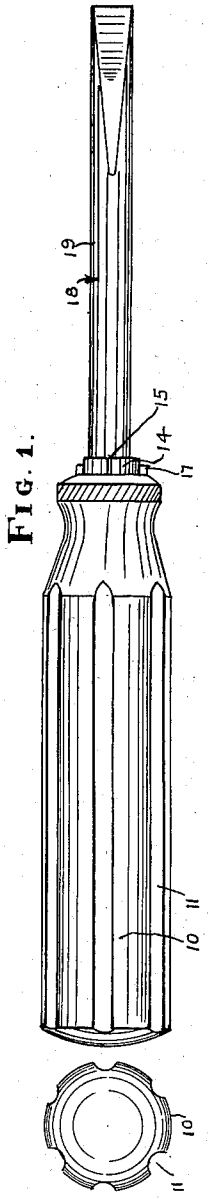


FIG. 1.

FIG. 2.

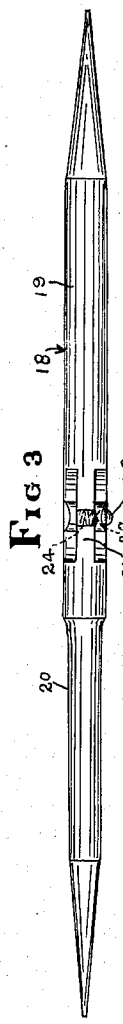


FIG 3

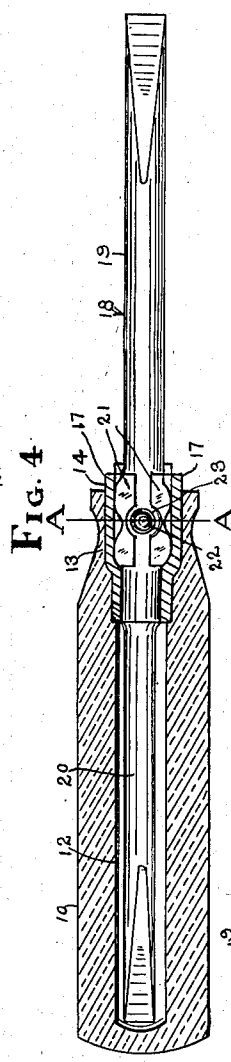


FIG. 4

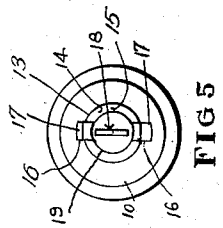


FIG 5

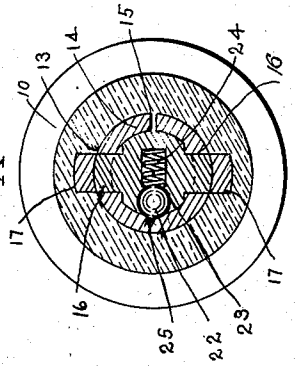


FIG. 6

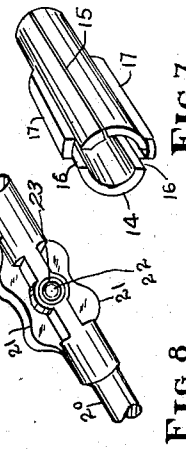


FIG. 7.

FIG 8

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By

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2,378,775

SCREW DRIVER

Algot T. Johnson, Jamestown, N. Y.

Application March 31, 1944, Serial No. 528,888

4 Claims. (Cl. 279—96)

This invention relates to a screw driver or equivalent tool.

It is aimed to provide a novel construction having a double-ended blade, wherein either blade is disposable in operative position with the other blade housed in the handle.

It is particularly aimed to provide a novel means for detachably securing the blade to the handle and specifically including an expansible sleeve anchored in a plastic or other handle so as to be capable of yielding when being engaged and disengaged by a ball latch or the like carried by the blade.

Further, it is aimed to provide a particularly coacting blade and bushing, the blade carrying a latched ball which is spring pressed as well as projecting lugs, and the bushing having a depression engageable by the latch ball and having grooves engaged by the lugs.

The more specific objects and advantages will become apparent from a consideration of the description following taken in connection with accompanying drawing illustrating an operative embodiment by way of example.

In said drawing—

Figure 1 is a view of the improved screw driver in side elevation;

Figure 2 is an end view of the handle thereof;

Figure 3 is a view of the blade detached;

Figure 4 is a substantially central longitudinal sectional view through the screw driver, the blade being shown in elevation;

Figure 5 is an end elevation reversed to Figure 2;

Figure 6 is a cross-sectional view taken on the line A—A of Figure 4;

Figure 7 is a detail perspective view of the bushing employed; and

Figure 8 is a detail perspective view of the central portion of the blade.

Referring specifically to the drawing wherein like reference characters designate like or similar parts, a suitable handle is provided at 10, preferably of plastic material and having longitudinal depressions or grooves 11 on the exterior thereof to facilitate gripping action by the hand of the operator. Such handle 10 has a hollow or cavity 12 and the entrance thereto is enlarged at 13 and has a metallic or other bushing 14 anchored therein as by molding the plastic of the handle to it. Such bushing is longitudinally split at 15 so that it may contract and expand and it is to be understood that the plastic material of the handle 10 is of such a nature as to permit the expansion and contraction. Said bushing has diametrically opposite longitudinally extending slots 16 and offset walls 17 covering the same and which when anchored in the handle greatly adds to the security of the connection of the bushing to the handle and to prevent danger of the bushing turning relatively to the handle.

A screw-driver blade or equivalent tool 18 has two screw driver ends or bits 19 and 20 at the opposite ends thereof, and which are preferably of different size. Such blade is adapted to be releasably but firmly secured to the handle with either end 19 or 20 outermost and with the other end housed within the cavity 12.

To accomplish the end last mentioned, said blade 18 midway of its ends has a pair of diametrically opposed ribs 21 which are slidable snugly into and out of the grooves or slots 16. Such ribs are preferably centrally depressed as shown.

In addition to the ribs, a latch in the form of a ball 22 is secured to the blade midway of its ends as by seating it in a spherical recess 23 and upsetting the metal of the blade as shown to retain it in place. Such latch ball 22 is urged outwardly by an expansive spring 24 so that it will snap into a spherical depression 25 in the inner annular wall of the bushing 14.

Due to the fact that the bushing is split and that the handle 10 in which it is anchored is made of plastic material, there is sufficient expansion and contraction incidental to the attachment and detachment of the blade to enable the ball latch 22 to readily engage and disengage the depression or recess 23. It will be clear that the blade may be secured in the handle with either end 19 or 20 outermost and that the parts when positioned, will be rigidly connected.

Various changes may be resorted to provided they fall within the spirit and scope of the invention.

I claim as my invention:

1. A tool of the class described having a handle, a bushing secured therein, said bushing being split, a tool blade, said blade having a portion interengageable with a slot of the bushing, said bushing having a wall anchored in the handle and offset to provide said slot, and spring-pressed latch means between said portion and the bushing.

2. A tool of the class described having a handle, a split bushing anchored therein having diagonally opposite slots, a blade having parts engageable in said slots, an offset wall on said bushing anchored in the handle preventing relative turning of the bushing and handle, and in-

terengageable latch means between the blade and bushing comprising a spring-biased ball carried by the blade, and said bushing having a depression on its interior engageable by the ball.

3. A tool of the class described having a handle, a split bushing anchored therein having diagonally opposite slots, a blade having parts engageable in said slots, an offset wall on said bushing anchored in the handle preventing relative turning of the bushing and handle, and interengageable latch means between the blade and bushing, said handle being of plastic material enabling expansion and contraction of the bushing incidental to application and removal of the blade.

4. A tool of the class described having a handle, a split bushing anchored therein having diagonally opposite slots, a blade having parts engageable in said slots, and interengageable latch means between the blade and bushing, comprising a spring-biased ball carried by the blade, and said bushing having a depression engageable by the ball, said parts comprising ribs, said bushing opposite the ribs having walls offset to provide said slots, said walls being anchored in the handle to prevent relative turning of the handle and bushing, said handle being of plastic material to enable expansion and contraction with the bushing.

ALGOT T. JOHNSON.