March 11, 1941. F. R. WHITE 2,234,510

BUTTON AND THE METHOD OF MAKING THE SAME

Filed Nov. 3, 1937

Fig. 1.

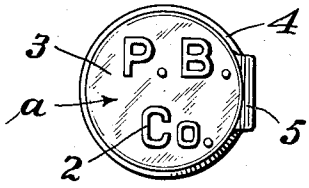


Fig. 2.

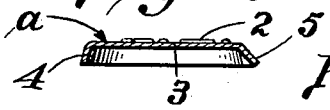


Fig. 3.

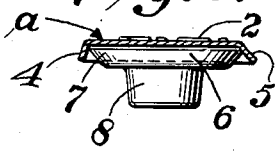


Fig. 4.

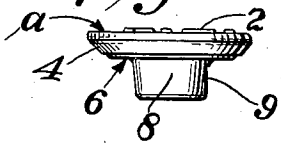


Fig. 5.

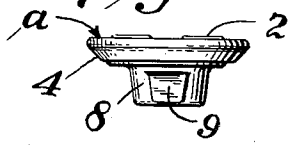


Fig. 6.

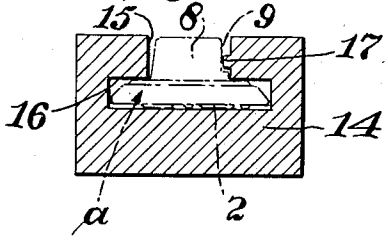


Fig. 11.

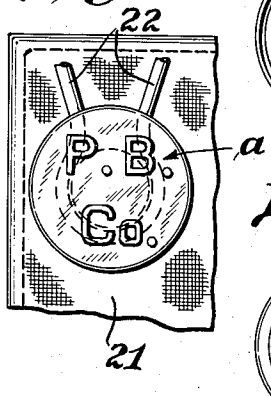


Fig. 7.

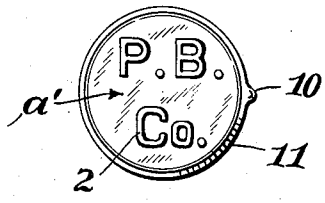


Fig. 8.

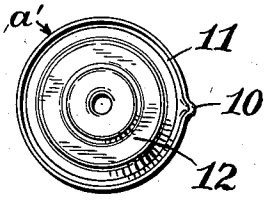


Fig. 9.

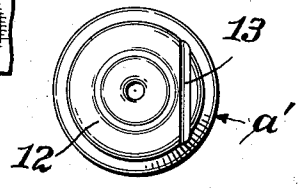
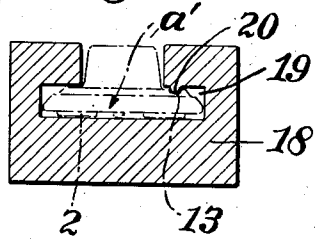


Fig. 10.



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Patented Mar. 11, 1941 2,234,510

UNITED STATES PATENT OFFICE

2,234,510

BUTTON AND THE METHOD OF MAKING THE SAME

Franklin R. White, Waterbury, Conn., assignor to The Patent Button Company, Waterbury, Conn., a corporation of Connecticut

Application November 3, 1937, Serial No. 172,645

1 Claim. (Cl. 79—3)

My invention relates to new and useful improvements in buttons and the method of making the same, and has for an object to provide a button, on the cap of which will be any desired insignia, trade-mark, or brand, the button being so constructed that when it is attached to overalls or work clothes on the attaching machine, the insignia will be properly positioned (rightside up) with respect to the garment.

As is well known to those skilled in the art, overalls, work clothes, jumpers, etc. are all provided with what are known as tack buttons, that is, the button head is held to the cloth by a tack fastener, which latter, when once driven into the cloth and button head, will be so deformed and curled that it is impossible to remove the button.

It is also well known that these buttons on work clothes generally have stamped thereon the trade-mark or brand of the clothes manufacturer.

In some places on the work clothes, it does not matter if the insignia is upside down or at an angle to the vertical, but on the shoulder straps, upper pockets, etc., it is especially desirable to have the button in its proper readable position, that is, so that the brand or insignia or trade-mark appears in a horizontal position.

Several methods have been tried to properly orient the button at the attaching station of the button-attaching machine, but, as far as I am aware, these different methods entail considerable time and call for manually positioning the button either when the same is made or when it is placed within the hopper or fed through the machine.

As is also well known, button-attaching machines comprise two main chutes, one of which holds the tacks and the other of which holds the button heads. These tacks and button heads are fed to the attaching station and the movements synchronized so that when they are in proper relative position, the button head is forced down onto the tack (the cloth being between the tack and the button head) to thus deform the tack within the button head and securely hold the button in place.

One of the objects of the present invention, therefore, is to provide a button and method of making and assembling the parts, wherein, when the cap is formed, it will have means provided on its periphery, which is oriented or horizontally arranged with respect to the trade-mark. Then, when the cap is crimped on the shell, that is, during the crimping operation, the means on the cap will so position the cap in the capping machine that during this attaching operation, the hub will be flattened on its one side also in longitudinal alignment with the means on the shell and with the trade-mark or insignia. Or the under portion of the button during the capping will be scored at right angles to the insignia, so that, thereafter, when the button heads are thrown into the hopper of the button-attaching machine, they will not pass down the chute until they are properly oriented, and when attached on the attaching station of the button-attaching machine, they will be in the proper position with respect to the garment to which they are to be attached.

Still another object of the invention is to provide a button wherein the cap has its insignia stamped thereon and the periphery at one point of the cap (that is, the periphery of the flange) will be bent slightly outwardly in alignment with the insignia on the cap. Then, when this cap is crimped on the button shell, the crimping operation will not only again flatten the periphery of the flange, but the hub will be knurled or flattened or the bottom of the cap will be scored, so that the button afterwards may be fed in proper alignment to the attaching station.

Still another object of the invention is to provide a button wherein the periphery of the flange of the cap will be bent outwardly at the same time that the insignia is stamped in the cap and wherein this bent periphery will be again forced back to its true position and crimped to the button shell, so that the button is in no way disfigured. At the same time that this operation takes place, either the under surface of the button head will be scored or the hub will be spotted or flattened, thereby making it impossible for the button to be fed down the button chute in any way but its properly oriented manner.

Sill another object of the invention is to provide a button wherein any desired insignia may be formed on the cap and wherein the cap is temporarily provided with an outwardly extending flared portion, so that it will be properly fed to the capping station, and when capped to the shell, the under surface of the button will be indented or the hub will be flattened, so that thereafter to attach the button in its proper position, it is only necessary to place the buttons in the hopper and feed them in the regular way in a specially formed chute.

With these and other objects in view, the invention consists in certain new and novel features and combination of parts, as will be here-

inafter more fully explained and pointed out in the claim.

Referring now to the drawing,

Fig. 1 is an enlarged top plan view of my improved button cap before being crimped to the button shell;

Fig. 2 is a cross sectional view of the same;

Fig. 3 is a similar view showing the cap on the shell but before the cap is crimped about the shell;

Fig. 4 is a side view after the cap has been crimped about the shell, the shell during the operation having been flattened out at a predetermined spot corresponding to the flat on the cap;

Fig. 5 is a similar view to Fig. 4, but taken at right angles to Fig. 4 to show the face of the flat on the hub;

Fig. 6 is a fragmentary cross sectional view of the feed chute of the attaching machine to show the rib on the side of the chute channel to insure the button feed with the insignia in proper position;

Fig. 7 is a top plan view of a slightly modified form of cap having a point bent out rather than the flat, as shown in Fig. 1;

Fig. 8 is a bottom plan view of the cap and shell before crimping and scoring the shell;

Fig. 9 is a similar view after the cap is crimped and the shell has been scored;

Fig. 10 is a cross sectional view of a feed chute, similar to that shown in Fig. 6, to show the modified form of rib to insure the button feed with the insignia in its proper position;

Fig. 11 is a fragmentary view showing the button attached to the cloth and showing the insignia appearing in the proper horizontal position.

Referring now for the moment to Fig. 1, there is shown a metal cap *a*, in which the insignia **2** is pressed. It is understood that any desired insignia may be used on these button caps, generally designating the name or brand of the manufacturer of the clothes to which the button is to be attached. The cap *a* is made by suitable dies (not shown) and has the top portion **3** and the peripheral rim **4**, this rim being bent out, as at **5**, to form a flat, which is oriented or in horizontal alignment with the insignia **2** on the button cap.

By pressing this peripheral flange out of round, as shown, the cap may afterwards be mechanically adjusted in a dial plate (not shown) which has a similar peripheral outline, so that the tooling, which crimps the button cap to the shell, will be in alignment with the tooling that will form a flat on the hub of the shell beneath the said flat **5**.

In Fig. 3, there is shown the cap *a* and also the usual metal button shell **6** with its outwardly extending flange **7** and its hub **8**. The hub up to this time has not been flattened or marked, so it does not have to be in any special rotative position with respect to the cap **2**.

After the cap is fitted over the shell in the capping machine, the peripheral rim **4** will be crimped about the peripheral flange **7** of the shell **6** and the flat **5** will also be turned in and crimped so that an inspection of the button would not reveal that the flat **5** had ever existed.

As the cap has positioned itself in the capping machine due to the flat **5**, it was in a position also to have a tool (not shown) form the flat **9** (see Fig. 5) on the side of the hub, which flat is in horizontal alignment with the heretofore-mentioned flat **5** and, of course, in horizontal alignment with the insignia on the face of the button. In other words, by forming the flat on the cap, which flat is in horizontal alignment with the insignia, the cap will properly position itself in the button-capping machine, and when the button is capped and properly positioned, the flat will be formed on the hub, which is also in alignment with the insignia on the button cap.

In a slightly modified form as shown in Figs. 7 to 10, inclusive, there is present the same cap *a'*, but rather than forming a relatively long flat **5**, I form what I term a point **10**, that is, I force out the flange **11** that extends beneath the cap to form the point **10**, as may be seen in Figs. 7 and 8. This point, in these views, is to the right of the cap and is in horizontal alignment with the insignia on the button cap. The button will, therefore, properly position itself in the dial of the capping machine, and when the cap is fastened over the shell **12**, the point **10** will be crimped over the shell (Fig. 9) as in the former instance, so that it will no longer appear. At the same time, a groove or indentation **13** is formed on the under surface of the shell, as may be seen in Fig. 9. In this instance, the groove or indentation is at right angles to the insignia appearing on the shell.

Thus, in both the preferred and modified forms, it is apparent that when the cap is crimped to the shell, means are also formed on the shell, so that later, when the button is fed down the chute of the button-attaching machine, the button will always be in its properly oriented position, that is, with the insignia positioned properly with respect to the cloth to which it is to be attached.

In Fig. 6, I have shown the button *a* as passing along the chute **14**, which is cut out, as at **15**, and undercut, as at **16**. Also, there will be seen a small rib **17**, which permits the button only to pass along the chute when the rib **17** contacts the flat **9** of the hub **8** and thus in its proper position to be attached.

The button at this time is in an inverted position, that is, face down, but it will be understood that in a button-attaching machine, the chute twists through 180° to bring the button in an upright posiiton ready to be attached.

In Fig. 10, I have shown a fragmentary portion of a chute **18**, which has the channel **19**, along which the button *a'* is fed and, in this instance, a small rib **20** will permit the button to continue when the indentation **13** is in alignment with the aforementioned rib **20**.

Thus, in either instance, it will be seen that the button will be fed to the attaching station (not shown), so that the insignia will always be properly oriented or, in other words, in the position as shown in Fig. 11. In this case, I have shown the button *a* as attached to a portion of a work garment **21** with the eyelet of the buckle **22** thereunder.

In the patent granted to me on December 2, 1913, Number 1,079,967, in re "Button feeding mechanism for bar button attaching machines," there was shown a bar button with flats on the opposite sides of the hub, so that when the staple was forced through the central opening in the button, it would not strike the bar, that is, the button could be in one of two positions. In the present instance, however, I have shown chutes wherein the button can only be in one position, as otherwise the insignia might appear in an up-

side-down position rather than in its true desired position.

From the foregoing, it will be seen that by forming this flat or point on the button shells at the time the caps are formed and the insignia pressed therein, they will later cooperate with means provided for capping the shell, pressing the flat or point back into position, and, at the same time, forming orienting means either on the under surface of the shell or on the hub. Then, the buttons may be placed in the button-attaching machine and always feed through the machine in a definite position with the designs properly positioned when they reach the attaching station.

It will also be seen that by forming this flat on the hub, or the indentation on the button of the shell during the capping arrangement, the shell in no way has to be first marked and oriented or positioned relative to the oriented position of the cap.

After the button is attached, the flat or point of the cap will never show while the only mark distinguishing it from an ordinary button would be a small flat on the hub or a small indentation on the bottom of the shell, which is hardly perceptible.

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

The method of making and assembling a button so that it will predeterminedly position itself with respect to its insignia in a button-attaching machine, which consists in stamping out a cap of relatively thin metal having a dependent flange and pressing insignia in the cap and at the same time pressing a part of the dependent flange of the cap outwardly from its true periphery to form an indicator, the said bent-out portion being located in certain predetermined position with regard to the insignia on the cap, orienting the cap by means of the pressed-out portion of the metal flange to locate and determine the rotative position of the cap during a crimping operation, supporting the cap in located position, then crimping the cap over a receptive button shell, bending back that part of the flange that has formerly been bent outwardly; and while the cap is still supported in located position forming at a predetermined locality a flattened surface on the hub of the shell, so that the flattened surface will be in a predetermined position with respect to the insignia on the cap as determined by the formerly outwardly bent portion, whereby the flat may retain the button with its insignia in proper rotative position when fed through a button-attaching machine.

FRANKLIN R. WHITE.