Sept. 4, 1928. 1,683,484

F. G. POST

REVOLVING GRIP SCREW DRIVER AND THE LIKE

Filed May 25, 1927

Fig. 1.

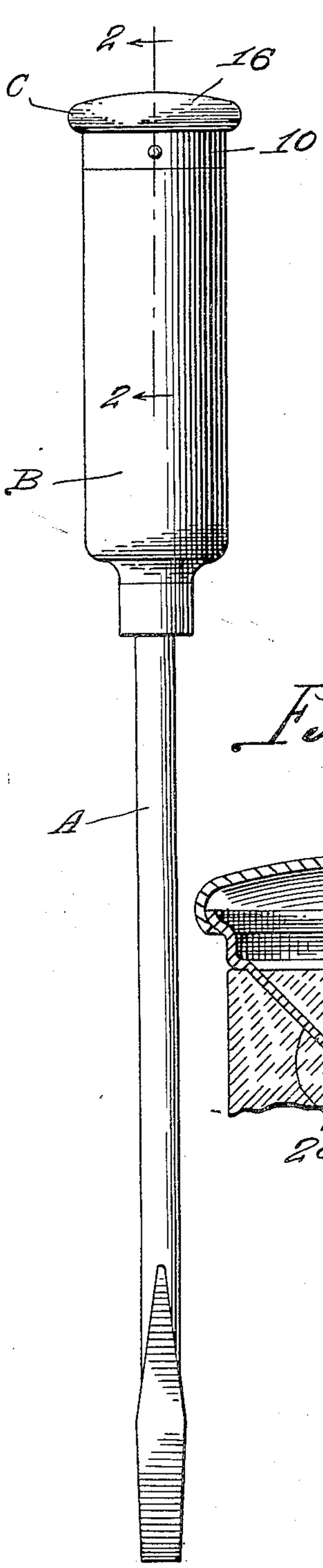


Fig. 2.

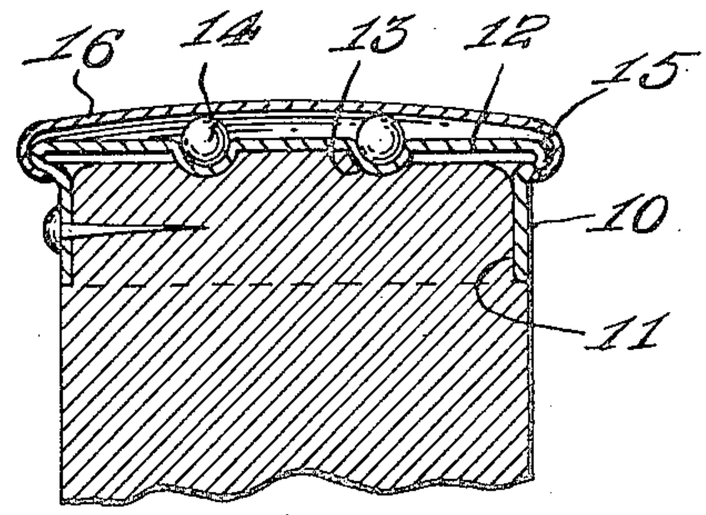


Fig. 3.

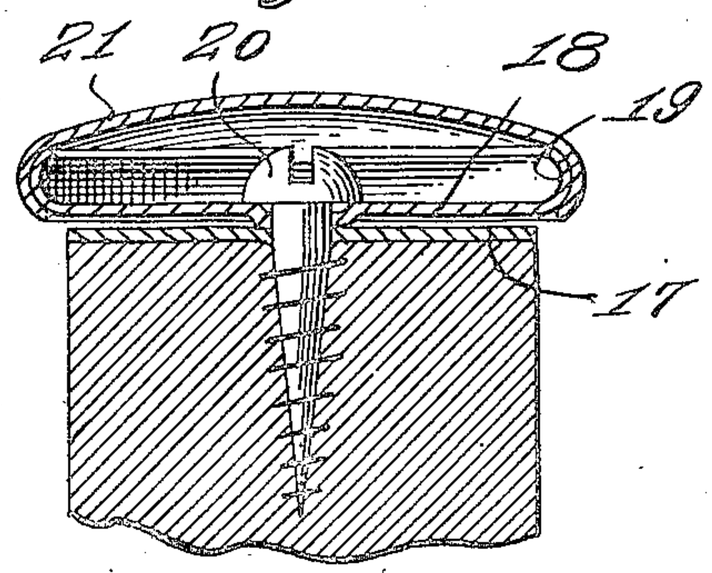


Fig. 5.

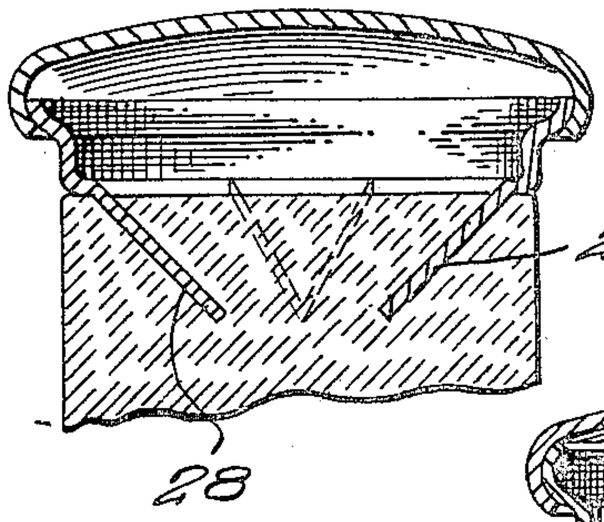
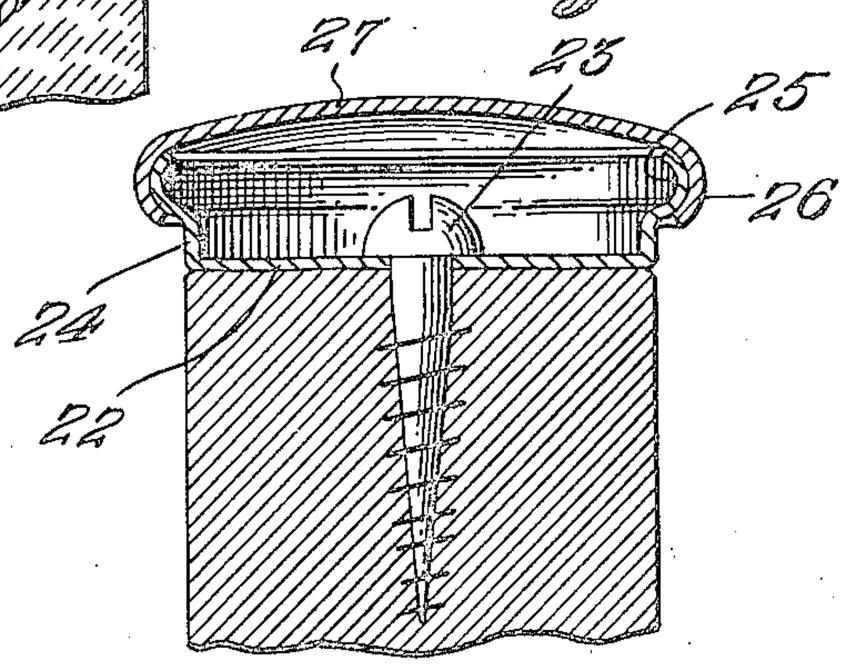


Fig. 4.



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UNITED STATES PATENT OFFICE.

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REVOLVING-GRIP SCREW DRIVER AND THE LIKE.

Application filed May 25, 1927. Serial No. 194,183.

This invention relates to tools, particularly the handle structures therefor, and has for its object the provision of a novel handle structure for a screw driver, gimlet, drill or the like, so constructed and arranged that it will require only one hand of the user to effect the proper turning movement, the invention contemplating the provision of a knob or button or relatively flat form rotatably mounted upon the end of the handle in position to engage within the palm of the user's hand so that the tool equipped with the handle may be turned step by step as is necessary and understood.

An important object of the invention is to provide a handle of this character having various ways in which the swiveled end member or button-like element may be mounted to facilitate its rotation, the various modifications in this respect taking care of variations in the material of which the handle may be formed.

Another object of the invention is to provide a handle of this character in which the provision of the rotatable or swiveled button member will prevent chafing of the palm of the user's hand, as the hand is turned back after each partial rotation of the tool.

An additional object is to provide a device of this character which will be simple and inexpensive to manufacture, easy to apply, positive in action, efficient and durable in service, and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of construction, and the arrangement and combination of parts to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of a screw driver having a handle constructed in accordance with the invention.

Figure 2 is a detail sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a view similar to Figure 2 but illustrating a modification, and

Figures 4 and 5 are other views similar to Figures 2 and 3 but disclosing still other modifications.

Referring more particularly to the drawings, and especially Figures 1 and 2, it will be observed that I have disclosed a screw driver which is simply for purposes of illustration, there being no limitation whatsoever as to the exact type of tool to which the invention is to be applied. In this instance, the letter A designates the shank of the screw driver or other tool, B designates the handle, generally, and C represents the invention. In carrying out the form of the invention, disclosed in Figures 1 and 2, I provide a metallic ferrule 10 of cylindrical form, which is telescopically engaged upon the end of the handle B, it being preferable that the extreme end portion of the handle be somewhat reduced at 11 so that the outer surface of the ferrule 10 will be flush with the periphery of the handle. However, this is a detail which may be varied within limit. At spaced points, the end portion 12 of the ferrule extends over the end of the handle, and is provided with inwardly pressed curved portions 13 for the accomodation of bearing balls 14 which are prevented from displacement by their engagement within these seats. At a point substantially opposite the end of the handle, the ferrule 10 is formed with an outwardly extending bead 15 which is of greater diameter than the cylindrical portion of the ferrule where it is engaged upon the handle B.

The numeral 16 designates the cap or button which is of circular form and which is crimped about the bead 15. The cap 16 is thus rotatable with respect to the ferrule 10 and its rotary movement is greatly facilitated owing to its engagement upon the bearing balls 14 which will naturally act to reduce friction.

In the form of the invention shown in Figure 3, the above described ferrule is replaced by a metal plate 17 which covers simply the end of the handle. I also provide a disk 18 which is disposed upon the plate 17 and which is provided at its periphery with a marginal bead 19 which is concavo-convex in cross section. A screw 20 passes through the center of the plate 17 and disk 18 for the purpose of holding them assembled while permitting the disk to rotate with respect to the plate. In this form of the invention, there is also provided a cap 21 which is crimped about the bead 19 so as to rotate with the disk 18.

In Figure 4 the construction is somewhat different in view of the fact that I provide a disk 22 disposed upon the end of the handle and secured rigidly thereto as by means of a suitable screw 23. This disk 22 is formed with a cylindrical portion 24 which projects

somewhat beyond the end of the handle and which terminates in an outwardly extending bead 25 which is concavo-convex in cross section and upon which is rotatably engaged the crimped edge 26 of a cap 27.

The form of the invention disclosed in Figure 5 is intended for use in connection with tool handles formed of some combination or plastic material and this form distinguishes from that disclosed in Figure 4 only in the omission of the above described screw 23, the disk being formed with a plurality of downwardly inclined converging prongs 28 which are embedded within the material of the handle. In every other respect this form of the invention is the same as in Figure 4.

In operation of all forms, it will be readily apparent that when the operator uses the tool the button or cap member is engaged within the palm of the hand. As the handle is turned partially in driving a screw or performing any other similar act, depending upon the nature of the tool, it is apparent that the button or cap will always remain stationary within the palm of the hand. After completing a partial turn of the tool, to carry out the work intended the operator must necessarily turn his hand in the reverse direction in order to give another partial turn to the tool. Whenever this is done the tool handle will rotate with respect to the cap or button which always remains stationary with respect to the operator's hand, and in all forms of the invention it is quite apparent that this rotary movement may occur with very little friction and with the utmost ease. Obviously, there is no chafing of the palm of the operator's hand and there is no necessity for him to make a partial turn of the tool and then grasp it with the other hand while he obtains a second grip on the handle. It is really believed that the construction, operation and advantages will be readily apparent to one skilled in the art without further explanation.

While I have shown and described the preferred embodiment of the invention, it should be understood that I reserve the right to make all such changes in the details of construction and arrangement and combination of parts, as will not depart from the spirit of the invention or the scope of the subjoined claims.

Having thus described the invention, I claim:—

1. A rotary hand engaging means for a tool handle comprising a relatively stationary member disposed upon and extending over the end of a tool handle, means for securing said member to the tool handle, whereby it will be stationary, said member having an outwardly extending bead at its periphery, and a cap rotatably mounted upon the bead, the cap being crimped about the bead to conformingly engage thereagainst.

2. A rotary hand engaging means for a tool handle comprising a relatively stationary member disposed upon and extending over the end of a tool handle, means for securing said member to the tool handle, whereby it will be stationary, said member having an outwardly extending bead at its periphery and a cap rotatably mounted upon the bead, said relatively stationary member being formed with seats, bearing balls engaged upon said seats and constituting supporting means for the rotatable cap.

3. A device of the character described comprising a metallic member disposable upon the end of a tool handle, means extending into the tool handle for anchoring said member with respect thereto, said member having an outstanding peripheral bead concavo-convexed in cross section, and a convexed cap rotatable with respect to said relatively stationary member and having a marginal bead conformingly engaging said first named bead and rotatable thereon.

4. A device of the character described comprising a metallic member disposable upon the end of a tool handle and having a flanged portion embracingly engaging against and rigidly secured to the handle, said member being of greater diameter than the handle whereby to have an outstanding bead portion, a convexed cap embracingly engaging the outwardly projecting edge of said member, said member being formed with seats, and bearing balls engaged within said seats and engaging against the inner side of the cap.

In testimony whereof I affix my signature.

FRED G. POST.