Dec. 10, 1968 H. H. ANDREWS 3,414,949

SNAP FASTENER WITH REMOVABLE ORNAMENTAL BUTTON

Filed Feb. 23, 1967

Fig .2

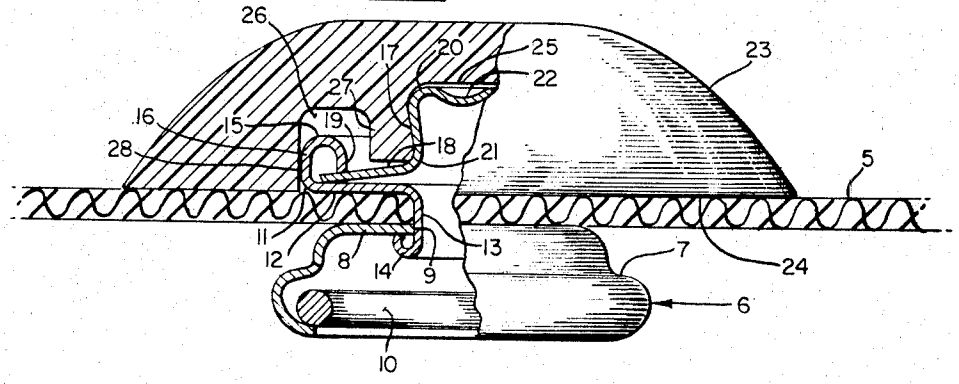


Fig .3

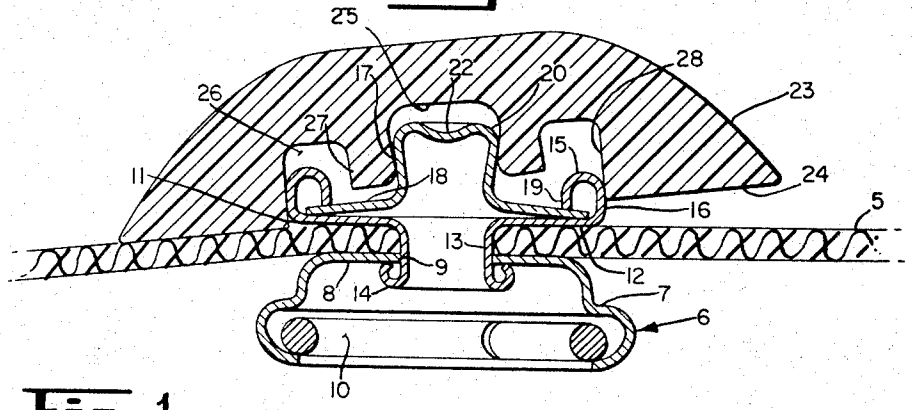


Fig .1

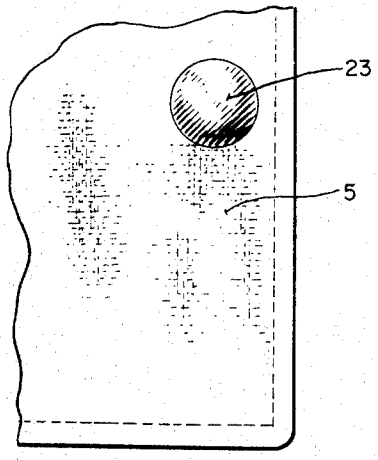
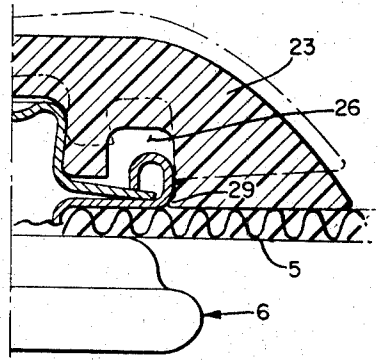


Fig .4



United States Patent Office 3,414,949 Patented Dec. 10, 1968

3,414,949

SNAP FASTENER WITH REMOVABLE ORNAMENTAL BUTTON

Hugh H. Andrews, Cheshire, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Feb. 23, 1967, Ser. No. 618,184
6 Claims. (Cl. 24—208)

ABSTRACT OF THE DISCLOSURE

An ornamental plastic button is removably secured to a snap fastener assembly in such a way that it will not come off when the fastener is unsnapped, but may still be manually removed for cleaning, laundering or for replacement with a button of different color or design. A stud part of a common metal snap fastener may be employed as the connector member for the button. An outwardly projecting metal rim around the connector member engages in an annular recess of the button in such a way as to create a predetermined binding action when the button is tilted away from the supporting garment flap.

The invention relates to a snap fastener and ornamental button assembly for garments and the like wherein the button is removable from the fastener when desired.

There are instances in the prior art of cuff buttons which may be removably attached to the cuff fastening parts, the best known examples being shown in the following patents to Anderson, 1,183,422, May 16, 1916; and Baskind, 2,648,110, Aug. 11, 1953.

In these patents the buttons stand out from the fasteners and cuffs and may be applied or removed independently of the operation of the cuff fasteners. On the other hand in applicant's assembly the button bears against or at least closely overlies the flap material of the garment around the fastener, and means are provided to create a limited binding action between the button and the connector member so that the normal pull or tilt action on the button which is required to open the garment snap fastener will not remove the button, but the button may nevertheless be separated manually from its connector member by a substantially stronger pull on the button.

In the assembly of this invention the snap fastener parts which remain permanently on the garment are preferably made of metal so that they will not be affected by dry cleaning or laundering. The button is molded from plastic material of a semi-rigid nature such as cellulose actate. To prevent damage to the button it may be removed for cleaning or laundering or for replacement by another button of different color or design.

Other objects and advantages of the invention will hereinafter more fully appear.

In the accompanying drawings I have shown for purposes of illustration two embodiments which the invention may assume in practice. In these drawings:

FIG. 1 is a front elevation of a portion of a garment, or the like, showing the ornamental button;

FIG. 2 is a side elevation partially in central section of the button and fastener assembly as employed on a garment flap;

FIG. 3 is a central sectional view showing the position of the parts when a pulling force is placed on the button to tilt it with respect to the fastener and the garment flap; and FIG. 4 is a partial sectional view of a modified construction.

A portion of the garment flap, which may be one or more thicknesses of textile or other flexible material, is indicated by the numeral **5**. The ornamental button assembly may be secured to either the male or female element

of a snap fastener but since the outer flap of a garment usually carries the female elements, the invention is illustrated in connection with one common type of female fastener element **6**. This fastener element has a metal shell **7**, the top wall **8** of which has a central aperture **9**, and a wire spring **10** is mounted in the shell **7**. The spring **10** is arranged and shaped to snap over the stud portion of a male fastener element. The construction and operation of such snap fastener elements are well known and need not be shown or described in detail here.

A fastener element attaching member **11** has a base **12** bearing against the outer face of flap **5** and a barrel portion **13** extending through a hole in the flap, through the aperture **9** in the fastener element **6** and is clinched over as indicated at **14** against the inner surface of wall **8** to retain the fastener element tightly against the inner face of flap **5**. A rolled rim **15** extends around the base **12** of the attaching member **11** and projects a substantial distance outwardly from such base. A portion of the periphery of rim **15** is preferably flattened so as to make a cylindrical surface **16**.

A connector member **17** is like the stud element of a commonly used type of snap fastener. It has a disc-shaped base **18** permanently secured to the attaching member **11** by the inner edge portion **19** of the rolled rim **15** which bears against the outer surface of the base **18**. A bulbous head **20** projects outwardly from the base **18** and, as usual in stud elements of snap fasteners, the inner portion or neck **21** is of somewhat smaller diameter than the outer portion of the head. The head is also preferably dimpled inwardly as indicated at **22**.

The button generally indicated by the numeral **23** is a one piece moulding of a suitable plastic material which is of comparatively rigid nature without however, being brittle, and capable of some degree of flexibility in relatively thin sections, one example of such material being cellulose acetate. The button may be of any shape, color or surface design which may be desired for decorative purposes and it may also be provided with a metal or cloth covering (not shown). The button is large enough to extend over the flap **5** beyond the rim **15** and preferably, the inner surface **24** of the button bears directly against the outer face of the flap.

The button has a centrally located inwardly opening socket **25** of a shape complemental to the bulbous head **17** so that it may be snapped over such head to hold the button in place. Around the socket **25** is an inwardly opening annular recess **26** leaving an annular socket flange **27** between such recess and the socket **25**. This flange **27** is thin enough so that it will yield sufficiently to snap over the bulbous head **20** or to be pulled away from the core part used in moulding the button. For this purpose the recess **26** is made deeper than would be required merely to accommodate the rim **15**. The outer diameter of recess **26** is slightly greater than that of rim **15** so that the button may be assembled by a straight push in an axial direction without interference with the rim. The clearance may, however, be only a few thousandths of an inch so that when the button is tilted, as by a force required to separate the female snap fastener element from the male element, the cylindrical wall surface **28** of the button around the recess **26** will bind against the cylindrical surface **16** of the rim **15** due to the angling of the button with reference to such rim.

In the modified construction shown in FIG. 4, instead of relying entirely on these cylindrical surfaces to create the binding action, an inwardly extending lip **29** may be formed around the bottom of recess **26**, such lip being thin enough so as to have the requisite yieldability to permit easy removal from a mold and also to permit assembly of the button in the manner already described. The position

of the button when being removed by a tilting action is shown in FIG. 4 in dotted lines. In either of the two constructions the rim **15** and the recess **26** are so sized and shaped as to prevent the button snapping off under any normal force (of the order of two pounds) necessary to separate the fastener parts, but at the same time the binding action must not be strong enough to prevent manual removal of the button by a somewhat greater force of the order of eight pounds.

What I claim as new to secure by Letters Patent is:

1. The combination with the outer flap of a garment or the like, of

(a) an assembly permanently secured to said flap including a snap fastener element on the inner face of said flap and an attaching member with a portion bearing against the outer face of the flap;

(b) an ornamental button covering said attaching member and extending over said flap beyond said member;

(c) mutually cooperating snap fastener means centrally arranged on said button and attaching member for removably holding said button in place; and

(d) means including a rigid rim fixed to said attaching member cooperating with a portion of said button which is spaced radially outwardly from said fastening means of clause (c) for creating a binding action to prevent disengagement of such fastening means by tilting movement of said button until the applied tilting force exceeds a predetermined amount substantially greater than that normally required to disengage the snap fastener element of clause (a) from a mating fastener element on an inner flap.

2. The combination of

(a) a fastener element attaching member having a base adapted to bear against the outer face of a flap, fastener element retaining means adapted to extend through said flap to engage a snap fastener element on the inner face of said flap, and a rim around said base projecting a substantial distance outwardly therefrom;

(b) a connector member having a base permanently interengaged with said rim and a rigid bulbous head projecting outwardly from said connector member base; and

(c) a button of plastic material covering said connector member and said attaching member and extending over said flap beyond said rim, said button having an inwardly opening socket adapted to have snap engagement with said bulbous head, an inwardly opening annular recess around said socket and an annular socket flange between said recess and said socket, said flange being yieldable to allow insertion and removal of said bulbous head into and from said socket;

(d) said rim extending into said annular recess when said button is assembled to said connector member, said button having a cylindrical wall surface around said recess in close proximity to the peripheral surface of said rim, said wall surface and said rim having cooperating means adapted to create a limited binding action when said button is tilted with reference to said attaching member to provide a predetermined resistance to removal of said button.

3. The combination defined in claim **1** wherein said snap fastener means of clause (c) comprises an outwardly projecting rigid bulbous head carried by said attaching member, said button having an inwardly opening socket surrounded by a yieldable flange.

4. The combination of claim **2** wherein that portion of said button which extends beyond said rim, bears directly upon the outer face of said flap.

5. The combination of claim **2** wherein said peripheral surface of the rim has a cylindrical portion, the clearance between said cylindrical portion and said wall surface around the recess being of the order of two to five thousandths of an inch whereby such surfaces will bind against one another as the button is tilted.

6. The combination of claim **2** wherein an inwardly projecting annular lip is formed near the bottom of said recess, said lip being yieldable so as to engage said peripheral surface of the rim as the button is tilted.

References Cited

UNITED STATES PATENTS

2,799,910 7/1957 Weber ---------- 24—216

BOBBY R. GAY, *Primary Examiner.*

E. SIMONSEN, *Assistant Examiner.*