Sept. 25, 1945. F. G. PURINTON 2,385,467

PLASTIC BUTTON

Filed Aug. 12, 1944

FIG. 1.

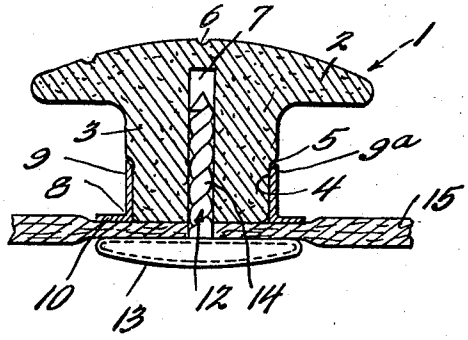


FIG. 2.

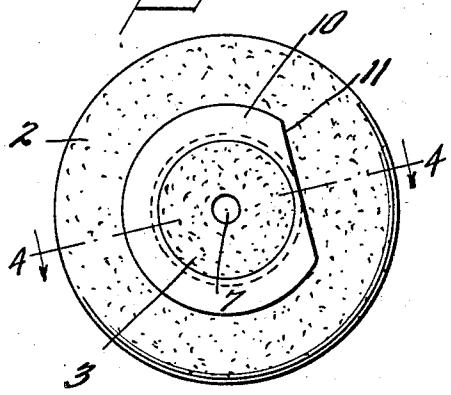


FIG. 3.

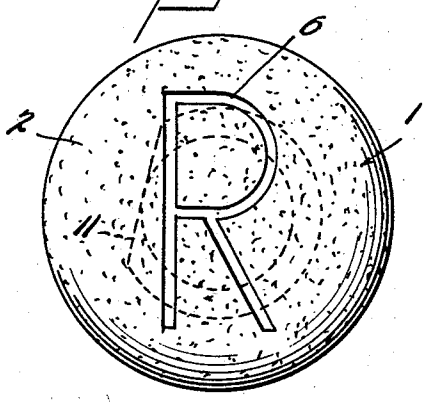


FIG. 4.

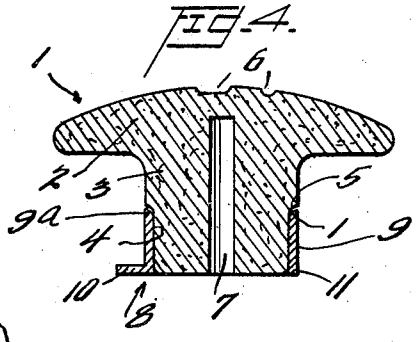
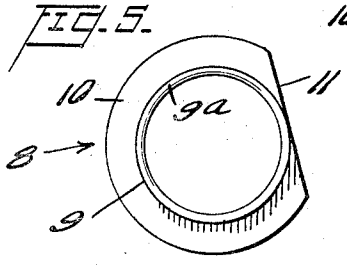


FIG. 5.



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PLASTIC BUTTON

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Application August 12, 1944, Serial No. 549,160

5 Claims. (Cl. 24—90)

My invention relates to new and useful improvements in plastic buttons and more particularly to an orientatable reinforced plastic button.

As is well known to those skilled in the art, plastic buttons are often provided with a design, trade-mark or insignia on their faces, and it is desirable to have the insignia on the buttons in a horizontal, readable position after the buttons are attached.

As is also well known to those skilled in the art, when a plastic button is attached to its carrying medium, such as overalls, work suits, jumpers, etc., what might be termed the critical period is when the prong of the tack fastener first enters the bore of the button.

This is especially so in the type of button illustrated, due to the fact that the prong of the fluted shank fastener is generally several thousandths of an inch greater than the internal diameter of the bore, and during the initial entering period there is always a possibility that the relatively thin hub will split or fracture.

Another object of the present invention, therefore, is to provide a metal reinforcement, such as a ferrule, that is to be driven over the end of the hub after the button is molded to thus overcome any tendency of the hub to fracture during the attaching operation.

Still another object of the invention is to make the ferrule so that it performs a double function; that is, it will prevent the hub from fracturing as above outlined, and, furthermore, as the ferrule is provided with one flatted side (which when in position bears a definite relationship to the insignia on the face of the button) it will when fed from an attaching machine pass out of the cup into the conveying chute in a certain predetermined position, so that when it is positioned over the anvil, the button with its insignia on its face will be in a true, horizontal, readable position.

In other words, the ferrule not only strengthens the hub but acts as a contributing orienting means and permits the button to be attached only when in its true, horizontal, readable position.

Still another object of the invention is to provide a relatively inexpensive plastic button in which will be molded the desired insignia, which button may be quickly oriented in a button orienting attaching machine, and after once attached will give service throughout the life of the garment.

With these and other objects in view, the invention consists in certain new and novel arrangements and combination of parts as will be hereinafter more fully described and pointed out in the claims.

Referring now to the drawing, showing a preferred embodiment:

Fig. 1 is a vertical sectional view on an enlarged scale showing the reinforced orientatable button as attached to its carrying medium;

Fig. 2 is an enlarged bottom plan view;

Fig. 3 is an enlarged top plan view;

Fig. 4 is a vertical sectional view taken on line 4—4 of Fig. 2; and

Fig. 5 is a top plan view of the ferrule.

Referring now more particularly to the several views and for the moment to Fig. 1, there is shown the plastic button 1 having a head or body portion 2 together with a hub 3.

It will be seen that the outer diameter of the hub is slightly reduced as at 4 and there is a fillet provided at 5, where the reduced portion merges with the normal outline of the hub.

When the button is molded the face die may have any desired insignia cut therein so that after the button is molded, the desired insignia or trade-mark or design 6 will appear in the face of this button. In the drawing I have shown the arbitrary letter "R."

Also when the button is molded besides having the insignia, reduced end and fillet above mentioned, there is the bore 7 and into this bore, when the button is attached, will be driven the shank of a fluted shank fastener as will be shortly mentioned.

Tightly fitted over the reduced portion 4 on the end of the hub is the ferrule 8. This ferrule is provided with the side walls 9 and the rim 10, and as may be seen in Figs. 1 and 4, the upper edge 9a of the side walls 9 is tapered on its inner periphery so that when the ferrule is driven into position the upper edge will hug the fillet 5 and thus present a smooth surface along the external walls of the hub.

It will be appreciated that the Figs. 1 and 4 are on a greatly enlarged scale and in reality after the enamel or coated ferrule is driven on the hub, the line of demarcation between the hub of the button and the ferrule can hardly be perceived or felt.

The ferrule is preferably made of brass and as heretofore mentioned may be japanned or coated so that the reinforced button presents a neat appearance.

It will also be noticed in Fig. 5 that the rim 10 is provided with a flatted side 11, and this flatted

side, as heretofore mentioned, bears a definite position with relation to the insignia.

In an attaching machine (not shown) the angle of the chute extending from the hopper to the anvil is generally 20 degrees from the vertical, and as shown in dotted lines in Fig. 3, by positioning the flat at this angle, the button will travel down the chute with the flat at an angle of 20 degrees from a vertical plane passing through the attaching station and rearwardly of the machine, and thus the insignia will be in its true, horizontal position as shown in Fig. 3 when it is over the anvil and ready to be attached.

Referring for the moment to Fig. 1, there will be seen a fluted shank fastener 12 having the capped head 13 and the fluted shank 14. It is to be noticed that the external diameter of the capped head 13 is substantially the same as the external diameter of the ferrule, the diameter, however, not being taken through the flatted side. Thus the ferrule not only performs the function of strengthening and reinforcing the hub and acting as an orienting means, as heretofore mentioned, but it also provides more surface to grip the cloth than would the ordinary size hub without the ferrule.

In Fig. 1 the cloth or carrying medium 15 may be seen clinched between the tack head and the hub and ferrule of the button.

As heretofore mentioned, to attach the button the button heads are generally fed from the hopper of an attaching machine (not shown) over an attaching station, while the fluted shank fasteners are fed from a second hopper out to the anvil. Then on a descending of a plunger, the button, now directly over the fluted shank fastener, is forced downwardly which causes the prong of the fastener to pierce the cloth and enter the receptive bore 7.

From the foregoing it will be seen that I have provided a reinforced, orientatable plastic button which is especially adapted for work clothes, such as overalls, work jackets, jumpers, etc., and wherein the possibility of the hub fracturing during the attaching operation is reduced to a minimum due to the tightly fitted ferrule.

The ferrule is to be fitted into position after the button is molded and the flatted side will be so positioned that when the insignia is molded on the face of the button, the insignia will bear a definite position with relation to the flat so that afterwards when the button is attached, the insignia will be in its true, readable position.

Furthermore, the ferrule with its rim provides a greater contacting surface to grip the cloth than would just the ordinary hub. Finally, the flat appears only on the ferrule so that the circular outline of the hub is in no way affected which has been the practice in a number of the orientatable forms of buttons that have been heretofore designed.

Many slight changes might be made without departing from the spirit and scope of the invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a plastic button having insignia on its face, an integral hub, said hub provided with a central bore adapted to receive the prong of a tack fastener, a reinforcing metal member tightly fitted about the free end of the hub, and the metal member having means positioned in a definite relation to the insignia on the face of the button for properly orienting the button during an orienting and attaching operation.

2. In a plastic button having insignia on its face, an integral hub, said hub provided with a central bore adapted to receive the prong of a tack fastener, a reinforcing metal member tightly fitted about the free end of the hub, the metal member having a flatted side positioned in a definite relation to the insignia on the face of the button for properly orienting the button when fed through an orienting and attaching machine.

3. In a plastic button having insignia on its face, an integral hub, said hub provided with a central bore adapted to receive the prong of a tack fastener, a reinforcing ferrule having an outstanding rim thereon and said ferrule tightly fitted about the free end of the hub, the outstanding rim of the ferrule having a flatted side positioned in a definite relation to the insignia on the face of the button for properly orienting the button during an orienting and attaching operation.

4. In a plastic button having insignia on its face, an integral hub, said hub provided with a central bore adapted to receive the prong of a tack fastener, the free end of the hub being slightly reduced and having a fillet at the reduced portion, a reinforcing ferrule having a tapered upper edge and an outstanding rim at its lower end, said ferrule tightly fitted on the reduced end of the hub, the outstanding rim of the ferrule having its circular outline interrupted to provide an orienting means for the button, and the said means bearing a definite relation to the insignia on the face of the button whereby the button will be properly oriented when fed through an orienting and attaching machine.

5. In a plastic button having insignia on its face, an integral hub, said hub provided with a central bore, a reinforcing metal member tightly fitted about the free end of the hub, the said member having an outstanding rim, and said rim having its contour interrupted and the said interruption bearing a definite relation to the insignia on the face for orienting the button during an attaching operation; together with a tack fastener having a head and the diameter of the head being substantially the same as the diameter of the reinforcing member taken through its greatest diameter.

FORREST G. PURINTON.