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(54) Button cover

(57) A button cover (1) is disclosed. The button cover (1) comprises a covering member (10) and two holding members (20, 20') each of which is pivotable between a closed and an open position around an axis perpendicular to a circumferential edge of the covering member (10). In the closed position, the covering member and the holding members enclose the button, while the button thread is passed through an opening defined by recesses in the holding members (20, 20'). Preferably, the button cover (1) further comprises spring-biased securing means for securing the holding members in their closed positions, which are preferably released by a pushbutton, means for limiting the pivoting range of the holding members, and spring-biased means for forcing the holding members into their open positions once the securing means have been released.

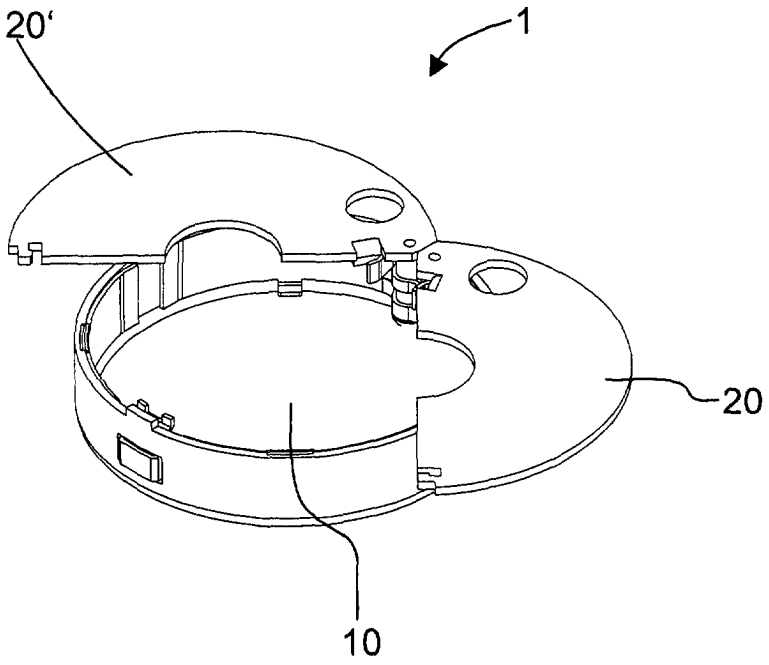

FIG. 1

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Description

Field of the invention

[0001] The present invention relates to a button cover suitable for covering and at least partially enclosing a button sewn to a garment.

Background of the invention

[0002] Button covers are known from a number of documents in the art. U.S. Patent No. 3,777,336 discloses a button cover having a button covering member and a flat holding member pivotably connected to the covering member via a hinge. The holding member has a slit extending from its center to its circumference. For mounting the button cover on a button, the holding member is slid behind the button, the slit taking up the threads with which the button is secured on the garment. Subsequently, the button covering member is flapped over the button into a closed position and secured to the holding member. Similar button covers are known from U.S. Patents No. 5,161,285, 5,394,719 and 5,621,951.

[0003] The aesthetic appearance of such button covers is not entirely satisfactory due to the slit extending to the outside of the holding element, and mounting of the button cover can be rather cumbersome.

[0004] U.S. Patent No. 4,539,731 discloses a button cover which also has a button covering member and a holding member pivotally connected to one another. A perimeter spacing edge is provided therebetween, divided in two portions respectively integral with the covering member and the holding member, an opening being formed in it. By pivoting the holding member relative to the covering member, a passage is provided for the button thread. Fastening means are provided for securing the holding member to the covering member in the closed position.

[0005] Also this button cover is aesthetically not entirely satisfactory since the division of the perimeter spacing edge is readily visible when the button is fastened to a piece of garment.

Summary of the invention

[0006] It is therefore an object of the present invention to provide a button cover which is aesthetically pleasing and which is easily mounted on a button.

[0007] This object is achieved by a button cover with the features of claim 1.

[0008] Thus, a button cover suitable for covering and at least partially enclosing a button sewn to a garment by a thread is provided. The button cover comprises a button covering member having a cover portion and a circumferential side wall portion. The button cover further comprises a first and a second holding member, wherein each of said first and second holding members is pivotally disposed on said button covering member such that it is pivotable between a closed and an open position around a pivot axis. The pivot axes of the first and second holding members are essentially parallel to each other and essentially perpendicular to the perimeter edge of the sidewall portion of the button covering member. The button covering member and the first and second holding members in their closed positions jointly define a hollow space for receiving the button, and the first and second holding members in their closed positions jointly define an opening of the hollow space for receiving the thread of the button.

[0009] Such a button cover has a pleasing aesthetic appearance. Due to the presence of two holding members, both of which are pivotable, the button cover is easily mounted on a button.

[0010] Preferably, the first and second holding members are essentially flat. This avoids a visible division around the circumference of the button cover, leads to simplified manufacture, and provides easy mounting of the button cover on the garment. Alternatively, the holding members may have a different shape, including a shape having a sidewall portion.

[0011] In an advantageous embodiment, the first and second holding members are essentially mirror-symmetric in shape and size to one another and are disposed essentially mirror-symmetrically on the covering member. The pivot axes of the holding members are preferably closely adjacent to each other. This gives a particularly pleasing appearance and leads to easy handling of the button cover. The opening movement of the button cover then resembles the opening movement of the wing shells of a ladybird.

[0012] In one particular embodiment, the button covering member has an essentially circular shape, and the first and second holding members have an essentially semicircular shape, i.e., they have both an arc-shaped edge and a straight edge. A preferably semicircular recess is present in each straight edge, preferably at the center of the straight edge, and the recess of the first holding member and the recess of said second holding member commonly define the opening for receiving the thread.

[0013] Advantageously, the button cover comprises means for limiting a pivoting movement of the first and second holding members between their closed position and their open position to a predetermined angular range. These means may comprise an angled (slanted) edge in a portion of each holding member close to the respective pivot axis. The pivoting angle of each holding member (half the total opening angle of the holding members with respect to one another) is preferably in the range of 30 to 60 degrees, more preferred 37.5 to 52.5 degrees, most preferred about 45 degrees. This leads to both easy handling (easy insertion of the button into the button cover, easy locking of the cover with one hand) and to a pleasing appearance in both the open and closed states.

[0014] For keeping the button cover in its closed state, the button cover preferably comprises releasable secur-

ing means (a securing mechanism) for securing the holding members in their closed position. These securing means may comprise a pushbutton, which preferably extends through an opening of the sidewall portion of the covering member, and locking means cooperating with recesses or protrusions in the first and second holding members. First spring means may be present for biasing the pushbutton into a securing position unless pressed.

[0015] The spring means may comprise an elastic ring member having a gap. The ring member is disposed in the covering member in contact with the sidewall portion, and the pushbutton is disposed on the ring member preferably sideways from the gap.

[0016] The button cover may comprise second spring means for forcing the first and second holding members into their open positions.

Brief description of the drawings

[0017] The invention will be described in more detail in connection with an exemplary embodiment illustrated in the drawings, in which

Fig. 1 shows a perspective view of a button cover according to the present invention in an open state;
Fig. 2 shows a top (plan) view of the button cover of Fig. 1;
Fig. 3 shows a bottom view of the button cover of Fig. 1;
Fig. 4 shows a perspective view of the button cover of Fig. 1 in a closed state;
Fig. 5 shows a detail view of a hinge mechanism;
Fig. 6 shows a detail view of a push button;
Fig. 7 shows a detail view of an edge portion of the button cover;
Fig. 8 shows a perspective view of two holding member;
Fig. 9 shows a perspective view of a ring member;
Fig. 10 shows a perspective view of two pins; and
Fig. 11 shows a perspective view of a covering member.

Detailed description of the invention

[0018] An advantageous embodiment of a button cover according to the present invention is shown in Figs. 1 to 4 in different perspectives. The button cover 1 comprises an essentially circularly shaped covering member 10 having a flat cover portion 11 and a circumferential sidewall portion 12. A more detailed view of the button covering member 10 by itself is provided in Fig. 11. When mounting the button cover on a button sewn to a garment, the button will be disposed within the inside of the circumferential sidewall portion 12, the side of the button pointing away from the garment facing the inside of the flat cover portion 11. The outside of the cover portion 11 will thus be most prominently visible when the button cover 1 is mounted on the button, and it may therefore be provided with ornaments, precious stones or other means to give an aesthetically pleasing appearance.

[0019] In order to secure the button covering member 10 to the button, a pair of holding members 20, 20' is provided. These are shown by themselves in Fig. 8. Each of these holding members has an essentially flat, semicircular shape. In each holding member, a semicircular recess 21 is provided in the center of the straight section edge of the half-circle. The holding members 20, 20' are disposed in an articulated fashion on the covering member 10, such that they are pivotable between an open position (as shown in Figs. 1 to 3) and a closed position (as shown in Fig. 4). Each pivot axis is perpendicular to the plane of the respective flat holding member, or, in other words, each pivot axis is perpendicular to the circumferential edge of the sidewall portion 12. Both pivot axes are parallel and closely adjacent to each other. The holding members 20, 20' are mounted on the covering member 10 in a mirror-symmetric fashion and open from their closed into their open position similar to the way in which the wing shells of a ladybird (also known as a ladybug) open, see especially Figs. 2 and 3. Therefore, this type of button cover may be called a "ladybird"-type button cover, the "wing shells" of the "ladybird" being identified with the holding members 20, 20'. In their open position, the holding members 20, 20' uncover the interior of the covering member 10, such that a button may be inserted into the interior. In the closed position, they close off a hollow space delimited by the covering member 10 and the holding members 20, 20', in which the button will then be contained. In this state, the button thread is passed to the outside of the button cover through an opening defined by the semicircular recesses 21.

[0020] A detail of the articulation (hinge mechanism) is shown in Fig. 5 for better visibility. Each holding element 20, 20' is firmly connected to a pin 40, 40', respectively, e.g., by means of riveting, soldering, welding including spot welding and in particular laser welding, gluing etc. These pins are shown by themselves in Fig. 10. They have an essentially cylindrical shape, with a larger-diameter semispherical bottom portion 42 and a reduced-diameter stud 41 at the top. The stud 41 fits into a corresponding small opening of each holding member for connecting the pin 40, 40' to the respective holding member 20, 20'. The pins are held in place relative to the covering member 10 by a ring-shaped insert (ring member) 30, which is shown by itself in Fig. 9. This insert will be described to more detail further below. The feature of the ring member 30 most important for holding the pins 40, 40' in place are two parallel sinuous (wave-shaped) portions 32, 33 extending away from the circumference of the ring to the inside of the ring. These sinuous portions define two bearing points for the pins 40, 40' between the sinuous portions and the inside of the sidewall portion of the covering member, once the ring member 30 has been inserted into the covering member 10. The semispherical bottom portion 42 of the pin 40 with its larger

diameter keeps the pin from slipping out of the bearing position towards the top, i.e., it keeps both the pin 40, 40' and the holding member 20, 20', respectively, in its place with respect to a movement away from the covering member 10. At the same time, the semispherical shape of the bottom portion 42 minimizes friction on the inside of the cover portion of the covering member during the pivoting movement.

[0021] In the closed state, the holding members 20, 20' are held in their closed positions by means of a securing mechanism shown in Fig. 6 in greater detail. The securing mechanism comprises a pushbutton 35 on the ring member 30 and two small protrusions 36 acting as locking means and pointing from the ring member towards the holding elements 20, 20' and extending into the plane of these holding elements. The pushbutton 35 and the protrusions 36 are also visible in Fig. 9. They are preferably integrally formed in one piece with the ring member 30. Once the ring member has been inserted into the covering member 10, the pushbutton extends through an opening 13 of the covering member 10 (see also Fig. 11) radially to the outside of the circumferential sidewall region 12 of the covering member 10 and may be pushed there for releasing the securing mechanism. As will readily be appreciated from the drawings, the securing mechanism works as follows. The protrusions 36 cooperate with hook-shaped recesses 25 (cf. Fig. 8) in the holding members 20, 20'. Each hook-shaped recess 25 has an essentially straight, tangential portion extending essentially parallel to the direction of movement of the holding member when the same moves from the closed into the open position (i.e., parallel to the arced-shaped edge 24 of the holding member), followed by an angled portion extending essentially perpendicular to this direction (i.e., radially outward). In the closed position of the holding members, each protrusion 36 extends into the angled portion of the recess of each holding member. It keeps the holding member in this position since it abuts to the portion of the holding member extending between the angled portion of the recess and the straight edge of the holding member and thus stops the holding member from moving away from the closed position. For releasing the securing mechanism, the pushbutton is pressed in. This leads to a compression of the ring member 30, which is manufactured from an elastic material, and specifically to a compression of the gap 31, which is at a position approximately 90 degrees away from the push button if viewed from the center. Therefore, an elastic force acts against the pushbutton when pressed in. This constitutes a first spring mechanism. Together with the movement of the pushbutton, the protrusions 36 are moved radially inwards and move into the straight tangential portion of recess 25, thus releasing the holding members from the closed position.

[0022] In order for the holding members 20, 20' to open automatically, a second spring mechanism is provided which generates an opening force on the holding members. This second spring mechanism comprises elastic protrusions 34, 34' protruding from the ring 30 radially inward (cf. Fig. 9). These elastic protrusions are preferably formed in one piece with the ring 30. The elastic protrusions cooperate with flanges 23 on each holding member, the flanges protruding from the plane of the holding members into the inside of the button cover. These flanges are best seen in Fig. 8. They are preferably formed integrally in one piece with the holding members. When the holding members are pressed from their open positions into their closed positions, the elastic protrusions 34, 34' are bent towards each other by the flanges 23. This is best seen in Figs. 1 and 2. In this way, an elastic biasing force is exerted on the holding members which acts towards their open positions. Therefore, once the holding members are released from their closed position by pressing the pushbutton, they automatically move into the open position through action of the biasing force.

[0023] The ring member 30 is held in its predetermined place in the covering member 10 by flanges 37 acting as bases or "feet" and by elastic retention protrusions 14 in the circumferential edge of the covering member 10 cooperating with recesses 38 in the ring member 30, as best seen in Fig. 7.

[0024] In the open position, the opening angle of the two holding members is well-defined, i.e., the range of angular movement of each holding member 10 between the closed and open positions is limited. This is achieved by two short angled edge sections 27 on each holding member, cf. Fig. 8. As best seen in Figs. 1 and 2, these edge sections abut with each other if the holding members are in their open positions, and prevent further movement of the holding members. In the present embodiment, the opening angle is approximately 90 degrees, and consequently the slant angle of the angled edge sections 27 is about 45 degrees relative to the straight edge 23 of each cover element. Of course, other opening angles than 90 degrees may be readily chosen. If the angle is too small, however, it will be difficult to insert a button into the button cover, and if the angle is too large, the aesthetic appearance will be less pleasing. Therefore, opening angles in the range of 60 to 120 degrees, in particular 75 to 105 degrees, are preferred.

[0025] The button cover of the present invention may be readily manufactured from a variety of materials. In particular, the covering member 10 and the holding members 20, 20' are preferably made from steel, gold, silver, brass, bronze, or other metals or metal alloys. They may also be manufactured from plastic, e.g., by injection molding, and they may optionally be plated or lacquered. Precious stones or other ornaments may be provided on the outside. The ring member 30 may be manufactured from any sufficiently elastic material, in particular from spring steel or a suitable plastic material.

[0026] The button cover of the present invention may be used as part of a multifunctional, modular jewelry system. To this end, openings 26 are provided on each holding member for taking up items such as a necklace, an

ear ring, an ear clip, a brooch pin etc. By inserting such items into the openings 26, the range of possible uses of the button cover 1 may be vastly extended. In particular, the button cover may be converted into a jewelry item carried on a necklace, into an ear ring, into a brooch etc.

[0027] In another application, two button covers may be connected to form a cuff link. To this end, an essentially bone-shaped connector may be inserted into the opening normally destined for the button thread. The connector has an overall diameter smaller than this opening and end portions with dimensions larger than this opening. It may have a straight or bent shape. In this way, two button covers according to the present invention may be readily connected to form a cuff link.

[0028] Of course, many variations of the button cover according to the present invention are possible. By the way of example, the button cover may have a different shape than circular, e.g., rectangular, quadratic, rhombic, oval, triangular, hexagonal, octagonal, generally polygonal, cross-shaped, heart-shaped, etc. While the use of holding members of equal size is preferred, this is not mandatory. Different hinge mechanisms are possible, including hinge mechanisms well known in the art. Different securing mechanisms are likewise possible. The pushbutton may, e.g., cooperate with protrusions or flanges of the holding members which extend into the inside of the button cover. Securing mechanisms without a pushbutton may also be used, including a simple hook mechanism for connecting the two holding members to each other. In this case, the ring member 30 becomes unnecessary. In a simplified embodiment, the biasing by the protrusions 34, 34' may be left away or replaced by other means of providing a biasing force, e.g., by a coiled spring.

List of reference signs

[0029]

1	Button cover
10	Covering element
11	Cover portion
12	Sidewall portion
13	Opening for pushbutton
14	Retention protrusion
20, 20'	Holding member
21	Semicircular recess
22	Straight (section) edge portion
23	Flange
24	Arc-shaped edge portion
25	Hook-shaped recess
26	Opening (for accessories)
27	Angled edge section
30	Ring member
31	Gap
32, 33	Sinuous portion
34, 34'	Elastic protrusion
35	Pushbutton
36	Protrusion (for securing mechanism)
37	Base flange
38	Recess
40	Pin
41	Stud
42	Semispherical bottom

Claims

1. A button cover (1) suitable for covering and at least partially enclosing a button sewn to a garment by a thread, said button cover (1) comprising a button covering member (10) having a cover portion (11) and a circumferential side wall portion (12), said side wall portion having a perimeter edge, said button cover further comprising a first and a second holding member (20, 20'), wherein each of said first and second holding members (20, 20') is pivotally disposed on said button covering member (10) such that it is pivotable between a closed and an open position around a pivot axis, wherein the pivot axis of said first holding member (20) and the pivot axis of said second holding member (20') are essentially parallel to each other and essentially perpendicular to said perimeter edge, wherein said button covering member (10) and said first and second holding members (20, 20') when disposed in their closed positions jointly define a hollow space for receiving said button, and wherein said first and second holding members (20, 20') when disposed in their closed positions jointly define an opening of said hollow space for receiving said thread.

2. The button cover (1) of claim 1, wherein each of said first and second holding members (20, 20') is essentially flat.

3. The button cover (1) of claim 1 or 2, wherein said first and second holding members (20, 20') are essentially mirror-symmetric in shape and size to one another and are disposed essentially mirror-symmetrically on said covering member (10).

4. The button cover (1) of claim 3, wherein said button covering member (10) has an essentially circular shape, and each of said first and second holding members (20, 20') have an essentially semicircular shape having a arc-shaped edge (24) and a straight edge (22), wherein a recess (21) is present in each straight edge (22), and wherein said recess (21) of said first holding member (20) and said recess of said second holding member (20') commonly define said opening for receiving said thread.

5. The button cover (1) of one of the preceding claims, wherein said button cover (1) comprises means (27)

for limiting a pivoting movement of each of said first and second holding members (20, 20') between said closed position and said open position to a predetermined angular range.

6. The button cover (1) of one of the preceding claims, wherein said button cover (1) comprises releasable securing means (25, 30, 35, 36) for securing said first and second holding members (20, 20') in their closed position.

7. The button cover (1) of claim 6, wherein said securing means (25, 30, 35, 36) comprise a pushbutton (35), locking means (36) cooperating with recesses or protrusions (25) in said first and second holding members (20, 20'), and first spring means for biasing said pushbutton (35) into a securing position unless pressed.

8. The button cover (1) of claim 7, wherein said spring means comprise an elastic ring member (30) having a gap (31), said ring member (30) being disposed in said covering member (10) in contact with said sidewall portion (12), and wherein said pushbutton (35) is disposed on said ring member (30) sideways from said gap (31).

9. The button cover (1) of one of the preceding claims, wherein said button cover (1) comprises second spring means (34, 34') for forcing said first and second holding members (20, 20') into said open positions.

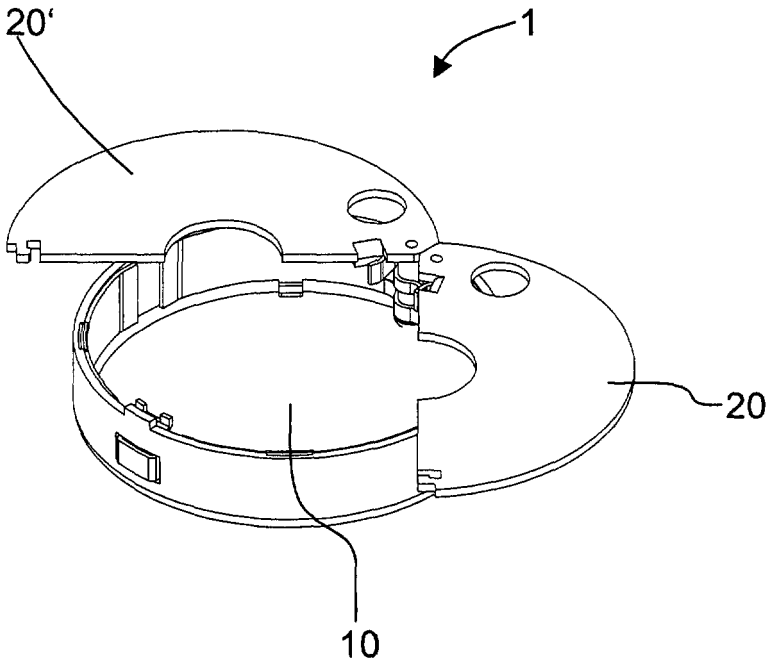

FIG. 1

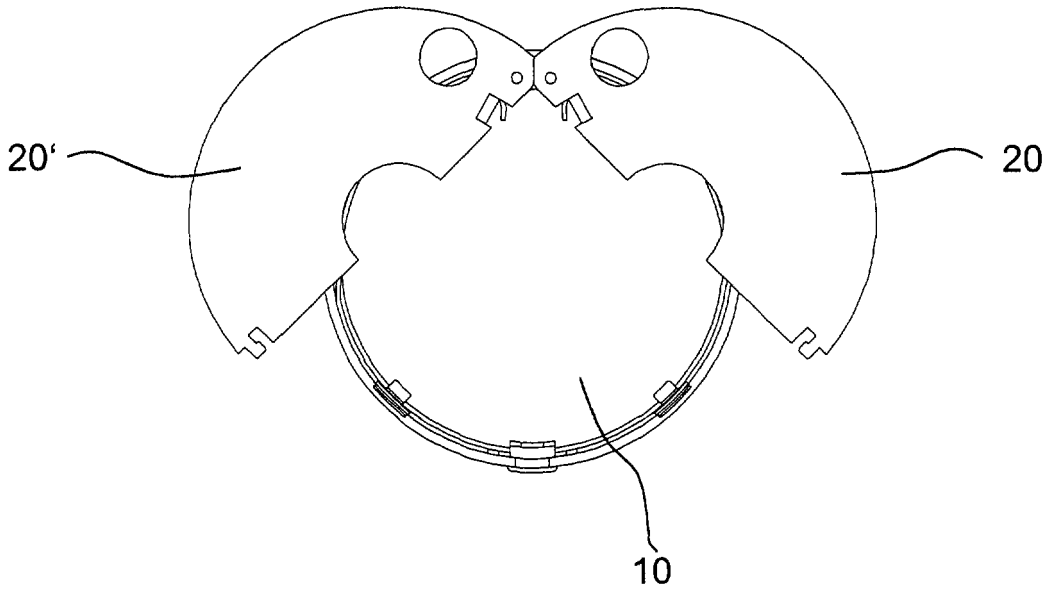

FIG. 2

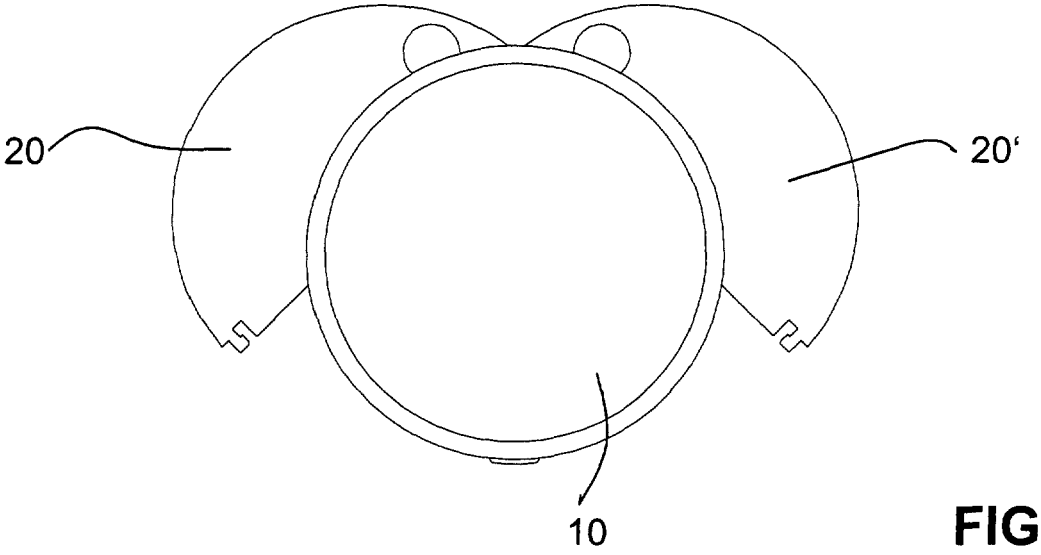

FIG. 3

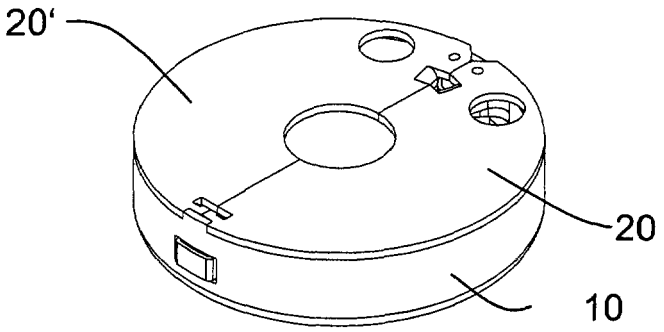

FIG. 4

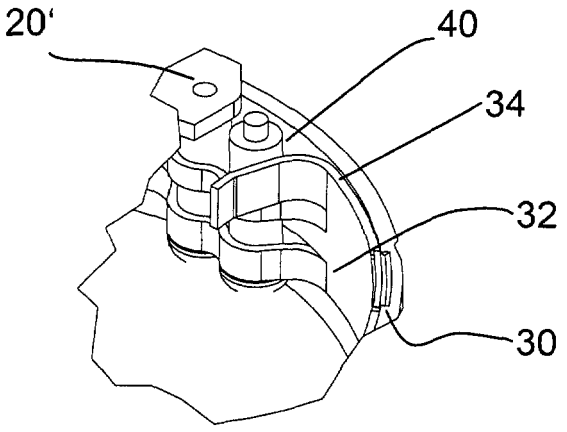

FIG. 5

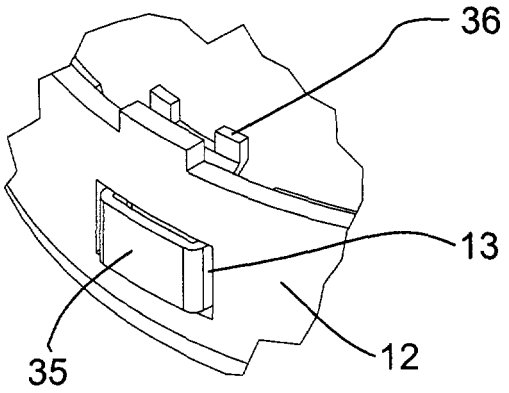

FIG. 6

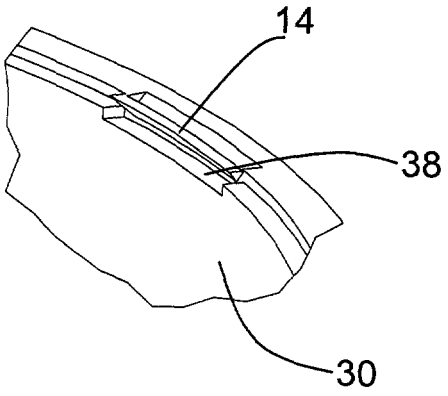

FIG. 7

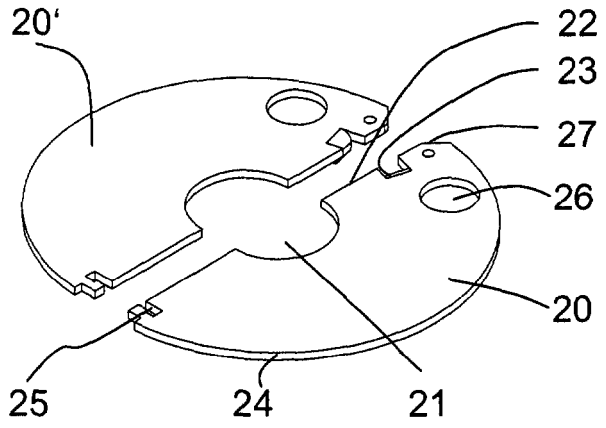

FIG. 8

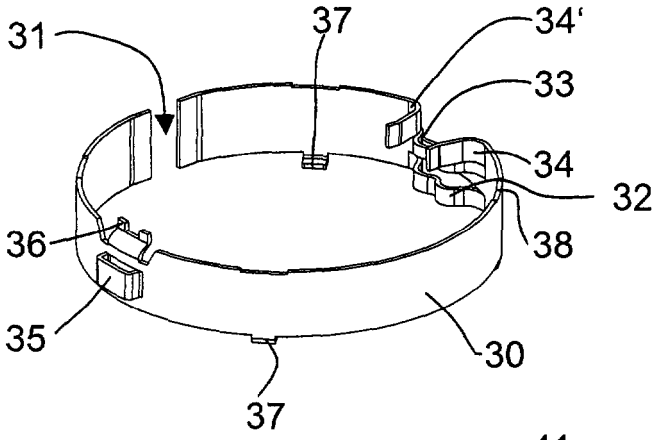

FIG. 9

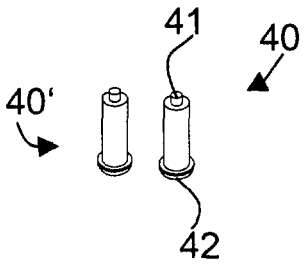

FIG. 10

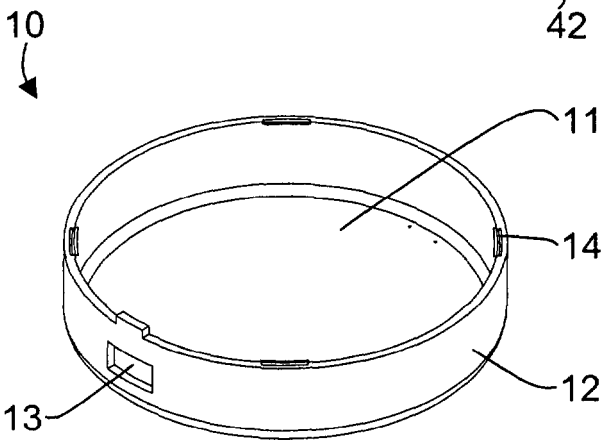

FIG. 11

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 40 5403

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	5 December 2005	Westermayer, W

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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