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(73) Patenthaver: **MIGHTY STYLEY SL, Calle Miquel Angel 13, 3, 28010 Madrid, Spanien**

(72) Opfinder: **Maussen, Joseph Franciscus August Alfred, C/Nanclares de Oca 14, DR, 3D, 28022 Madrid, Spanien**

(74) Fuldmægtig i Danmark: **Chas. Hude A/S, H.C. Andersens Boulevard 33, 1780 København V, Danmark**

(54) Benævnelse: **Knap til fastgørelse af stoffer**

(56) Fremdragne publikationer:
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DESCRIPTION

[0001] The present invention relates to a button for fastening fabrics, for instance clothing, wherein the button comprises a body and is provided with attachment means arranged for attaching, for instance by sewing, the button to a fabric. The invention further relates to product at least partially manufactured from a fabric, for instance clothing, comprising at least one button.

[0002] Buttons for fastening sections of fabric as such are known and widely used in for instance clothing. Buttons typically have a planar body provided with attachment means, such as through holes for receiving threading, for connecting the button to the fabric. Although buttons are available having different shapes, most bodies of buttons are disc shaped.

[0003] JP2002330802A discloses a button according to the preamble with attachment means near a central location thereof and which has body with a tapering width ending in tip part at a distance from the central attachment means.

[0004] DE37327C relates to a button for forming a decorative string by interlocking a plurality of buttons at their peripheral edges. A button is hereto provided with an opening for receiving a ring of another button, wherein the ring is arranged for receiving a thread for forming the string.

[0005] US1232633A discloses a button arranged to link to margins of a garment, such as cut-away coats and dress coats, instead of being overlapped and buttoned by a button attached to one margin and fastened to a button hole on the opposite margin. The button is provided with a central shank so formed that it may be inserted through a button-hole on a garment and will clamp against the material at the margin of the button, and having a flexible link attached near an edge to the button itself and adapted to be looped over a button on the opposite margin of the garment.

[0006] JP2004173732A discloses a button with a round or disc shaped body provided with a leg and a base part provided with attachment means.

[0007] US2543056A discloses a button having a round body having a bottom plane provided with central holes as attachment means and entrance openings closer to the circumferential edge of the body.

[0008] An interconnection between the fabrics is achieved by inserting the button into an accordingly shaped button hole. For loosening the sections of fabric, the button is again passed through the slit shaped button hole. In particular this unbuttoning action is however considered cumbersome, in particular when a plurality of buttons is used to fasten the sections of fabric.

[0009] It is therefore a goal of the present invention, amongst other goals, to provide an efficient, easy in use and/or cheap button which can be unbuttoned efficiently.

[0010] This goal, amongst other goals, is met by a button according to claim 1. More specifically, to meet this goal, amongst other goals, the button according to the preamble is characterized in that the button is provided with attachment means at or near the circumferential edge of the body. By attaching the button to the fabric at a location near the edge of the button such that these connection means are located on or near a slit shaped button hole on the other fabric section in fastened state, the button can be efficiently unbuttoned by pulling the two sections apart. The attachment means guide the button through the button hole on application of a pulling unbuttoning action.

[0011] The attachment means at or near the edge are preferably arranged to locally direct or bias the edge of the button towards the fabric for this guiding function. The attachment means are preferably arranged to guide one half, in particular the half of the button in the direction of the intended pulling action, through the button hole. The attachment means hereto preferable extend at a single half of the button.

[0012] Although it is possible to provided attachment means along a plurality of locations on the edge, it is preferred if the button is provided with attachment means at a single location at or near the circumferential edge. This results in an efficient design which is easy to unbutton.

[0013] The button is further provided with attachment means at a central location of the body. These central attachments for instance correspond to the connection means traditionally used in buttons and may include a plurality of through holes or a shank. According to this embodiment, the traditional attachment are located in or around the centre of the button, for instance in a regular pattern, while the attachment means near or at the edge extend a location radially outwardly at a distance from the centre, preferably at a single location.

[0014] To further guide the button through the button hole while unbuttoning, the body preferably has a tapered shape towards the attachment means near the edge arranged for guiding the button through the button hole. The tapering, i.e. decreasing width and/or height, is hereby preferably oriented in the longitudinal direction of the slit shaped button hole in the fastened position.

[0015] More specifically, the body of the button has a tapering width, seen in a direction parallel to the plane of the lower surface of the body, towards the location of the attachment means at or near the edge. In other words, the width of the body decreases towards the attachment means at or near the edge of the body. While traditional button are disc shaped, wherein the outer edge is circular, the button according to the invention has a tapered outer edge, wherein the tapered sections of the outer edge preferable extend substantially rectilinearly as mentioned below.

[0016] As the bottom of a button generally has a substantially flat surface, the width of the button is defined with respect to this surface. However, more generally, the body of the button has a height, width and length, wherein the height is substantially smaller than the width and the length. The length is defined along the line extending through the attachment means at or near the edge of the body and the centre of the body. The width extends perpendicular to the length.

[0017] To further improve the guidance, according to a further preferred embodiment, the body of the button has a tapering height, seen in a direction perpendicular to the plane of the lower surface of the body, towards the location of the attachment means at or near the edge. In other words, the height of the body gets smaller towards the attachment means near the edge.

[0018] The guidance is further improved if the body tapers along at least half of the length of the body, preferably more than half of the length, wherein the length is measured along the line extending through the attachment means at or near the edge of the body and the centre of the body. An even better guidance is achieved when the body tapers substantially rectilinearly or planarly.

[0019] The button can be efficiently attached to a fabric using a hole extending through the body. Therefore, according to a further preferred embodiment, the attachment means at or near the circumferential edge comprise at least one through hole extending between the upper surface and the lower surface of the body of the button. The through hole is arranged to receive threading.

[0020] It is possible that the body comprises two adjacently located through holes at or near the edge of the button. This allows easy sewing of the button.

[0021] It is however also possible that the body is provided with a single through hole at or near the circumferential edge. A loop of threading for attaching the button to the fabric then runs through the hole and along the outer edge of the button. This further enhances the unbuttoning efficiency as the button is directed more efficiently through the accordingly orientated button hole while unbuttoning with a pulling motion.

[0022] To reduce the visibility of the thread running along the outer edge of the button, the circumferential edge of the body near the through hole may comprise a recess extending between the upper and lower surfaces. The recess is hereby arranged to receiving the thread and is shaped accordingly, preferably such that the thread is countersunk in the recess.

[0023] According to a further preferred embodiment of a button according to the invention, the attachment means at or near the circumferential edge comprise a passage having two ends extending through the body, wherein the ends are located at the lower surface and/or the circumferential edge of the body. The upper surface hereby does not contain an end, such that the attachment means near the edge are not or hardly visible. The passage may hereto be suitably curved.

[0024] The invention further relates to a product, in particular clothing, at least partly manufactured from a fabric, wherein the fabric is provided with at least one button according to the invention.

[0025] A further preferred embodiment of the product in accordance with the invention further comprises a slit extending in a longitudinal direction and arranged for receiving the button, wherein the button and the corresponding slit are oriented such that the attachment means at or near the circumferential edge of the body of the button is on the longitudinal direction of the slit. As said, this enhances the efficient unbuttoning action.

[0026] To further direct the button in the direction of the button hole upon unbuttoning, according to a further preferred embodiment, the distance between the button and the fabric at the location of the attachment means at or near the edge is smaller than this distance at a central location of the button.

[0027] The present invention is further illustrated by the following Figures, which show a preferred embodiment of the button according to the invention, and are not intended to limit the scope of the invention in any way, wherein:

- Figure 1 shows a first embodiment of the button in top view;
- Figure 2 shows the button of figure 1 in side view;
- Figures 3 - 5b show further embodiments in top view;
- Figure 6 shows a further embodiment in side view; and
- Figure 7 shows a further embodiment of the button in bottom view.

[0028] A button 1 according to the invention is shown in figure 1 which is formed by a body 10. At the centre 5, the body 10 is provided with four traditional holes 2 for sewing the button 1 to a fabric. Provided near an edge 11 of the button is provided an extra hole 3 which extends through the body 10 from an upper surface 12 to a lower surface 13, see figure 2. The region with the through hole 3 is indicated with 6 in figure 2.

[0029] Figure 2 further shows that the body 10 is tapered towards the edge 11 provided with the extra hole 3. The height h of the body 10 at the location of the hole 3 is smaller than at a location at the opposite side, indicated with 4. The body 10 is tapered along more than half of the length 1 of the body 11.

[0030] This length 1 is measured along the line 100, see figure 1, extending through the extra hole 3 and the centre 5 of the button 1. Also the width w of the body 10 is tapered. The body 10 is provided with two linear sections 14a and 14b which also extend along at least the half of the length 1 of the button 1. The outer edge 11 is hereby formed by an arc shaped section 15, two linear sections 14a, 14b and again an arc shaped section near the extra hole 3, near the reference numeral 11 in figure 11. This shape of the body 11 allows an enhanced guidance through a button hole which facilitates unbuttoning.

[0031] In figure 3 the button 1 is shown with a thread 7 for attaching the extra hole 3 to the fabric. It goes without saying that also the holes 2 are provided with suitable threading. As the button 1 is only provided with a single hole 3 at the edge region, the loop of the thread 7 extends along the outer edge 11. The edge 11 of the embodiment as shown in figure 4 is provided with a recess 8 to receive the thread such that the thread is countersunk in the edge 11.

[0032] As an alternative as shown in figures 5a and 5b, the body 10 can be provided with two extra holes 3 for securing the button 1 to the fabric. In figure 5a the holes 3 extend adjacently in the width direction of the body 10, whereas the holes 3 in the embodiment of figure 5b extend adjacently along the length of the body 10.

[0033] To hide the extra connection of the button 1 according to the invention, the edge 11 self can be provided with a curved passage 3a, see figure 6. The passage 3a extends between the surface forming the edge 11, such that threading extending through this passage 3a is difficult to see from the top side 12.

[0034] As an alternative as shown in figure 7, a passage 3b extends between the lower surface 13, wherein both ends of the passage 3b are located on the lower surface 13. The passage 3b is hereto also suitably curved.

[0035] The present invention is not limited to the embodiment shown, but extends also to other embodiments falling within the scope of the appended claims.

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JP2002330802A [0003]

- DE3732?C [0004]
- US1232633A [0005]
- JP2004173732A [0006]
- US2543056A [0007]

Patentkrav

1. Knap (1) til fastgørelse af stoffer, f.eks. tøj, hvorved knappen (1) omfatter et legeme (10) og er forsynet med fastgørelsesmidler (2) ved et centralt sted (5) på legemet (10), og som er indrettet til fastgørelse, f.eks. ved syning, af knappen (1) til et stof, hvorved knappens (1) legeme (10) har en aftagende bredde (w), set i retning parallelt med legemets (10) nedre overflades (13) plan, **kendetegnet ved,** at knappen (1) endvidere er forsynet med fastgørelsesmidler (3) ved eller nær ved legemets (10) periferikant (11), og hvorved legemets (10) bredde (w) aftager i retning af fastgørelsesmidlernes (3) placering (6) ved eller nær ved kanten (11).

2. Knap (1) ifølge krav 1, hvorved knappen (1) er forsynet med fastgørelsesmidler (3) på et enkelt sted (6) eller nær ved periferikanten (11).

3. Knap (1) ifølge krav 1 eller 2, hvorved knappens (1) legeme (10) har en aftagende højde (h), set i retning vinkelret på planet for legemets (10) nedre overflade (13), i retning af fastgørelsesmidlernes (3) placering (6) ved eller nær ved kanten (11).

4. Knap (1) ifølge krav 1, 2 eller 3, hvorved legemet (10) bliver smallere over i det mindste halvdelen af længden (1) af legemet (10), fortrinsvis over mere end halvdelen af længden (1), hvorved længden (1) måles langs den linje (100), som strækker sig igennem fastgørelsesmidlerne ved eller nær ved legemets (10) kant (11) og legemets (10) midte (5).

5. Knap (1) ifølge ethvert af kravene 1 - 4, hvorved legemet (10) bliver smallere på i alt væsentligt retlinet eller plan måde.

6. Knap (1) ifølge ethvert af de foregående krav, hvorved fastgørelsesmidlerne (3) ved eller nær ved periferikanten (11) omfatter i det mindste et gennemgående hul, som strækker sig imellem den øvre overflade (12) og den nedre overflade (13) på knappens (1) legeme (10).

7. Knap (1) ifølge krav 6, hvorved legemet (10) er forsynet med et enkelt gennemgående hul ved eller nær ved periferikanten (11).

8. Knap (1) ifølge krav 7, hvorved legemets (10) periferikant (11) nær det gennemgående hul har en udsparing (8), som strækker sig imellem den øvre (12) og nedre (13) overflade.

9. Knap (1) ifølge ethvert af de foregående krav 1 - 5, hvorved fastgørelsesmidlerne (3) ved eller nær ved periferikanten (11) har en passage med to ender (3a, 3b), der strækker sig igennem legemet, hvorved disse ender (3a, 3b) er placeret ved legemets (10) nedre overflade (13) og/eller periferikant (11).

10. Produkt, især tøj, i det mindste delvis fremstillet af et stykke stof, hvorved stoffet er forsynet med i det mindste en knap (1) ifølge et af de foregående krav.

11. Produkt ifølge krav 10, og som yderligere omfatter en spalte, som strækker sig i en langsgående retning og er indrettet til optagelse af knappen (1), hvorved knappen og den tilsvarende spalte er således orienteret, at fastgørelsesmidlerne (3) ved eller nær ved periferikanten (11) på knappens legeme (5) befinder sig på spaltens langsgående retning.

12. Produkt ifølge krav 10 eller 11, hvorved afstanden imellem knappen (1) og stoffet ved fastgørelsesmidlernes (3) placering ved eller nær ved kanten (11) er mindre end afstanden ved en central placering (5) af knappen (1).

DRAWINGS

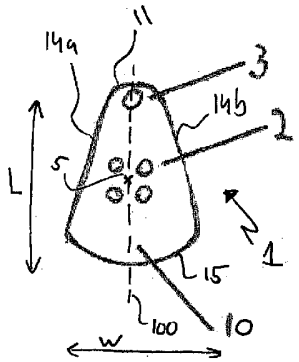

Figure 1

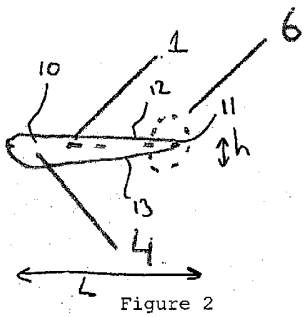

Figure 2

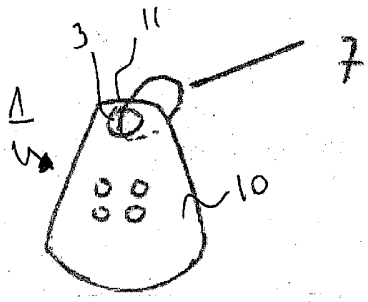

Figure 3

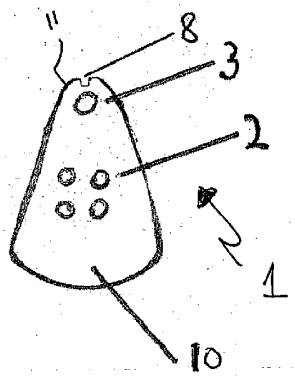

Figure 4

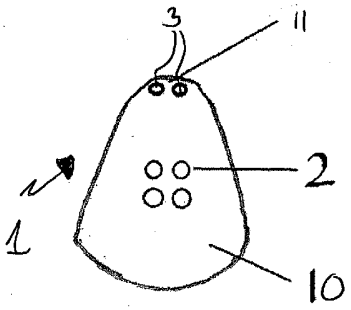

Figure 5a

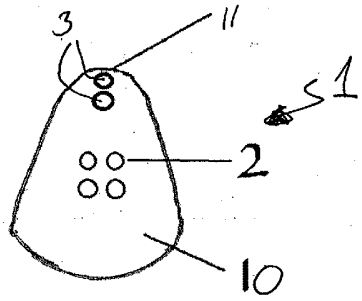

Figure 5b

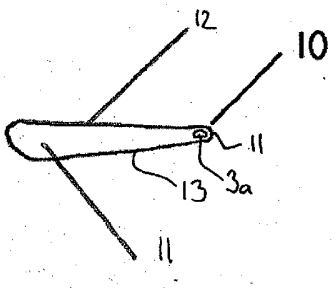

Figure 6

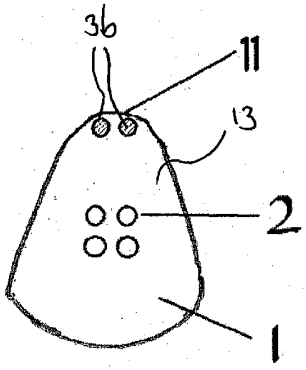

Figure 7