June 2, 1953 W. C. SCHUHR 2,640,238

CLOTH-COVERED BUTTON

Filed April 7, 1951

Fig. 1

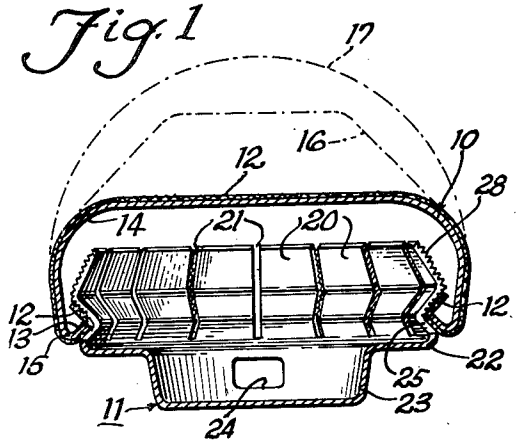


Fig. 2

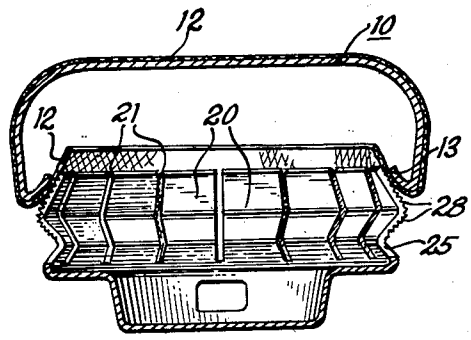


Fig. 3

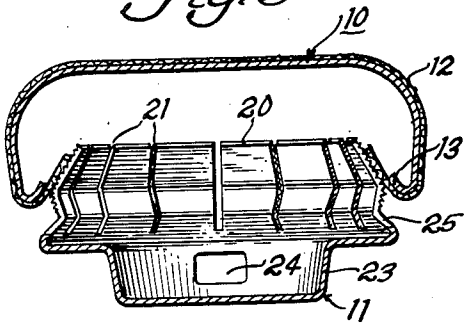


Fig. 5

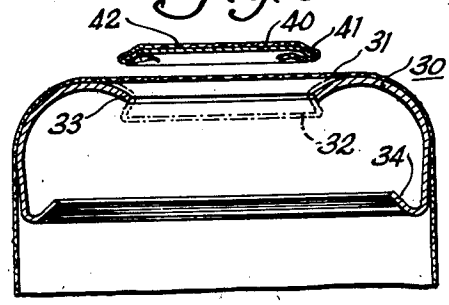


Fig. 4

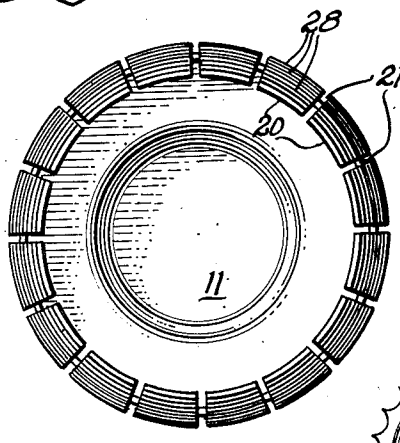


Fig. 6

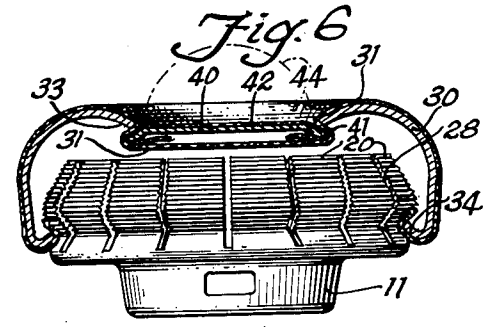
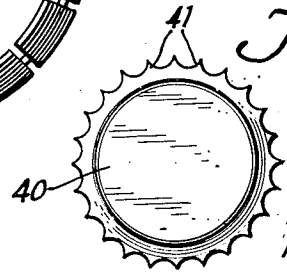


Fig. 7



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CLOTH-COVERED BUTTON

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9 Claims. (Cl. 24—113)

1

The present invention relates to buttons, more particularly to cloth covered buttons which may be assembled without the use of tools or special apparatus and the invention has for an object the provision of novel and inexpensive buttons of this character.

In many instances it is desirable to provide inexpensive cloth covered buttons which may be assembled by the housewife with a material of her own choosing without requiring her to pay for an expensive press or similar apparatus for assembling the same. The present invention is particularly adapted for use by the housewife who wishes to change a few buttons on a dress without going to great expense. While certain cloth covered buttons have heretofore been proposed which can be assembled by persons without mechanical training, these devices have generally been found unsatisfactory in that the cloth covering is not tightly stretched over the head of the finished article but instead is rather loosely held thereon with the result that the cloth bunches upon the top of the button and an unsightly and unattractive product is produced which does not have the same appearance as the machine-made article.

Also, in such prior art arrangements, the type of button which can be hand assembled is limited to a plain cloth covered button of uniform design and such refinements as inserts of contrasting materials and colors and multiple design cloth covered buttons have not been available to the housewife to add variety and style to the hand assembled buttons from which she may choose. Accordingly, it is a further important object of the present invention to provide a new and improved cloth covered button which may be assembled by hand and wherein the covering is tightly stretched over the upper surface of the button in a permanent manner.

It is another object of the present invention to provide a new and improved cloth covered button in which an insert of the same or contrasting material may be readily assembled and held in place without the use of special tools or apparatus.

It is a still further object of the present invention to provide a new and improved cloth covered button which may be assembled by hand and in which a separate insert, which may be covered with a material of similar or contrasting design to that of the main covering, is held in place by the main covering which is tightly drawn over the upper surface of the button.

In accordance with one aspect of the invention, an upper hollow button member is provided with

2

an aperture in the bottom wall thereof and the cloth covering is placed over the upper surface of this member and tucked into the aperture. The upper member is provided with a frusto-conical flange portion which extends inwardly and upwardly into the aperture to provide a pulling surface for the covering. A lower button member is likewise provided which comprises a shank portion having a plurality of upstanding spring fingers spaced around the periphery thereof and provided with lateral ridges which press the cloth against the flange portion of the upper member as the lower member is inserted into the aperture in the upper member. The cloth is thus pulled along the surface of the flange thereby to stretch the cloth tightly over the surface of the upper member and when the lower member snaps over the edge of the flange portion it and the cloth are securely held in place. In another embodiment of the invention, the upper member is provided with an aperture in the top wall adapted to receive an insert, which may be covered with cloth of a similar or contrasting color or design and which is held in place in a pocket formed in the main covering by tightly stretching the main covering as the lower member is inserted so as to close the pocket and hold the insert against the under edge of the top aperture.

The invention, both as to its organization and method of operation, together with further objects and advantages thereof, will best be understood by reference to the following specification taken in connection with the accompanying drawings, in which:

Fig. 1 is an elevational sectional view, showing an improved cloth covered button embodying the present invention;

Fig. 2 shows the cloth covered button of Fig. 1 with the shank portion thereof positioned for insertion into the upper button member;

Fig. 3 shows the cloth covered button of Fig. 1 with the shank portion thereof partially inserted into the aperture of the upper button member;

Fig. 4 is a plan view of the shank portion of the button of Fig. 1;

Fig. 5 is an elevational sectional view of certain parts which, when assembled, form another type of button embodying the present invention;

Fig. 6 is an elevational sectional view of a finished button employing the parts shown in Fig. 5; and

Fig. 7 is a detail plan view of one of the parts shown in Fig. 5.

Referring now to the drawings, the cloth covered button of the present invention comprises

an upper button member which is indicated generally at 10 and which is preferably hollow, the member 10 having an aperture in the bottom surface thereof which is adapted to receive a lower shank member indicated generally at 11. A cloth, or other pliable covering, 12 is positioned on the upper surface of the top member 10 and extends down the sides of the member 10 and is tucked into the aperture in the bottom surface thereof. In order that the cloth covering 12 may be pulled tightly against the surface of the member 10, this member is provided with a flange portion 13 which extends inwardly and upwardly into the interior of the top member. The flange 13 thus provides on the inner surface thereof a smooth, frusto-conical surface along which the edge portions of the covering 12 may be pulled so as tightly to stretch the cloth covering over the outer surface of the top member. The upper surface of the top member 10 may be of any desired configuration, depending on the style and design of the final cloth covered button. As shown, the upper surface of the member 10 is relatively flat and the member is provided with an upper rounded edge 14 and a gradually curved bottom rim 15 over which portions the cloth covering will slide freely. Alternatively, the top surface of the member 10 may take additional configurations such as, for example, either of the configurations shown in dotted lines at 16 or 17.

In order to grip the edge portions of the cloth covering 12 and to pull the same over the flange portion 13 so that the cover is tightly stretched over the upper surface of the top member 10, the shank portion 11 is provided with a plurality of upstanding spring fingers 20 which are spaced apart by the width of the slots 21 and are positioned around the circumference 22 of the shank member 11. The member 11 is further provided with a cup-shaped central portion 23 which is provided with opposed apertures 24, only one of which is shown, which apertures form a button eye for sewing the button to the desired fabric.

In order that the fingers 20 may flex inwardly upon engagement with the flange portion 13 and to the end that various thicknesses of pliable coverings may be accommodated by the same top and bottom button members, the shank member 11 is preferably constructed by stamping the same from stainless steel wherein the stamping process produces work hardening of the material so that the spring fingers 20 have the correct degree of hardness without heat treating the same.

In order to provide a snap fastener action whereby the shank portion 11 may be firmly locked in the position shown in Fig. 1, the spring fingers 20, which extend generally inwardly and upwardly in a manner similar to the flange portion 13, are provided with a reentrant portion 25 which defines a groove adapted to receive the lip of the flange portion 13. Each of the spring fingers 20 is further provided with a plurality of laterally extending ridges 28 on the outer surface thereof which grip the adjacent surface of the pliable covering and pull the same into the aperture as the shank portion 11 is inserted into the top button member 10.

Considering now the manner in which the covering 12 is tightly stretched over the outer surface of the top button member when the shank member is inserted thereinto, reference may now be had to Figs. 2 and 3 wherein particular steps of the insertion are shown. Thus, referring to Fig. 2, the shank member 11 is illustrated in its initial position when the spring fingers 20 first press the edge portions of the covering 12 against the flange 13. In this position it is obvious that the ridges 28 along the portions of the spring fingers 20 engage the covering along a substantial portion of the flange 13 and, accordingly, provide a substantial gripping area. Furthermore, as the under surface of the flanged portion 13 is smooth and the adjacent portions of the fingers 20 are provided with the ridges 28, the two surfaces co-act to pull the edge portions of the covering along the flange portion 13 as the shank member 11 is inserted into the opening. When the shank member 11 reaches the position shown in Fig. 3, it is evident that the cloth covering has been moved inwardly by a substantial amount so as to stretch the covering tightly over the upper surface of the top member 10.

As the shank member is moved slightly further inwardly from the position shown in Fig. 3, the spring fingers 20 snap outwardly and the reentrant portion 25 engages the lip of the flange 13 so as to secure the shank portion 11 in the final position shown in Fig. 1. Inasmuch as the under sides of the fingers 20 are also provided with the laterally extending ridges 28 the cloth covering does not slip back as the shank portion is slipped into place but instead a continuous pull is exerted thereon as the shank portion snaps over the flange 13. While the angle at which the flange portion 13 extends inwardly and upwardly may vary considerably, it will be understood that the flange 13 preferably provides a smooth surface which is substantially parallel to the corresponding ridged surface of the fingers 20 so that the cloth covering may be pulled a substantial distance along the undersurface of the flange as the shank member is snapped into place. Thus, it will be apparent that if the flange member 13 is substantially horizontal a smooth pulling action is not produced between the edges of the flange 13 and the ridges 28 and the covering will not be held tightly in place.

While the shank member 11 of Fig. 4 may be utilized with top button members of any desired configuration, this shank member is particularly adapted for use with a top button member in which there is incorporated a cloth covered insert such as is illustrated in Figs. 5, 6 and 7. Thus, referring to these figures, a top member 30 is provided with an aperture in the top surface thereof which aperture is adapted to receive an insert 40 which is of larger diameter than the top opening and is preferably stamped from sheet metal to provide sufficent resiliency so that the edge portions 41 thereof which are preferably in the form of serrations as shown in Fig. 7, may bend upwardly to allow the insert 40 to be pushed through the top opening. The insert 40 may be provided with a cloth or other pliable covering 42 which is positioned on the top surface thereof.

In order to support the cloth covered insert 40 in a position adjacent the top opening of the upper button member 30, the main covering 31 is pushed into the top opening so as to form a pocket, indicated in dotted lines at 32 in Fig. 5. As the insert 40 is pushed into the pocket formed by the main covering 31, the serrations 41 of the insert bend upwardly to permit insertion. When the edge portions of the insert have cleared the rim 33 adjacent to the top opening of the member 30, they spring outwardly to their original shape. The insert 40 is thus positioned within the pocket formed in the main covering 31 behind

the rim 33. In order to hold the insert 40 tightly against the rim 33, the main covering 31 is tightly stretched by insertion into the upper button member 30 of a shank member 11, which is preferably identical with the shank member illustrated in Figs. 1 through 4, the member 30 being provided with an inwardly and upwardly extending flange portion 34 in a manner entirely similar to the upper button member 10. As the shank member 11 is inserted into the bottom aperture of the member 30, the ridges 28 thereof engage the edge portions of the main covering 31 and pull the same along the flange 34 so that the slack originally produced in the insert receiving pocket 32 is taken up and the insert 40 is tightly held against the rim 33. While the insert 40 has been illustrated as having a substantially flat upper surface, it will be understood that this insert, as well as the top portion of the member 30, may have any desired configuration. For example, the top surface of the insert 40 may take the form shown in dotted lines at 44.

The serrations 41 on the insert 40 also function to hold the cloth covering 42 securely on the insert 40 while the insert is being pressed into the pocket 32, the edge portions of the covering 42 engaging the sharp points of the serrations 41 to maintain the covering 42 tightly stretched over the upper surface of the insert. It will be understood, moreover, that the insert 40 may be positioned as shown in Fig. 6 by first placing the cloth covered insert in the center of the main covering 31 and then pushing the edges of the covering 31 out through the top opening of the member 30 around the sides thereof and back into the bottom opening. With such an arrangement, a solid, inflexible insert may be used. It will further be understood that the insert need not be cloth covered but may comprise a metallic or wooden disk having any desired ornamentation thereon.

From the foregoing, it is evident that the present invention provides an improved cloth covered button structure which may be assembled by hand and in which the covering is tightly stretched over the outer surface of the top button member by providing a smooth frusto-conical flange portion on the top member and a co-acting ridged surface on the shank member which pulls the edge portions of the covering along the surface of the flange as the shank member is snapped into place. Also, the present invention provides a cloth covered button having a two-piece top member in which individual members may be of similar or contrasting design and wherein the cloth covered insert is held in place by supporting the same within a pocket formed in the main button covering which pocket is contracted to hold the insert tightly in place by pulling the edges of the main covering into the interior of the top button member as the shank member is snapped into place.

While there have been described what are at present considered to be the preferred embodiments of the invention, it will be understood that various modifications may be made therein which are within the true spirit and scope of the invention as defined in the appended claims.

What is claimed as new and is desired to be secured by Letters Patent of the United States is:

1. A cloth covered button, comprising a cup-shaped button member having the sides thereof extending inwardly and upwardly to form a frusto-conical surface, a pliable covering surrounding the outer surface of said button member and extending over said surface into the interior thereof, and a unitary shank member including a button eye portion and a plurality of upstanding spring fingers spaced around the periphery thereof, said spring fingers having a series of laterally extending ridges thereon adapted to engage the edge portions of said covering as said shank member is fitted into said button member, whereby said cloth covering is tightly stretched over the outer surface of said upper member.

2. A cloth covered button, comprising an upper hollow button member having an inwardly and upwardly extending surface defining an aperture in the bottom surface thereof, a pliable covering surrounding the outer surface of said upper member and extending into said aperture, and a unitary shank member including a button eye portion and a plurality of upstanding spring fingers spaced about the periphery thereof, each of said spring fingers having a reentrant portion intermediate the length thereof to define a groove therein and having a series of laterally extending ridges thereon adapted to engage said cloth covering as said shank member is fitted into said upper member whereby said cloth covering is stretched tightly over the outer surface of said upper member as said shank member is snapped into place over the inner edge of said aperture defining surface.

3. A cloth covered button, comprising an upper hollow button member having an aperture in the bottom wall thereof and having an inwardly and upwardly extending flange portion adjacent said aperture, a pliable covering surrounding the outer surface of said upper member and having the edge portions thereof extending over said flange portion and into said aperture, and a shank member having a plurality of upstanding spring fingers spaced about the periphery thereof, the top portions of said fingers extending inwardly and upwardly to form a surface interfitting with said flanged portion, said fingers having a reentrant portion intermediate the length thereof defining a flange receiving groove and having a series of laterally extending ridges thereon, the edge portions of said covering being gripped between said flange portion and said top portions and pulled into said aperture as said shank member is inserted into said upper member to a position in which said groove is snapped over the lip of said flange portion thereby to maintain said covering tightly stretched over said upper member.

4. A cloth covered button structure, comprising an upper button member having an aperture extending inwardly from the bottom surface thereof and having an annular flange portion extending inwardly into said aperture, a cloth cover surrounding the outer surface of said upper member and extending into said aperture, and a unitary lower button member comprising a shank portion having a button eye therein and a plurality of upstanding spring fingers spaced about the upper edge of said shank portion and arranged to enter said aperture, said spring fingers having a reentrant portion intermediate the length thereof defining an annular groove about the periphery of said lower member and having a series of laterally extending ridges thereon adapted to engage said cloth covering as said lower member is fitted into said upper member, whereby said cloth covering is stretched tightly over the surface of said upper member and

the edges thereof secured against said flange portion when said flange portion is received within said annular groove.

5. A cloth covered button, comprising an upper hollow button member having an aperture in the bottom wall thereof and having an inwardly and upwardly extending flange portion adjacent said aperture, a pliable covering on said upper member, said covering having the edge portions thereof extending over said flange portion and into said aperture, and a shank member having a plurality of upstanding spring fingers spaced about the periphery thereof and having laterally extending ridges therein, the top portions of said fingers extending inwardly and upwardly to form a ridged surface adapted to co-act with said flange portion to pull the edge portions of said covering into said aperture as said shank member is inserted into said upper member, and means for retaining said shank member within said upper member thereby to maintain said covering tightly stretched over said upper member.

6. A cloth covered button, comprising an upper button member having openings extending inwardly from the top and bottom surfaces thereof, a pliable covering on said upper member having a central portion extending into said top opening to form an insert receiving pocket and having edge portions extending into said bottom opening, an insert positioned within the said pocket, and a shank member having a plurality of upstanding spring fingers spaced around the circumference thereof, said spring fingers having gripping means on the outer surface thereof arranged to grip the edges of said pliable covering and to pull the same into said bottom opening as said shank member is forced thereinto, thereby to pull said covering tightly over said upper member and to hold said insert within said top opening.

7. A cloth covered button, comprising an upper hollow button member having apertures in the top and bottom walls thereof, the bottom wall of said upper member extending inwardly and upwardly to form a frusto-conical flange adjacent said bottom aperture, a pliable covering on said upper member having a central portion extending into said top aperture to form an insert receiving pocket and having edge portions extending over said flanged portion, an insert positioned within said pocket, and a shank member having a plurality of upstanding spring fingers spaced around the circumference thereof, said spring fingers having laterally extending ridges on the outer surface thereof arranged to grip the edges of said pliable covering and to pull the same over said flanged portion as said flanged member is forced into said bottom aperture whereby said pliable covering is pulled tightly over said upper member and said cloth covered insert is securely held against the edge of said top aperture.

8. A cloth covered button, comprising an upper button member having openings extending inwardly from the top and bottom surfaces thereof, said upper member having a flange portion extending inwardly and upwardly into said bottom opening, a pliable covering on said upper member having a central portion extending into said top opening to form an insert receiving pocket and having edge portions extending into said bottom opening and over the edge of said flange portion, a cloth covered insert positioned within said pocket, and a shank member having a plurality of upstanding spring fingers spaced around the circumference thereof, said spring fingers having gripping means on the outer surface thereof arranged to grip the edges of said pliable covering and to pull the same over the surface of said flanged portion as said shank member is forced into said bottom opening whereby said pliable covering is pulled tightly over said upper member and said cloth covered insert is held in place against the bottom edge of said top opening.

9. A cloth covered button, comprising an upper hollow button member having apertures in the top and bottom walls thereof, the bottom wall of said upper member extending inwardly and upwardly to form a frusto-conical flange portion adjacent said bottom aperture, a pliable covering on said upper member having a central portion extending into said top aperture to form an insert receiving pocket and having the edge portions thereof extending over said flange portion and into said bottom aperture, an insert having a second pliable covering on the upper surface thereof and having a flexible edge portion to permit insertion thereof into said pocket through said top aperture, and a shank member having a plurality of upstanding spring fingers spaced about the periphery thereof, the top portions of said fingers extending inwardly and upwardly to form a surface complementary to said flange portion, said fingers having a reentrant portion intermediate the length thereof defining a flange receiving groove and having a series of laterally extending ridges thereon, the edge portions of said first covering being gripped between said flange portion and the top portion of said fingers and pulled into said bottom aperture as said shank member is inserted into said upper member to a position in which said groove is snapped over the lip of said flange portion whereby said first covering is pulled tightly over said upper member and said insert is held against the edge of said top aperture.

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