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SNAP FASTENER

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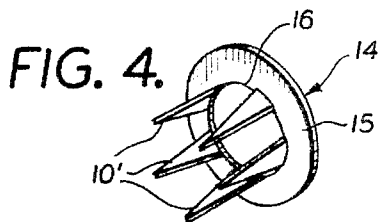
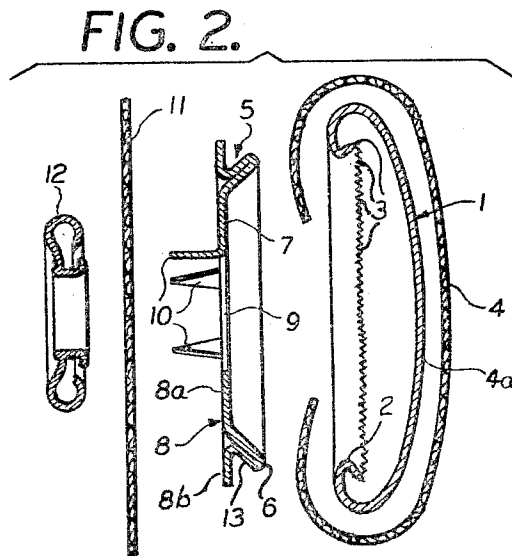
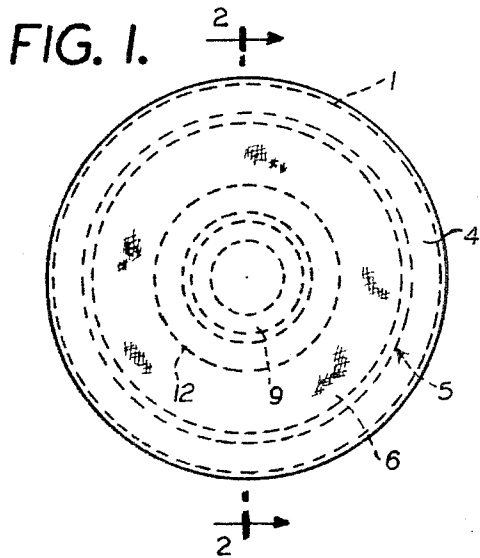
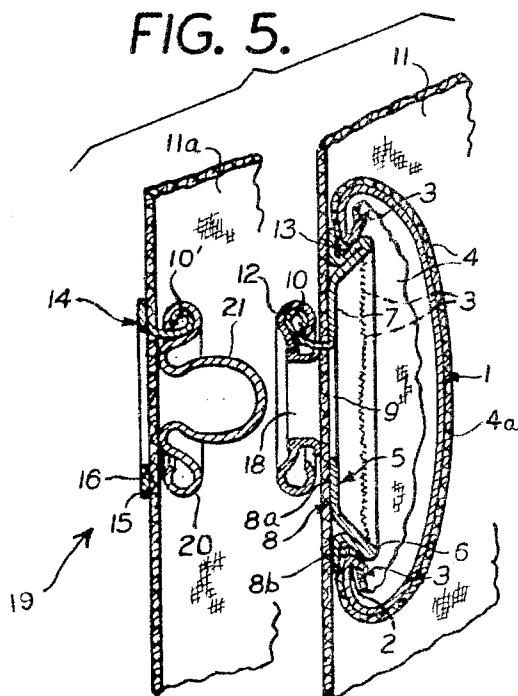
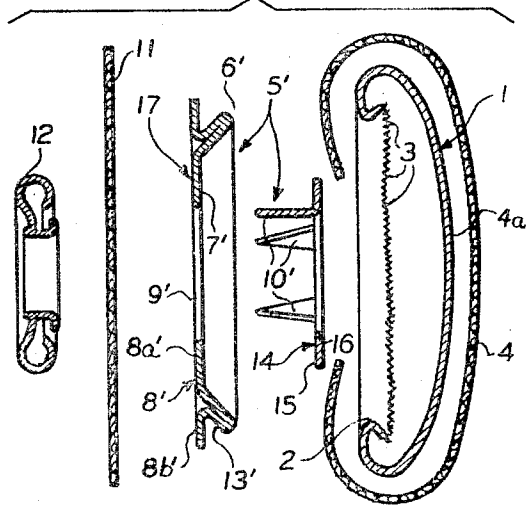


FIG. 3.



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3,457,601

SNAP FASTENER

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13 Claims

ABSTRACT OF THE DISCLOSURE

A removable fabric covered shell assembly for attachment to a garment material comprising a formed shell including teeth at the rear for engaging a fabric on the shell, a backplate having a front side formed with a snap-on engagement ridge complementary to the rear of the teeth of the shell for releasable snapping engagement therewith, and a fastener means for locking engagement with the back side of the backplate holding the garment material therebetween. The back side of the backplate jointly with the fastener constitute fastening elements one of which includes holding means for securing the backplate securely to the garment material.

The present invention relates to fabric covered buttons and the like, in general, and to snap-on fabric covered buttons and the like with gripper-fastener assemblies, in particular.

Fabric covered detachable button assemblies, with the button shell having circumferentially arranged back teeth for removably securing fabrics thereto which cover the button, are known. As shown in U.S. Patent No. 2,513,182 entitled, "Covered Buttons, Buckles, and the Like," granted June 27, 1950, of which I am a co-inventor, these button assemblies contain a snap-on backplate closure member onto which the detachable button is snapped and which insures locking of the fabric on the teeth of the button. However, to secure the button to a garment, another member of the assembly is used which resiliently fits into, and holds, the back hollow curved portion of the button shell and which is formed into a loop which passes through a slot in the backplate closure member. The loop, extending through the backplate slot, is sewed to a garment, thereby securing the button to the garment.

With these button assemblies three members were required. The backplate closure member rigidly, but releasably, locking onto the back of the button shell, was needed to lock the fabric on the button; and the separate, resilient sew-on loop was required to resiliently hold the button, and to flexibly secure the button to the garment. Accordingly, an independent rigid locking backplate member was an absolute necessity, as was an independent sew-on member. A disadvantage of this assembly is that these two members must be released when the button shell is removed from the garment. Further, with the sew-on loop, button holes were required where garment portions were to be closed with the button.

It is one object of the present invention to provide an improved detachable button or other form piece assembly by which the removable button or other form piece is conveniently secured to the garment by a permanent gripper-fastener combination. The fastener, in addition may comprise one portion of a four part snap fastener combination, thereby further serving as a hidden snap fastener closure combination, preferably with the fashion-wise appearance of a fabric covered button closure but without button holes. A single improved backplate may be provided as both the releasable backplate closure member and the button-to-garment securing member. The im-

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proved backplate may be used with teeth in conjunction with fasteners or grippers to attach the button to textiles.

It is another object of the present invention, to provide a removable fabric covered shell assembly for attachment to a garment material, comprising a formed shell having a front portion, and having a back opening defining a plurality of first teeth for engaging a fabric on the first teeth and covering the front portion of the formed shell therewith, a backplate means having a front side and a back side and including on the front side a snap-on engagement ridge complementary to the first teeth for snapping the fabric covered shell rigidly into engagement with the backplate about the first teeth and securely locking the fabric on the first teeth, the back side of the backplate means including a tooth portion including a plurality of second teeth depending therefrom for insertion of the second teeth through the garment material, and a fastener means adjacent the other side of the garment material for receiving the second teeth in rigid locking engagement therewith, thereby securing the backplate means securely to the garment.

It is still another object of the present invention to provide a removable fabric covered shell assembly for attachment to a garment in accordance with the aforementioned objective, further comprising a gripper assembly secured to another portion of the garment near the fastener means and comprising snap-on means for snapping engagement with the fastener means.

It is yet another object of the present invention to provide a removable button assembly for attachment to a garment in accordance with the second mentioned objective, wherein the backplate means includes a backplate member having a forward side and a rear side and containing the engagement ridge on the forward side and including edges defining a central opening, the tooth portion comprises an independent gripper member including an abutting plate having the second teeth thereon, second teeth disposed on the abutting plate complementary to the edges defining the central opening of the backplate member for snug engagement with the edges when the second teeth are passed through the central opening of the backplate member from the forward side of the backplate member, and the abutting plate abutting the forward side of the backplate member adjacent and in overlapping relationship with the edges of the backplate member, thereby holding the rear side of the backplate member in snug engagement against the garment material when the second teeth are secured to the fastener means through the garment.

With these and other objects in view which will become apparent in the following detailed description, the present invention will be clearly understood in connection with the accompanying drawings, in which:

FIGURE 1 is a front view of a fabric covered button fastener assembly;

FIG. 2 is an exploded sectional view along the lines 2—2 of FIG. 1 showing the fabric covered button, backplate means, and fastener;

FIG. 3 is an exploded axial section of a fabric covered button fastener assembly including a backplate member without teeth and an independent tooth member;

FIG. 4 is a perspective view of the tooth member of FIG. 3; and

FIG. 5 is an axial section of the button fastener assembly of FIG. 2 in fastened position and a coupling snap-on gripper attachment for snapping engagement therewith.

Referring now to the drawings, and in particular to FIGS. 1 and 2 for a removable button fastener combination, a shaped shell, or particularly a button shell 1, preferably made of spring metal or plastic having a certain resiliency is shown having a rear curved portion 2, the

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latter defining a rear open end, and having a plurality of inwardly facing resilient teeth 3. The teeth 3 of the button shell 1 pierce a fabric covering 4 cut to the size of the button shell 1 and hold the fabric covering 4 in tight engagement over the front face 4a of the button shell 1. A backplate means 5 defining a releasable annular engagement ridge 6 on its front face is disposed for receiving the rear curved portion 2 with fabric covering 4 on the teeth 3 of the button shell 1 in releasable snapping engagement. The rear face 8 of the backplate means 5 is flat, defining a flat central portion 8a and a flat annular portion 8b, between which portions is the ridge 6. The backplate means 5 contains an opening 9 through which a plurality of fastening gripper teeth 10 rearwardly extend from the edge of the opening 9, depending from the flat central portion 8a, which teeth 10 are piercingly inserted through a textile garment 11, so that the flat rear face 8 is next to the garment 11. On the other side of the garment 11, the teeth 3 of the backplate means 5 are received by a fastener member 12, which is fastened thereto by means of pliers or other tools, engaging the backplate 5 firmly to the garment 11.

Referring now again to the drawings, and particularly to FIG. 5, the cover-your-own-button and fastener combination previously described, is shown in the assembled position to the garment 11. In this position the rear curved portion 2 and resilient teeth 3 of the button shell 1, snappingly engage the ridge 6. The ridge 6 is formed with a radially, inwardly curved recess 13 for receiving in snapping engagement the rear curved portion 2 of the backplate means 5 and for locking the covering fabric 4 to the teeth 3 of the backplate means.

Referring now again to the drawings, and in particular to FIG. 3, for an alternate assembly, the backplate means 5' is shown comprising an independent gripper member 14 which includes an annular flat abutting ring 15 (FIG. 4) with the teeth 10' thereof depending substantially perpendicular thereto from the inner edge 16 of the abutting ring 15. The backplate means 5' also comprises a releasable button locking member 17 which includes opening 9' and releasable annular engagement ridge 6', which ridge 6' is surrounded by flat central and annular portions 8a' and 8b', respectively.

To assemble the members, the gripper member 14 is aligned adjacent the front flat portion 7' of the releasable button locking member 17 with the teeth 10' facing the opening 9' thereof. The teeth 10' of the gripper member 14 are then inserted into the opening 9' so that the flat abutting ring 15 of the gripper member 14 is flat against the front flat portion 7' of the releasable button locking member 17, the inner edge 16 and the teeth 10' of the abutting ring 15 being complementary to the opening 9' of the releasable button locking member 17. In this position, the fastening teeth 10' are then inserted into the garment 11 and are engaged rigidly on the other side thereof by fastening member 12. The flat portion 8' of the releasable button locking member 17 is held against the garment 11 by the clamping action of the annular abutting ring 15 pressing against the front flat portion 7' and of the fastener member 12. The button shell 1 is then snapped on to the annular engagement ridge 6'.

Advantage of this assembly should now be apparent. With the backplate means 5' comprising two separate members, namely, the gripper member 14 containing the fastening gripping teeth 10' and the separate releasable button locking member 17 containing the annular engagement ridge 6', the releasable, button snapping function is separated from the permanent, garment attaching function.

Accordingly, the releasable button locking member 17 is free to rotate with the button shell 1 attached thereto while being held permanently to the garment 11 and flexibility is achieved.

Referring now again to the drawings, and in particular to FIG. 5, the fastening member 12 of the button-fastener

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assembly is provided with a female snap-fastening socket 18. Adjacent the fastener 12 on another portion of the garment 11a is disposed a male fastener assembly 19 comprising a male member 20 having a stud portion 21 adapted for releasable snapping engagement into the socket 18 of the snap fastener 12. The male member 20 is firmly secured to the garment 11a by the gripper member 14, of which teeth 10' pierce the garment 11a from the other side and are received by the male member 20, and fastened thereto by means of pliers or other tools, by bending the teeth 10' of the gripper member 14 into the curved annular portion of the male member 20.

As an alternate, it is possible to attach the female member to the portion of the garment 11a and the male member to the portion of the garment 11.

Together, fastener assembly 19 and button fastener assembly 12, form a releasable snap-fastener combination which eliminates the making of button holes, permitting the snap fastening combination closure behind the button to be concealed by the button, allowing the snap-on button combination to be used fashionwise. An additional feature is that the button shell 1 can be readily removed from the garment, to protect the button, when the garment is sent to a laundry or dry-cleaner, and after return, it can easily be snapped on again. Also, button styles can easily be exchanged against other styles, by simply snapping the button shell 1 off the engagement ridge 6 and replacing it with another style or fabric covered button.

In addition to fabric covered or non-covered as ornamental buttons of any shape, the present invention applies equally to other decorative attachments such as buckets, bows, etc.

While I have disclosed several embodiments of the present invention, it is to be understood that these embodiments are given by example only and not in a limiting sense, the scope of the present invention being determined by the objects and the claims.

I claim:

1. A removable fabric covered shell assembly for attachment to a garment material, comprising:

a formed shell having a front portion and a back portion having a back opening defining thereat a plurality of inwardly rounded first teeth terminating in teeth points for engaging fabric on said teeth points and covering the front portion of said formed shell therewith,

a backplate means having a front side and a back side and including on said front side a snap-on engagement ridge complementary to said inwardly rounded first teeth and spaced from said teeth points for snapping said fabric covered shell rigidly but turnably free relative said shell into detachable engagement with said backplate means about said first teeth and aiding a secure holding of said fabric on said first teeth,

a fastener means for locking engagement with said back side of said backplate means holding said garment material therebetween,

said back side of said backplate means jointly with said fastener means constituting fastening elements, and one of said fastening elements including holding means for securing said backplate means securely and non-rotatably to said garment material.

2. The removable fabric covered shell assembly for attachment to a garment material, as set forth in claim 1, wherein:

said holding means comprises a tooth portion including a plurality of second teeth depending therefrom for insertion of said second teeth through said garment material, and

the other of said fastener element is disposed adjacent the other side of said garment material and receives said second teeth in locking engagement therewith.

3. The removable fabric covered shell assembly for

attachment to a garment material, as set forth in claim 2, wherein:

- said back side of said backplate means includes said holding means,
- said backplate means includes edges defining a central opening with said plurality of second teeth integrally depending from said edges of said opening, and
- said back side of said backplate means includes a flat portion adjacent said edges,
- said flat portion being held against said garment material when said second teeth are in locking engagement with said fastener means.
- 4. A removable fabric covered shell assembly for attachment to a garment material, comprising:
 - a formed shell having a front portion and a back portion having a back opening defining thereat a plurality of first teeth for engaging fabric on said first teeth and covering the front portion of said formed shell therewith,
 - a backplate means having a front side and a back side and including on said front side a snap-on engagement ridge complementary to said first teeth for snapping said fabric covered shell rigidly into detachable engagement with said backplate means about said first teeth and securely holding said fabric, on said first teeth,
 - a fastener means for locking engagement with said back side of said backplate means holding said garment material therebetween,
 - said back side of said backplate means jointly with said fastener means constituting fastening elements, and
 - one of said fastening elements including holding means for securing said backplate means securely to said garment material,
 - said back side of said backplate means including said holding means,
 - said backplate means including a backplate member having a forward side and a rear side and containing said engagement ridge on said forward side and including edges defining a central opening,
 - said tooth portion comprising an independent gripper member including an abutting plate having said second teeth thereon,
 - said second teeth disposed on said abutting plate complementary to said edges defining said central opening of said backplate member for snug engagement with said edges when said second teeth are passed through said central opening of said backplate member from said forward side of said backplate member, and
 - said abutting plate abutting said forward side of said backplate member adjacent and in overlapping relationship with said edges of said backplate member, thereby holding said rear side of said backplate member in snug engagement against said garment material when said second teeth are secured to said fastener means through said garment.
- 5. The removable fabric covered shell assembly for attachment to a garment material, as set forth in claim 4, wherein:
 - said forward side of said backplate member adjacent said edges is flat, and
 - said abutting plate of said gripper member is flat for contiguous engagement relationship with said forward side of said backplate member adjacent said edges when said second teeth are secured to said fastener means.
- 6. The removable fabric covered shell assembly for attachment to a garment material, as set forth in claim 5, wherein:
 - said opening is circular, and
 - said abutting plate of said gripper member comprises a ring having an inner edge complementary to said

edge defining said central opening of said backplate member, and

said teeth perpendicularly depend from said inner edge of said ring.

7. The removable fabric covered shell assembly for attachment to a garment material, as set forth in claim 1, further comprising:

a gripper assembly secured to another portion of said garment near said fastener means and comprising snap-on means for snapping engagement with said fastener means.

8. The removable fabric covered shell assembly for attachment to a garment material, as set forth in claim 7, wherein:

said fastener means defines a resilient female socket, and

said snap-on means of said gripper assembly includes a male stud for releasably snapping into said female socket.

9. The removable fabric covered shell assembly for attachment to a garment material, as set forth in claim 8, wherein:

said gripper assembly comprises,

a male member having said male stud thereon,

a tooth member having thereon a tooth portion for piercing said garment, and

said male member is adapted for cooperatively receiving said tooth portion in secured engagement therewith.

10. A snap fastener arrangement for releasably securing a fabric covered formed piece to a garment material, comprising:

a backplate having a front side and a back side and including snap-on ridge means integral with the front side of said backplate adapted for connection with a fabric covered formed piece in releasable snapping rotatable engagement therewith,

a fastener means for locking engagement with said back side of said backplate holding said garment material therebetween,

said back side of said backplate jointly with said fastener means constituting fastening elements,

one of said fastening elements including holding means for securing said backplate securely and non-rotatably to said garment material,

said fastener means including snap fastener means adapted for operative snap fastening engagement with another portion of said garment material.

11. The snap fastener arrangement, as set forth in claim 10, wherein:

said holding means comprises a tooth portion including a plurality of teeth depending from the back side of said backplate.

12. A backplate attachment for releasably securing a fabric covered formed piece to a garment, comprising:

a backplate having snap-on ridge means integral with the front side of said backplate for connection with said fabric-covered formed piece in releasable snapping rotatable engagement therewith,

said backplate including a non-rotatable garment securing means depending from the back side of said backplate for attachment to said garment, thereby securing said formed piece to said garment,

said garment securing means comprises a tooth portion including a plurality of teeth,

said backplate includes a backplate member having a forward side and a rear side and containing said snap-on ridge means on said forward side and including edges,

said tooth portion comprises an independent gripper member including an abutting plate having teeth thereon,

said teeth being disposed on said abutting plate complementary to said edges of said backplate member for snug abutment with said edges when said teeth

are passed about said edges of said backplate member from said forward side of said backplate member, and

said abutting plate abutting said forward side of said backplate member adjacent said in overlapping relationship with said edges of said backplate member, thereby holding said backplate member in snug engagement against said garment material when said teeth are secured to said garment.

13. The snap fastener arrangement, as set forth in claim 11, wherein:

said backplate includes a backplate member having a forward side and a rear side and containing said snap-on ridge means on said forward side and including edges,

said tooth portion comprises an independent gripper member including an abutting plate having said teeth thereon,

said teeth being disposed on said abutting plate complementary to said edges of said backplate member for snug abutment with said edges when said teeth are passed about said edges of said backplate member from said forward side of said backplate member, and

said abutting plate abutting said forward side of said backplate member adjacent and in overlapping relationship with said edges of said backplate member, thereby holding said backplate member in snug engagement against said garment material when said teeth are secured to said garment.

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