(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
17 March 2011 (17.03.2011)

PCT

(10) International Publication Number
WO 2011/031717 A2

(51) International Patent Classification:
A44B 1/14 (2006.01) *A44C 25/00* (2006.01)
A44B 1/16 (2006.01)

(21) International Application Number:
PCT/US2010/048074

(22) International Filing Date:
8 September 2010 (08.09.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
12/555,782 8 September 2009 (08.09.2009) US

(72) Inventor; and
(71) Applicant : **RICE, Jason** [US/US]; 15330 Brahma Road, Polk City, FL 33868 (US).

(74) Agent: **WEINZIMMER, Russ**; Russ Weinzimmer & Associates, 614 Nashua Street, Suite 53, Milford, NH 03055 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*

(54) Title: BUTTON ASSEMBLY WITH DETACHABLE BUTTON COVER

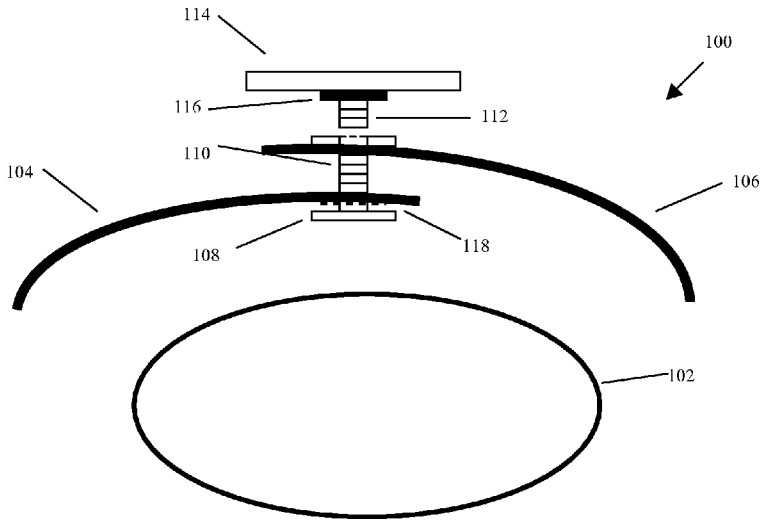

FIG. 1

(57) Abstract: The use of decorative clothing fasteners may be limited by a maximum practical size of a button hole in the fabric of the clothing. Larger decorative buttons, or buttons with alternative shapes, may be used by forming a button hole on the inner piece of fabric to be attached, while the outer piece of fabric includes both an attachment to the inward facing button, and an attachment location for a decorative button cover, which may be of any shape or size. The use of other attachment methods other than buttons may benefit from the disclosed arrangement and may include snap fasteners, friction fasteners and hook and loop type fasteners.

WO 2011/031717 A2

BUTTON ASSEMBLY WITH DETACHABLE BUTTON COVER

Technical Field

This application relates generally to fastener devices, and more specifically to button assemblies.

Background

A market driven need exists to provide decorative fasteners for clothing in order to obtain improved clothing sales. Clothing using button type fasteners may be limited in the size and shape of the button due to button hole constraints such as a maximum allowable size.

Button type fasteners may also be limited to certain shapes due to the requirement that the button be both easily attached and removed, while still being securely fastened. Such limited shapes, such as circular, spherical and elongated, further reduce the potential decorative and stylistic patterns available for decorative fasteners.

Brief Description of the Drawing

Figure 1 is a top-view diagram showing a button closure, according to various disclosed embodiments; and

Figure 2 is a top-view diagram showing an attachment method, according to various disclosed embodiments.

Detailed Description

In the following detailed description of the disclosed attachment arrangements, The terms “inner” and “outer” as used in the description may include any structures having different distances from a fixed point of reference, such as a person. The term “attachment” is understood to include fabric attachment devices such as buttons, studs, toggles, snap fasteners, “press-fit”, and magnetic fasteners.

The term “horizontal” as used in this application is defined as a plane parallel to the conventional plane or surface of the earth, regardless of any temporary orientation of the device with respect to the earth. The term “vertical” refers to a direction perpendicular to the horizontal as defined above. Prepositions, such as “on”, “side”, “higher”, “lower”, “over” and “under” are defined with respect to the conventional plane or surface, regardless of any temporary orientation of the device. The detailed description is, therefore, not to be taken in a limiting sense, and the scope of the present invention is defined only by the appended claims, along with the full scope of equivalents to which such claims are entitled.

Figure 1 shows an embodiment of a button closure, according to various disclosed embodiments. The invention is not limited to button type closures and other forms of attachment devices and equivalent closures may benefit from the disclosed arrangement. The description is not intended to be limiting, but rather to illustrate the disclosed arrangement in a simple and understandable fashion. Using the described embodiment permits the use of external button covers that are larger than the largest acceptable button hole, and permits the use of buttons having shapes that would not either fit through a button hole, or would not securely hold the button in place.

Button type closure 100 includes an illustrative person 102, partially surrounded by an inner fabric portion 104, which is partially overlapped by an outer fabric portion 106. The outer fabric portion 106, may be removably attached to the inner fabric portion 104, by an inwardly directed attachment device including a button 108, that is passed through a button hole (dashed line, 118) in the inner fabric 104. In the described embodiment the button is shown as having a either a circular shape or an elongated shape, but the invention is not so limited. The button is connected to a shaft or stud 110, shown in the disclosed embodiment as being an internally threaded hollow tube. The shaft 110 is not limited to the disclosed threaded hollow shaft, and may alternatively be a flexible or elastic structure, or a solid shaft, or other equivalent structures. The shaft 110 may be firming attached to the outer fabric portion 106 by various means including the illustrated threaded flange, and may be attached by stitching, riveting, adhesive or other equivalent means. A decorative button cap 114 may be externally attached to the shaft 110 by the illustrated threaded connection 112, but the invention is not be so limited and may include friction type attachments such as what may be known as “press-fit” connectors, or snaps, or hook and loop attachments such as the trademarked product Velcro, or equivalents. The orientation of the button cap 114 in the vertical plane of the normal position of the illustrative person 102, and may be adjusted by controlling the depth of the threaded fitting. The orientation of button cap 114 may be improved by including an elastic member 116 to provide orientation control without lose of orientation stability and frictional interaction between the button cap 114 and the shaft 110. The illustrated elastic member may be a rubber “O” ring, an elastic washer, a split ring or a star washer, a spring, or other complaint material.

The arrangement of Figure 1 results in a button assembly with a detachable button cover 114, which may be designed to be decorative without regard for the utilitarian function of the button. The decorative button cover can be made of jewelry or of less valuable material typically used in costume decoration. The decorative button cover can include diamond, gold, or other types of jewelry, as well as plastic, rubber, wood, and any other types of decorative material. The decorative button cover can be made available in a variety of shapes and sizes, with or without additional ornamental design. The button assembly 100 may be used to button a first fabric portion (outer fabric portion 106) to a second fabric portion (the inner fabric portion 104), with an inwardly directed button 108. The first button element 110 is attached to the first fabric portion 106 by any of the well known methods, and is adapted to button to a second button element, such as the illustrated button hole 118 in the inner fabric portion 104. Other types of second button elements may easily be understood, such as a firmly attached snap connector as will be further discussed with reference to the next figure. The second button element 118 may be attached to the second fabric portion 104, and is adapted to be removably connected to the first button element 110, for example by the illustrated button head 108. The button cover 114 may be removably attachable to the first button element 110, with the button cover being viewable from the outside when the first fabric portion 106 is buttoned to the second fabric portion 104.

Figure 2 depicts an attachment method, according to various disclosed embodiments. An attachment method 200 includes an illustrative person 202, with an inner fabric portion 204 overlapped by an outer fabric portion 206, the inner and outer fabric portions being removably connected by an illustrated female snap fastener 208 firmly attached to the inner fabric portion 204. The

female snap fastener 208 may be removably connected to male snap fastener 210, which is firmly attached to the outer fabric portion 206 by any of the well known methods, and to the female snap fastener 208 by the illustrated snap ring 218. The invention is not limited to the illustrated snap orientations, and may use equivalent attachment devices such as friction attachments, “press-fit” attachments, hook and loop attachments, and other similar methods. The male snap fastener 210 may include a threaded shaft for attachment to a decorative cover 214, as discussed with relation to the previous figure, or may use the illustrated friction connection 212, with or without the washer 216. The washer 216 may be used to provide decorative cover 214 with a stable and adjustable orientation with regard to the vertical direction.

The use of the illustrated method of attaching two fabric pieces includes forming an attachment structure 208 in an inner fabric portion 204, such as a snap fastener or a button hole, attaching a fastener 210 to an outer fabric portion 206 including a solid portion 218 extending inwardly from the outer fabric portion 206 towards the inner fabric portion 204. Connecting two attachment structures 208 and 210, for example by passing a flange portion of the fastener through a hole in the inner fabric portion 204, or applying pressure to connect the male snap element 210 to the female snap element 208. The two attachment structures illustrated are adapted to provide removable attachment between the inner and outer fabric portions. The decorative button cover 214 is not limited to use with the illustrated buttons and snaps, but may be used with other attachment methods such as studs and toggles or other attachment methods such as a hook and loop arrangement.

Conclusion

The detailed description refers to the accompanying drawings that show, by way of illustration, specific aspects and embodiments in which the present disclosed embodiments may be practiced. These embodiments are described in sufficient detail to enable those skilled in the art to practice aspects of the present invention.

Although specific embodiments have been illustrated and described herein, it will be appreciated by those of ordinary skill in the art that any arrangement that is calculated to achieve the same purpose may be substituted for the specific embodiments shown. Other embodiments may be utilized, and structural, logical, and material changes may be made without departing from the scope of the disclosed embodiments. The various embodiments are not necessarily mutually exclusive, as some embodiments can be combined with one or more other embodiments to form new embodiments. This application is intended to cover any adaptations or variations of embodiments of the present invention.

It is to be understood that the above description is intended to be illustrative, and not restrictive, and that the phraseology or terminology employed herein is for the purpose of description and not of limitation. Combinations of the above embodiments and other embodiments will be apparent to those of skill in the art upon studying the above description. The scope of the present disclosed embodiments includes any other applications in which embodiments of the above structures and fabrication methods are used. The scope of the embodiments should be determined with reference to the appended claims, along with the full scope of equivalents to which such claims are entitled.

CLAIMS

What is claimed is:

1. A button assembly with a detachable button cover, the button assembly being adapted to button a first fabric portion to a second fabric portion, the button assembly comprising:

a first button element attached to the first fabric portion, the first button element being adapted to button to a second button element;

a second button element attached to the second fabric portion, the second button element being adapted to button to the first button element; and

a button cover, the button cover being removably attachable to the first button element, the button cover being viewable when the first fabric portion is buttoned to the second fabric portion.

2. The button assembly of claim 1, wherein the second button element includes a linear slit in the second fabric portion.

3. The button assembly of claim 2, wherein the second button element is adapted to removably fit over an anchoring portion of the first button element.

4. The button assembly of claim 1, wherein the second button element includes a male snap element permanently attached to the second fabric portion adapted to be removably attached to a female snap portion of the first button element.

5. The button assembly of claim 1, wherein the first button element includes a female threaded portion adapted to connect to a male threaded portion of the button cover.

6. The button assembly of claim 1, wherein the first button element includes a male snap portion adapted to connect to a female snap portion of the button cover.

7. The button assembly of claim 1, wherein the second button element includes a male press-fit element permanently attached to the second fabric portion adapted to be removably attached to a female press-fit portion of the first button element.

8. The button assembly of claim 1, wherein the first button element includes a press-fit element adapted to connect to a mating press-fit element of the button cover.

9. The button assembly of claim 1, wherein the button cover includes an elastic compressible element disposed between the button cover and the first button element, the elastic compressible element adapted to allow the orientation of the button cover to be adjusted.

10. An inward facing button adapted to button an outer fabric layer to an inner fabric layer, comprising:

a first button element fixedly attached to the outer fabric layer and extending inwardly through a button hole in the inner fabric layer; and

a button cover attachable to the first button element, the button cover being viewable when the first fabric portion is buttoned to the second fabric portion.

11. The button of claim 10, wherein the button cover is removably attached to the first button element by one of a threaded attachment element, a snap fit attachment element, and a press-fit attachment element.

12. The button of claim 10, wherein the button cover is attached to the first button element and includes an adjustable orientation.

13. The button of claim 12, wherein the button cover includes an elastic compressible element adapted to maintain the button cover orientation.

14. A method of attaching two portions of fabric, comprising:

forming at least one hole in an inner fabric portion;

fixedly attaching a fastener to an outer fabric portion, the fastener including a solid portion extending inwardly from the outer fabric portion towards the inner fabric portion;

passing a flange portion of the fastener through the hole in the inner fabric portion, the flange portion adapted to be removably attached to the inner fabric portion; and

attaching a button cover to an outer portion of the fastener adjacent to the outer fabric portion.

15. The method of claim 14, further including removably attaching the button cover to the outer portion of the fastener with an internal female threaded portion disposed to connect to a male threaded portion of the button cover.

16. The method of claim 14, further including adjustably orienting the button cover including a compressible elastic washer disposed between the button cover and the fastener.

17. The method of claim 14, further including attaching the flange portion having a circular disk shape to the hole in the inner fabric portion, wherein the hole comprises a linear shaped button hole.

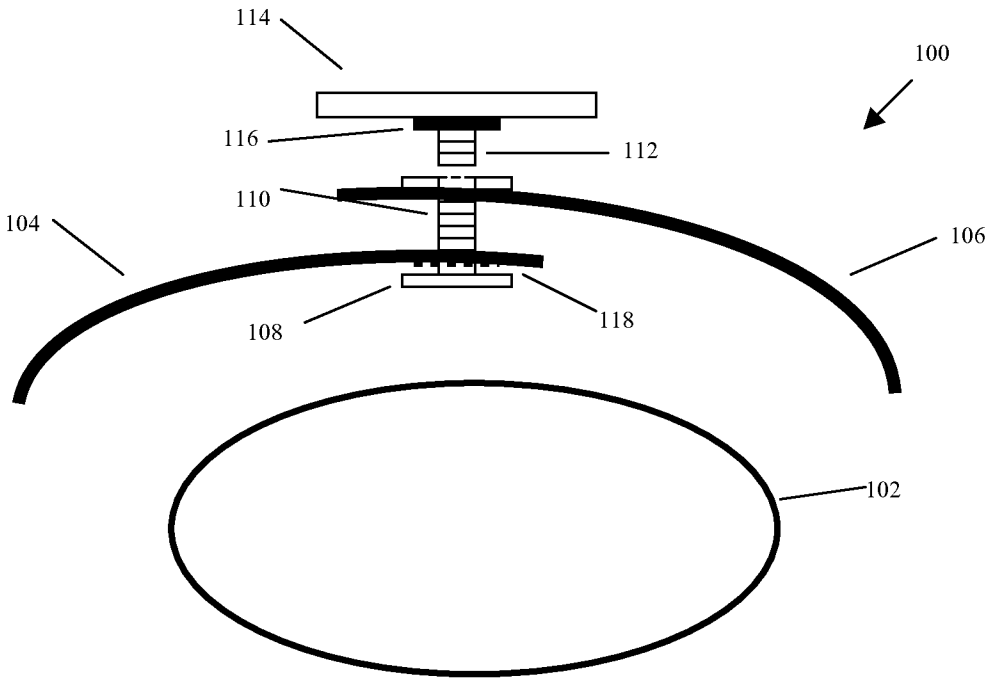

FIG. 1

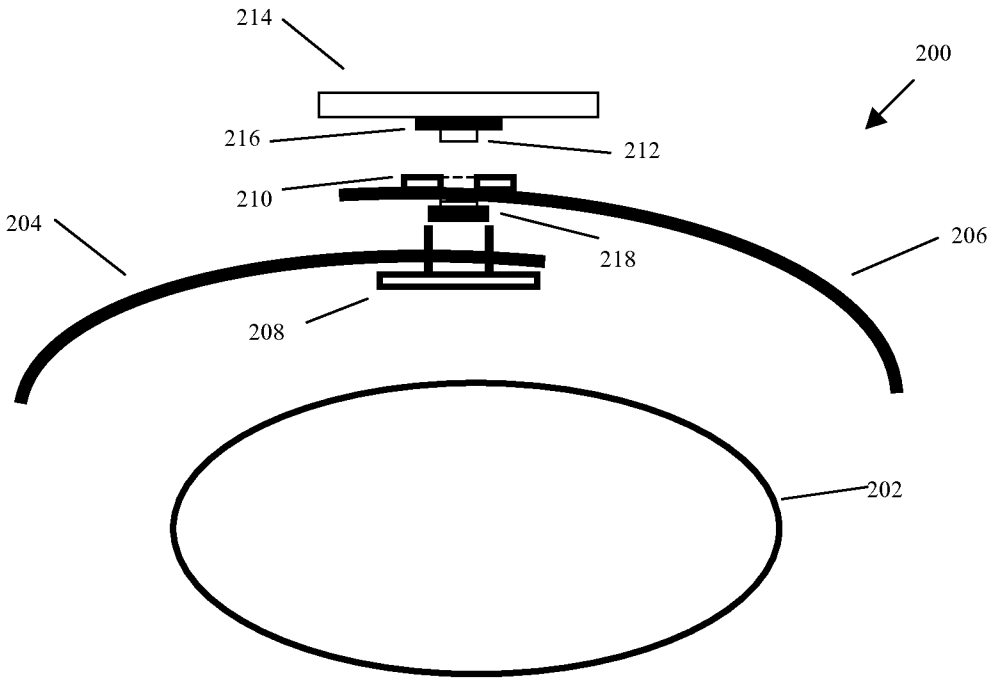

FIG. 2