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(54) CLOSURE DEVICE FOR GOLD, SILVER AND COSTUME JEWELLERY ITEMS

VERSCHLUSSVORRICHTUNG FÜR GOLD-, SILBER- UND MODESCHMUCKARTIKEL

DISPOSITIF DE FERMETURE POUR ARTICLES DE BIJOUX D'OR, D'ARGENT ET DE FANTAISIE

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Description

Technical field

[0001] The present invention refers to a closure device for gold, silver and costume jewellery items.

Background

[0002] At the current state of the art, there are various types of closure devices for jewels (bracelets, necklaces, chains...).

[0003] In the field of gold, silver and costume jewellery, the need for new and alternative solutions is always present.

[0004] Furthermore, traditional devices, such as carabiner closures, are particularly uncomfortable to open and close. In fact, this type of closure provides for a ratchet operable by the user which, by acting on a spring, moves between an interference position with the gap defined between the tubular ends of the carabiner, corresponding to the closure configuration of the device in which the spring is discharged, and a position for inserting part of the ratchet inside one of the ends of the carabiner, corresponding to the opening configuration of the device in which the spring is compressed by the ratchet.

[0005] This device, as mentioned, is extremely uncomfortable because it is operated with the fingerpad of the finger and is also often difficult to operate, due to the hardness of the spring and/or the shape of the ratchet.

[0006] An alternative to such a device is presented by magnet closures, which however have the disadvantage of being subject to accidental openings, so that they need safety means, complicating the primary embodiment and resulting in expensive and often of not appreciable aesthetics devices.

[0007] An example of a similar existing bayonet type closing device with spring support can be found in document US 2008/047111 (A1) and DE 8700474 U1, which discloses the preamble of claim 1.

[0008] Anyway, in these documents closure devices are disclosed that are not enough safe and can be easily opened accidentally.

Objects and summary of the Invention

[0009] The aim of the invention is to eliminate the drawbacks mentioned above in known types of closure device for gold, silver and costume jewellery items which is comfortable to use and easy to open and close.

[0010] Within the aforementioned aim, one object of the invention is to make a closure device for gold, silver and costume jewellery items, which prevents any risk of accidental opening.

[0011] Another object of the invention is to give an alternative aesthetically appealing for the gold, silver and costume jewellery market.

[0012] Last but not least, another object of the invention is to make a closure device for gold, silver and costume jewellery items, by using readily commercially available means and commonly used materials, so that the device is economically competitive.

[0013] This aim, as well as these and other objects that will become more apparent below, are achieved by means of a closure device for gold, silver and costume jewellery items, according to claim 1.

[0014] The box-shaped body, as well as the male element and the other components of the closure device may be of metal, plastic or any other material.

[0015] The box-shaped body has at least one portion shaped like a tubular element: in this way, in the closure position, the male element is adapted to be inserted, at least partially, inside a tubular element defined in the box-shaped body.

[0016] Advantageously, the engagement means comprise projections on the surface of an extreme portion of the male element, that is to say that portion intended to couple with the tubular element of the box-shaped body. Such projections are adapted to be of engagement with guiding means defined on the surface of the box-shaped body.

[0017] Preferably, the aforementioned extreme portion of the male element is cylindrical so that it can engage with the tubular element.

[0018] The upper portion of the male element, according to what has been said, i.e. the one that does not couple with the box-shaped body (and eventually remains uncovered in the embodiment wherein a part of the male element fits into the tubular element) can assume any shape that the aesthetic need and the capriciousness consider adequate.

[0019] Elastic means interposed between the male element and the box-shaped body are provided, such as for example a compression spring, for thrusting the male element along the developing direction, so as to disengage it from the box-shaped body itself.

[0020] The action of the spring, of constant thrust towards the outside of the box-shaped body, is aimed at the actuation of the opening of the closure device: in fact, it only works in the closure position, when the male element compresses it.

[0021] Preferably, the guiding means comprise a series of channels. Each of these channels is sliding for at least one of the projections and has a final U-shaped part, similar to a fishing hook, and which ends with a locking edge for the respective projection which engages that channel. Such a locking edge is in contrast with the thrusting action of the elastic means in the closure position.

[0022] Obviously, the projections are spaced from each other with the same pitch that separates the inlet of each channel.

[0023] Preferably, in order to optimize the operation of the closure device, the projections are in a number comprised between 3 and 5, extremes included. A lower number of projections, in fact, would cause a dangerous

(and anaesthetic) inclination of the male element on the developing direction of the box-shaped body, while an excessive number could cause an overlapping of the channels constituting the guiding means, making closure impossible.

[0024] A plunger arranged within the box-shaped body is provided and has an abutment thickness interposed between the male element and the elastic means. The abutment thickness, in the closure position, allows the male element to exert a uniform pressure on the elastic means and causes such pressure to be greater than the thrust that the elastic means exert on the male element itself. Since this abutment thickness remains in view when the closure device is in the opening position, it may possibly be decorated so as to make it aesthetically appreciable.

[0025] The plunger then has a retainer element in the opening position. The retainer element prevents the plunger from completely coming out of the box-shaped body during the maximal extension of the elastic means.

[0026] For this aim, the tubular element is provided with a passage hole for the plunger, defined on its bottom.

[0027] Preferably, the box-shaped body comprises a cover, positioned on the opposite side of the engagement with said male element along the developing direction. While the inner part of the cover is advantageously cylindrical, the outside of the cover can assume any shape, similarly to what has been said for the upper portion of the male element.

Brief description of Drawings

[0028] Further features and advantages of the invention will be more apparent from the description of a preferred but not exclusive embodiment of the closure device for gold, silver and costume jewellery items, illustrated by way of non-limiting example with the aid of the accompanying drawings wherein:

figure 1 depicts a perspective view of a variant of the closure device 1 according to the invention;
figure 2 depicts an exploded view of the device of figure 1;
figure 3 depicts a section of the box-shaped body 2 of the device of figure 1, containing the developing direction 10 of the box-shaped body 2 itself;
figures 4A-4D depict the closure sequence of the device 1, sectioned with a plane through the developing direction 10 of the box-shaped body 2;
figures 5A-5D depict the opening sequence of the device 1, sectioned with a plane through the developing direction 10 of the box-shaped body 2.

Detailed description of one or more preferred embodiments of the Invention

[0029] With reference to the aforementioned figures, an executive variant of the closure device for gold, silver and costume jewellery items will be described, according to the invention, referred to in its entirety with the reference number 1.

[0030] This closure device 1 comprises a female box-shaped body 2 connected to a first end of a gold, silver and costume jewellery item by means of first hooking means 21. The box-shaped body 2 has engagement means with a male element 3 in turn connected to a second end of the gold, silver and costume jewellery item, by means of second hooking means. Such engagement means are adapted to mutually couple the male element 3 with the box-shaped body 2, so as to allow the mutual rotation of the box-shaped body 2 and of the male element 3 around the developing direction 10 of the box-shaped body 2, between a closure position (fig. 4D) and an opening position (fig. 5D) of the closure device 1.

[0031] The box-shaped body 2 has a portion shaped like a tubular element: in this way, in the closure position, the male element 3 is advantageously adapted to be inserted, at least partially, inside a tubular element 4 defined in the box-shaped body 2.

[0032] As illustrated in figure 3, the engagement means comprise projections 13 on the surface of an extreme portion 3 'of the male element 3, which is cylindrical so that it can engage with said tubular element 4.

[0033] In the example set herein (figures 1-5), the projections 13 are three.

[0034] The projections 13 are adapted to be engaged with guiding channels 14 for the respective projection 13 which slides inside it (figures 4B-4C and 5A-5C).

[0035] The channels 14 are defined on the surface of the box-shaped body 2. Each of the channels 14 has a final U-shaped part 14A and ending with a locking edge 14' for the projection 13 (figure 2). This locking edge 14' is in contrast with the thrusting action of the elastic means 8 in closure position.

[0036] Obviously, the projections 13 are spaced from each other with the same pitch that separates the opening 14"of each channel 14 (fig. 2).

[0037] In the preferred solution, the elastic means consist of a compression spring 8 (fig. 3), which constantly pushes the male element 3 in the developing direction 10, so as to disengage it from the box-shaped body 2 (figure 4A-4D).

[0038] It is therefore provided that the box-shaped body 2 has a plunger 6 inside.

[0039] The plunger 6 has an abutment thickness 61 interposed between the male element 3 and the spring 8, so that, in the closure position of the device 1, the male element 3 exerts a pressure higher than the thrust of the spring 8. Moreover, the plunger 6 comprises a retainer element 62 for locking the plunger 6 itself to the box-shaped body 2 when the spring 8 has the maximal extension in the opening position.

[0040] In order to operate the plunger 6, the tubular element 4 has a passage hole 41 for the stem of the plunger 6 (fig. 3 and 4).

[0041] In this embodiment variant, the box-shaped

body 2 comprises a cover 5, arranged on the opposite side with respect to where the male element 3 engages with the body 2, along the developing direction 10.

[0042] With reference to figures 4A-4D, to close the device 1, the user must first press the male element 3 on the spring 8 by means of the abutment thickness 61 and, once the projections 13 have engaged the respective channels 14, the user will rotate the male element 3 on the tubular element 4 around the direction 10 so that the projections 13 travel the final part 14A of the relative channel 14 until reaching the locking edge 14' (in this case the rotation will be carried out in a counter-clockwise direction).

[0043] To open the device (figures 5A-5D), the user must first release the projections 13 from the respective locking edges 14' by pressing the spring 8 and then rotating the male element from the opposite side (clockwise direction), i.e. in such a way that the projections 13 travel the final part 14A of the relative channel 14 in the opposite direction, then moving away from the locking edge 14' and moving towards the inlet 14"of the channel 14. Then, let the spring thrust the male element 3 disengaging it from the box-shaped body 2.

[0044] From what has been described above it is therefore clear how the invention achieves the intended aim and objects and in particular it is underlined that a closure device is made for gold, silver and costume jewellery items, which is easy to open and close and which is very comfortable to use, as it is sufficient to exert a light pressure on the spring with the male element and apply a slight rotation, screwing or unscrewing, both when opening and closing the device.

[0045] In particular, having thought to "imprison" the male element in the guiding channel during the closure of the device, allowed the realization of an extremely safe device, thus eliminating any risk of accidental opening. Another advantage of the invention is the fact that the technical limitations of this device are very limited and therefore it will be possible to produce a varied number of aesthetic variants, so as to allow the matching and compliance of the device on any type of jewel and in such a way as to make the closure device itself an aesthetically appreciable element of the jewel. Not least, the use of readily commercially available means and the use of common materials makes the device competitive in terms of cost.

Claims

1. A closing device (1) for jewelry, goldsmith, silverware and costume jewelry, comprising:

   - a female-like box-shaped body (2) connected to a first end of an article of jewelry, goldsmith, silverware and costume jewelry by first hooking means (21), having engagement means (13, 14) with a male element (3) connected, in turn, to a second end of said article of jewelry, goldsmith, silverware and costume jewelry by means of second coupling means (31);
   - said engagement means (13, 14) being arranged to mutually couple said male element (3) with said box-shaped body (2), said male element (3) is arranged to be at least partially inserted inside a tubular element (4) defined in said box-shaped body (2), in such a way as to allow mutual rotation of said box-shaped body (2) and of said male element (3) around the developing direction (10) of said box-shaped body (2) between a closed position and an opening position of the closing device (1);
   - elastic means (8) for pushing said male element (3) in the developing direction (10), in order to disengage it from said box-shaped body (2);
   - a plunger (6) positioned internally of said box-shaped body (2) and having a stroke thickness (61) interposed between said male element (3) and said elastic means (8), in such a way that, in the closed position, said male element (3) exerts a pressure higher than the thrust of said elastic means (8),

   characterized in that

   said plunger (6) also comprising a stop element (62) in opening position;
   and
   said tubular element (4) comprises, on its bottom, a passage hole (41) for said plunger (6).

2. Closing device according to one or more of the preceding claims, wherein said engagement means (13, 14) comprise projections (13) on the surface of an extreme portion (3 ') of said male element (3) arranged to be of engagement with guiding means (14) defined on the surface of said box-shaped body (2).

3. Closing device according to claim 2, wherein said extreme portion (3 ') of said male element (3) is cylindrical so that it is able to engage with said tubular element (4).

4. Closing device according to claims 2 or 3, wherein said projections (13) are in a number included between 3 and 5, extremes included.

5. Closing device according to claim 1 or 2, wherein said guiding means (14) comprise sliding channels (14) for at least one of said projections (13), having a final part (14A) U shaped and ending with a locking edge (14') for said at least one of said projections (13), said locking edge (14') being in contrast with the pushing action of said elastic means (8) in the closed position.

6. Closing device according to one or more of the preceding claims, wherein said box-like body (2) com-

prises a cover (5), positioned on the opposite side of the engagement with said male element (3) along the development direction (10).

Patentansprüche

1. Verschlussvorrichtung (1) für Schmuck, Gold-, Silber- und Modeschmuck, umfassend:

   - ein nutähnliches kastenförmiges Gehäuse (2), das mit einem ersten Ende eines Schmuck-, Gold-, Silber- oder Modeschmuckartikels durch erste Hakenmittel (21) verbunden ist, aufweisend Eingriffsmittel (13, 14) mit einem Federelement (3), das wiederum mit einem zweiten Ende des Schmuck-, Gold-, Silber- oder Modeschmuckartikels mittels zweiter Kupplungsmittel (31) verbunden ist,
   - wobei die Eingriffsmittel (13, 14) angeordnet sind, um das Federelement (3) gegenseitig mit dem kastenförmigen Gehäuse (2) zu kuppeln, wobei das Federelement (3) zumindest teilweise in ein rohrförmiges Element (4) eingefügt angeordnet ist, das im kastenförmigen Gehäuse (2) definiert ist, sodass die gegenseitige Drehung des kastenförmigen Gehäuses (2) und des Federelements (3) rund um die Entwicklungsrichtung (10) des kastenförmigen Gehäuses (2) zwischen einer verschlossenen Position und einer Öffnungsposition der Verschlussvorrichtung (1) ermöglicht wird;
   - elastische Mittel (8), um das Federelement (3) in die Entwicklungsrichtung (10) zu drücken, um es vom kastenförmigen Gehäuse (2) zu lösen;
   - einen Kolben (6) der innenseitig des kastenförmigen Gehäuses (2) positioniert ist und eine Hubdicke (61) aufweist, eingesetzt zwischen dem Federelement (3) und den elastischen Mitteln (8), sodass das Federelement (3) in der verschlossenen Position einen Druck ausübt, der höher ist als der Schub der elastischen Mittel (8),
   dadurch gekennzeichnet, dass
   der Kolben (6) auch ein Arretierelement (62) in Öffnungsposition umfasst, und
   das rohrförmige Element (4) auf seinem Boden ein Durchgangsloch (41) für den Kolben (6) umfasst.

2. Verschlussvorrichtung nach einem der vorhergehenden Ansprüche, wobei die Eingriffsmittel (13, 14) Vorsprünge (13) auf der Oberfläche eines äußersten Abschnitts (3') des Federelements (3) umfassen, die angeordnet sind, um mit Führungsmitteln (14) im Eingriff zu sein, die auf der Oberfläche des kastenförmigen Gehäuses (2) definiert sind.

3. Verschlussvorrichtung nach Anspruch 2, wobei der äußerste Abschnitt (3') des Federelements (3) zylindrisch ist, sodass er in der Lage ist, mit dem rohrförmigen Element (4) in Eingriff zu gelangen.

4. Verschlussvorrichtung nach Anspruch 2 oder 3, wobei die Vorsprünge (13) in einer Anzahl von 3 bis 5 bereitgestellt sind.

5. Verschlussvorrichtung nach Anspruch 1 oder 2, wobei die Führungsmittel (14) Schiebekanäle (14) für mindestens einen der Vorsprünge (13) umfassen, aufweisend einen Endteil (14A), der U-förmig ist und mit einer Verriegelungskante (14') für den mindestens einen der Vorsprünge (13) endet, wobei die Verriegelungskante (14') der Schubwirkung der elastischen Mittel (8) in der verschlossenen Position entgegenwirkt.

6. Verschlussvorrichtung nach einem oder mehreren der vorhergehenden Ansprüche, wobei das kastenähnliche Gehäuse (2) eine Abdeckung (5) umfasst, die auf der entgegengesetzten Seite des Eingriffs mit dem Federelement (3) entlang der Entwicklungsrichtung (10) positioniert ist.

Revendications

1. Dispositif de fermeture (1) pour bijoux, orfèvrerie, argenterie et bijoux de fantaisie, comprenant :

   - un corps en forme de boîte de type femelle (2) relié à une première extrémité d'un article de bijouterie, d'orfèvrerie, d'argenterie et de bijouterie de fantaisie par un premier moyen d'accrochage (21), ayant des moyens d'engagement (13, 14) avec un élément mâle (3) relié, à son tour, à une seconde extrémité dudit article de bijouterie, d'orfèvrerie, d'argenterie et de bijouterie de fantaisie au moyen de seconds moyens d'accouplement (31) ;
   - lesdits moyens d'engagement (13, 14) étant agencés pour accoupler mutuellement ledit élément mâle (3) audit corps en forme de boîte (2), ledit élément mâle (3) est agencé pour être au moins partiellement inséré à l'intérieur d'un élément tubulaire (4) défini dans ledit corps en forme de boîte (2), de manière à permettre une rotation mutuelle dudit corps en forme de boîte (2) et dudit élément mâle (3) autour de la direction de développement (10) dudit corps en forme de boîte (2) entre une position fermée et une position d'ouverture du dispositif de fermeture (1) ;
   - des moyens élastiques (8) pour pousser ledit élément mâle (3) dans la direction de développement (10), de manière à le désengager dudit corps en forme de boîte (2) ;

- un piston (6) positionné à l'intérieur dudit corps en forme de boîte (2) et ayant une épaisseur de course (61) interposée entre ledit élément mâle (3) et lesdits moyens élastiques (8), de sorte qu'en position fermée, ledit élément mâle (3) exerce une pression supérieure à la poussée desdits moyens élastiques (8),
caractérisé en ce que
ledit piston (6) comprend également un élément d'arrêt (62) en position d'ouverture ; et
ledit élément tubulaire (4) comprend, sur son fond, un trou de passage (41) pour ledit piston (6).

2. Dispositif de fermeture selon l'une ou plusieurs des revendications précédentes, dans lequel lesdits moyens d'engagement (13, 14) comprennent des saillies (13) sur la surface d'une portion extrême (3') dudit élément mâle (3) agencées pour s'engager avec des moyens de guidage (14) définis sur la surface dudit corps en forme de boîte (2) .

3. Dispositif de fermeture selon la revendication 2, dans lequel la portion extrême (3') de l'élément mâle (3) est cylindrique afin de pouvoir s'engager avec l'élément tubulaire (4).

4. Dispositif de fermeture selon la revendication 2 ou 3, dans lequel lesdites saillies (13) sont en un nombre compris entre 3 et 5, extrémités comprises.

5. Dispositif de fermeture selon la revendication 1 ou 2, dans lequel lesdits moyens de guidage (14) comprennent des canaux de coulissement (14) pour au moins une desdites saillies (13), ayant une partie finale (14A) en forme de U et se terminant par un bord de verrouillage (14') pour ladite au moins une desdites saillies (13), ledit bord de verrouillage (14') s'opposant à l'action de poussée desdits moyens élastiques (8) en position fermée.

6. Dispositif de fermeture selon l'une ou plusieurs des revendications précédentes, dans lequel ledit corps en forme de boîte (2) comprend un couvercle (5), positionné du côté opposé à l'engagement avec ledit élément mâle (3) le long de la direction de développement (10).

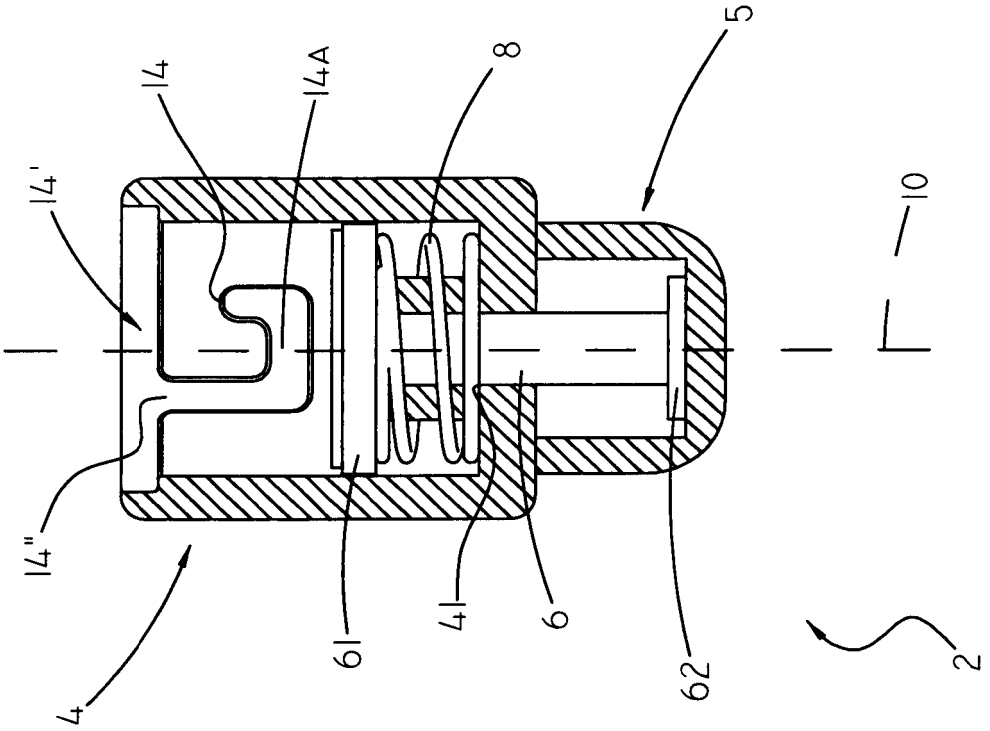

FIG. 3

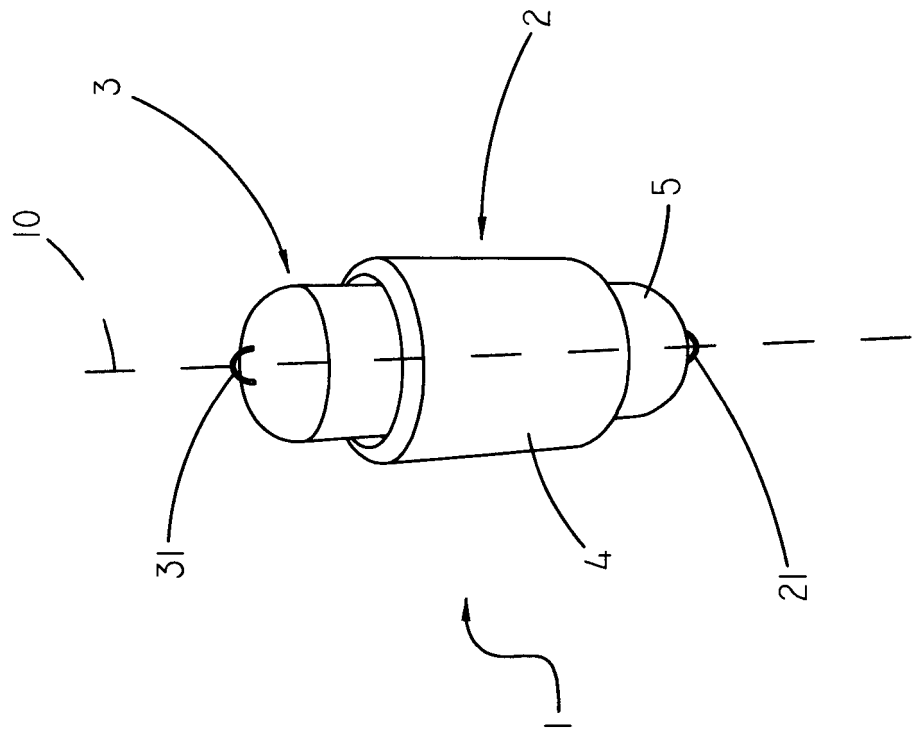

FIG. 1

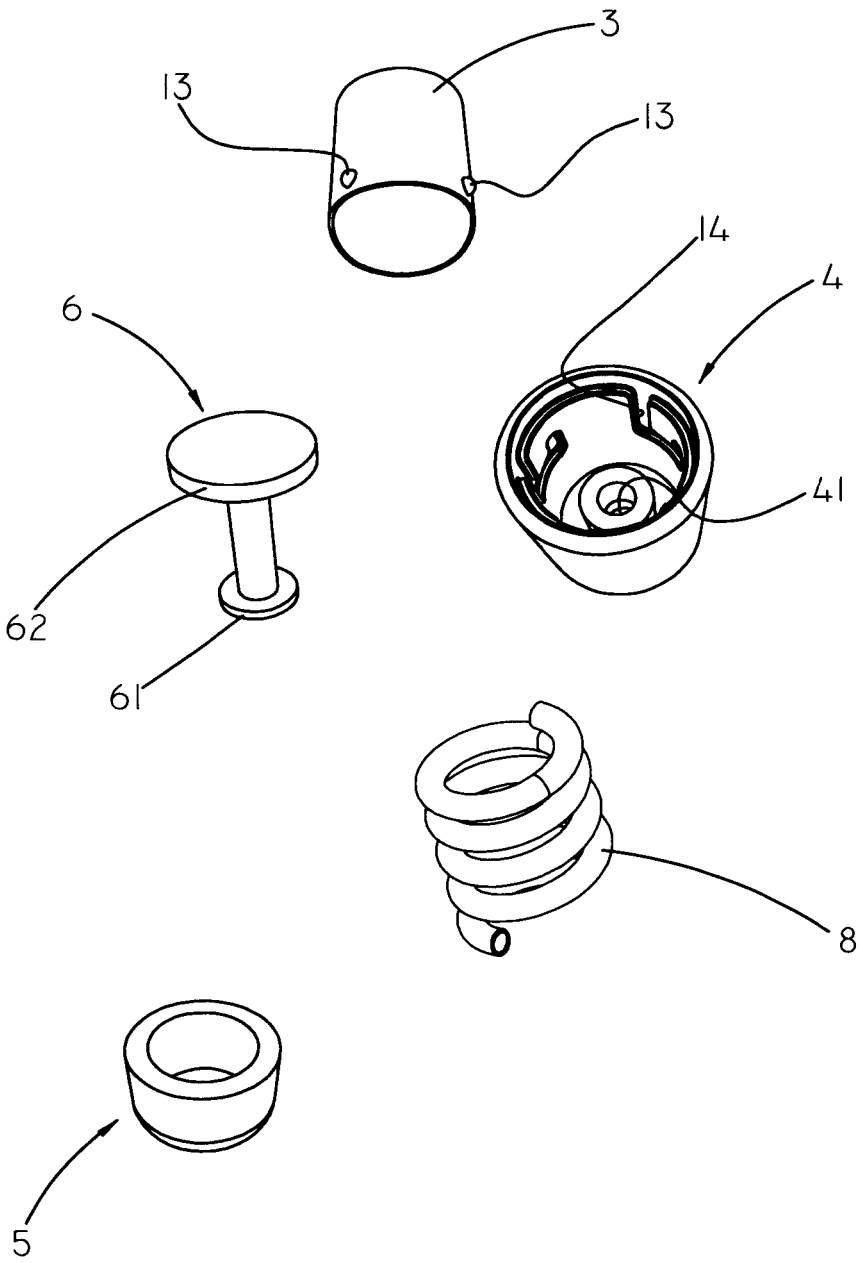

FIG. 2

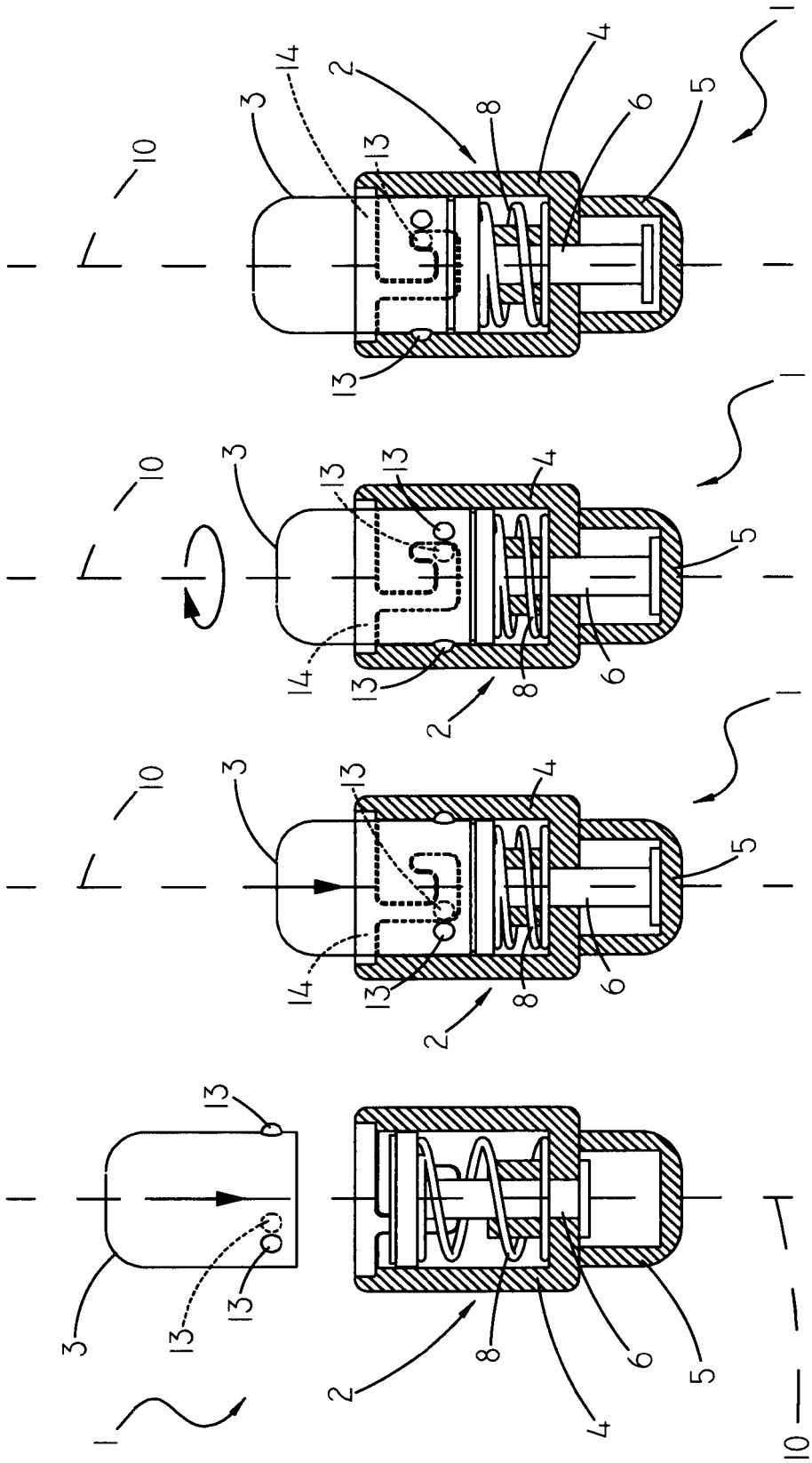

FIG. 4A

FIG. 4B

FIG. 4C

FIG. 4D

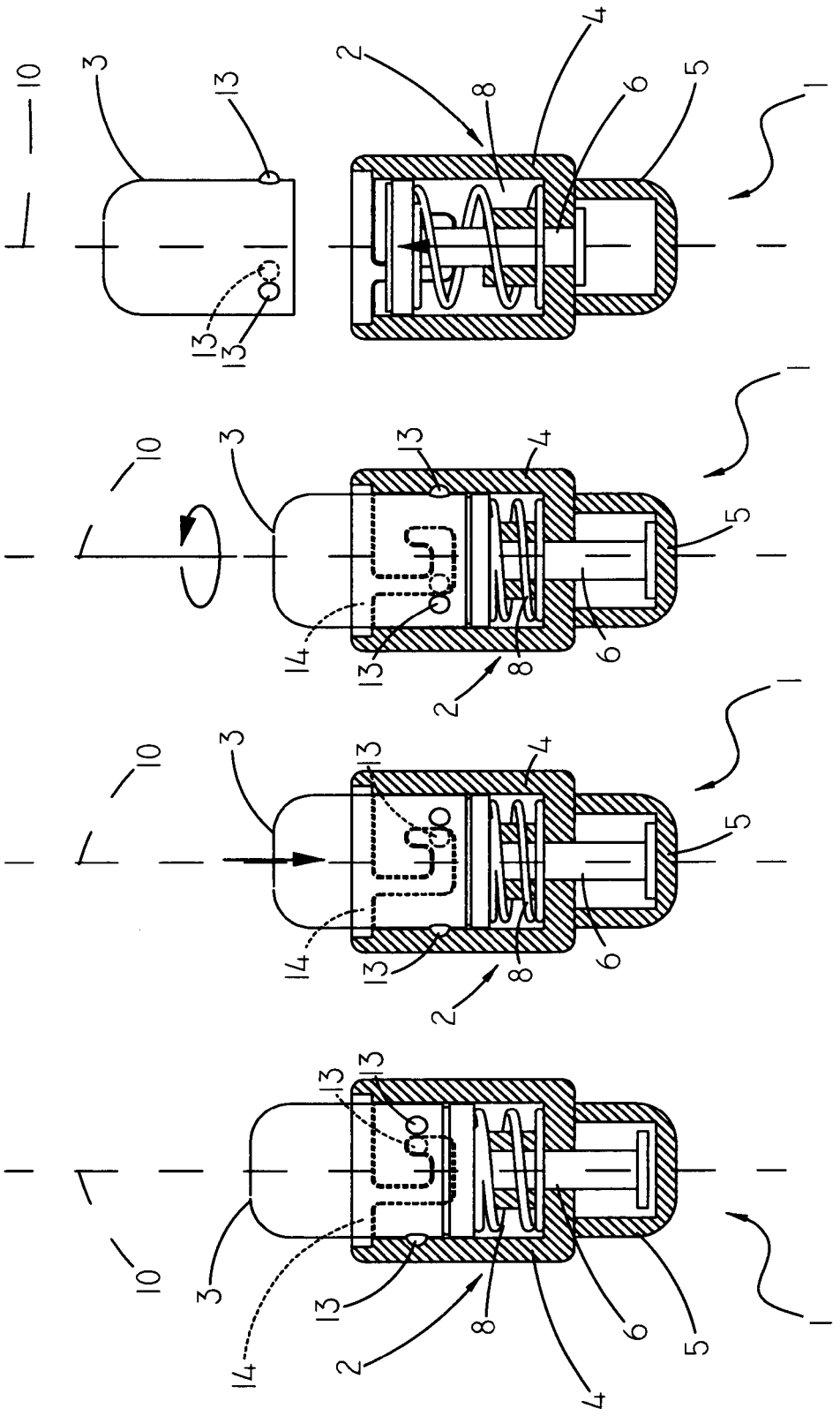

FIG. 5A FIG. 5B FIG. 5C FIG. 5D

REFERENCES CITED IN THE DESCRIPTION

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