(12) UK Patent Application (19) GB (11) 2 438 828 (13) A

(43) Date of A Publication 12.12.2007

(21) Application No: 0706642.6

(22) Date of Filing: 04.04.2007

(30) Priority Data:
(31) 0620014225 (32) 05.06.2006 (33) CN
(31) 0610063515 (32) 06.11.2006
(31) 0620015652 (32) 07.11.2006

(71) Applicant(s):
Dragon CHANG
No. 15-1, Alley 18, Lane 648, Minghu Road,
East District, Hsinchu City 300, Taiway,
China

(72) Inventor(s):
Dragon CHANG

(74) Agent and/or Address for Service:
HLBBShaw
Merlin House, Falconry Court,
Bakers Lane, EPPING, Essex, CM16 5DQ,
United Kingdom

(51) INT CL:
A45B 25/12 (2006.01) ***A45B 25/08*** (2006.01)

(52) UK CL (Edition X):
A4P PGA

(56) Documents Cited:
DE 020215417 U1 **US 5458144 A**
US 5186197 A

(58) Field of Search:
UK CL (Edition X) **A4P**
INT CL **A45B**
Other:

(54) Abstract Title: **Handle for self-opening umbrella with switch safety cap**

(57) A handle assembly for a self-opening umbrella includes a switch 12 operably connected to a frame 11. The frame is received within the handle 15 and the switch is accessed via an opening defined in the handle. A cap 18 is slidably mounted within grooves 19 of the handle and is movable between first and second positions. A detent 13 biased by a spring 14 ensures that the cap is releasably held in each of the two positions. The first position of the operation member is located to cover the switch and the second position of the operation member is located to uncover the switch. The slidable cap can be replaced by a cap which is pivotably or rotatably connected to the handle to cover or uncover the switch.

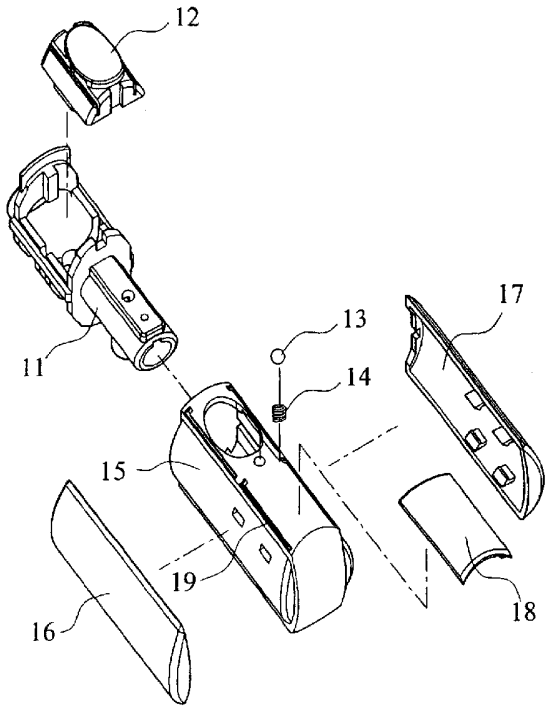

FIG. 1

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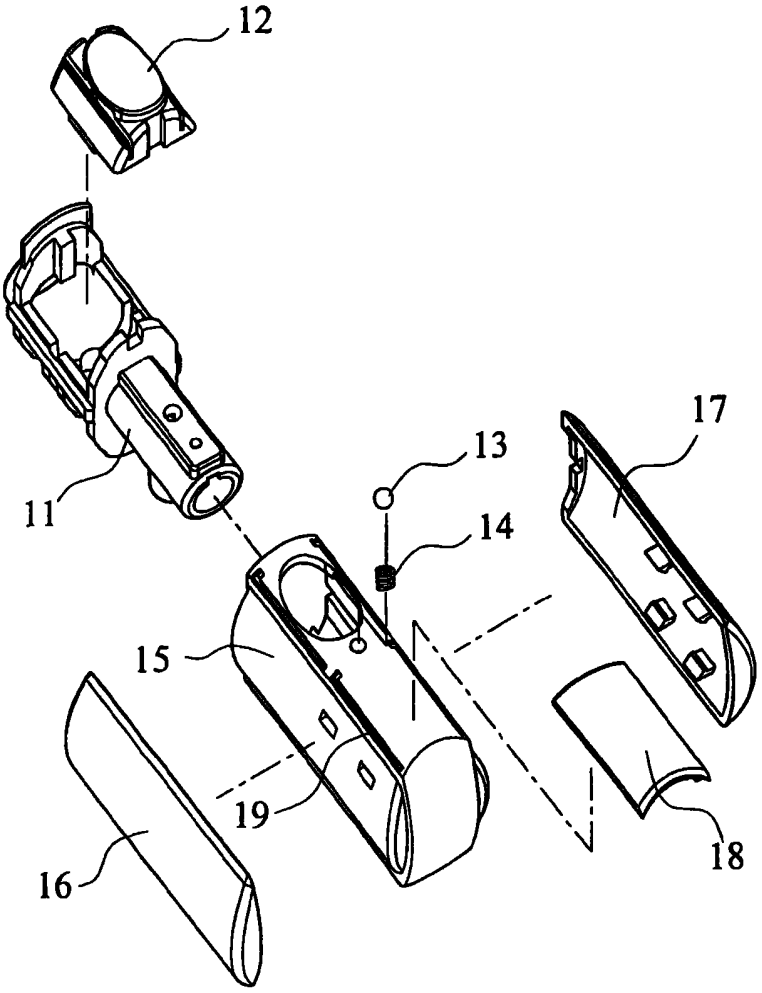


FIG. 1

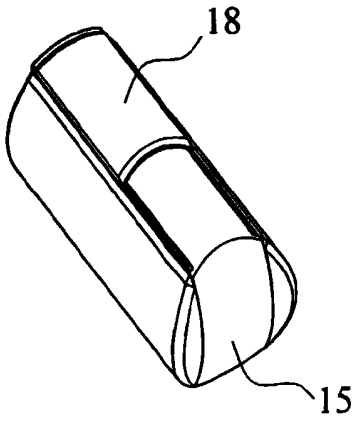


FIG. 2A

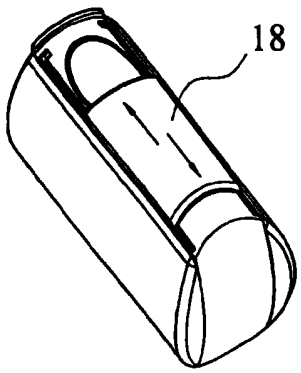


FIG. 2B

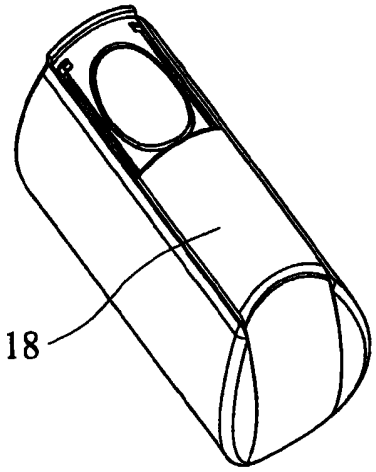


FIG. 2C

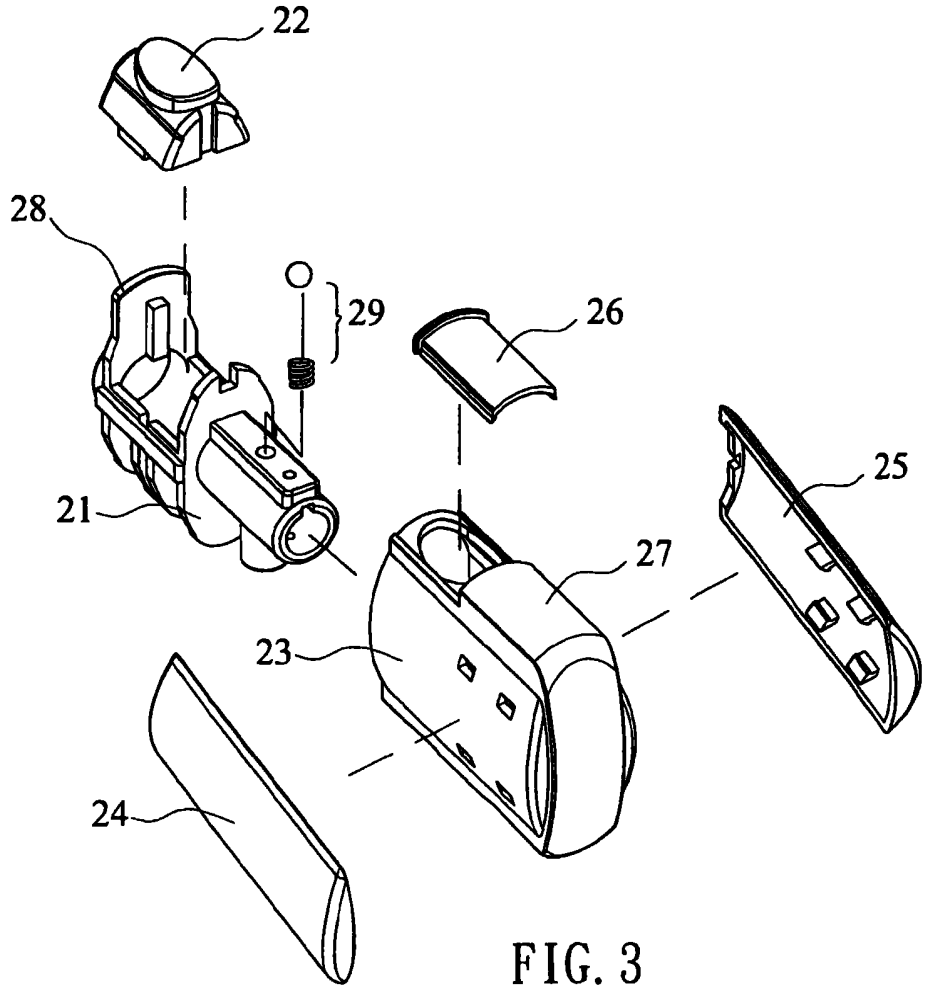


FIG. 3

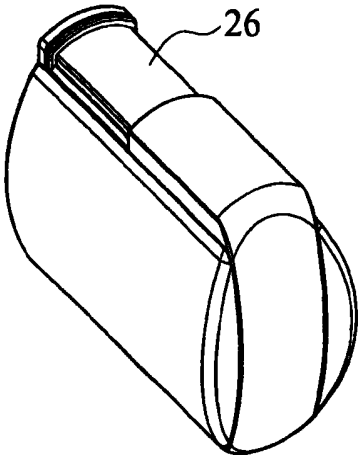


FIG. 4A

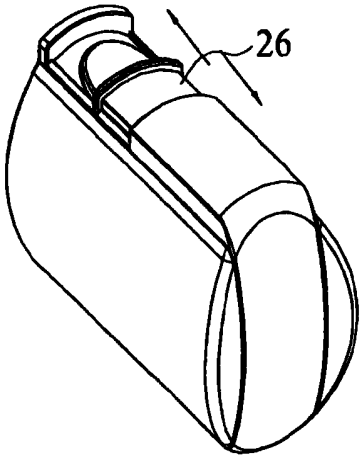


FIG. 4B

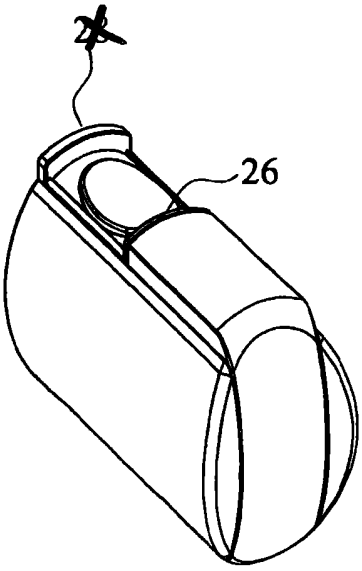


FIG. 4C

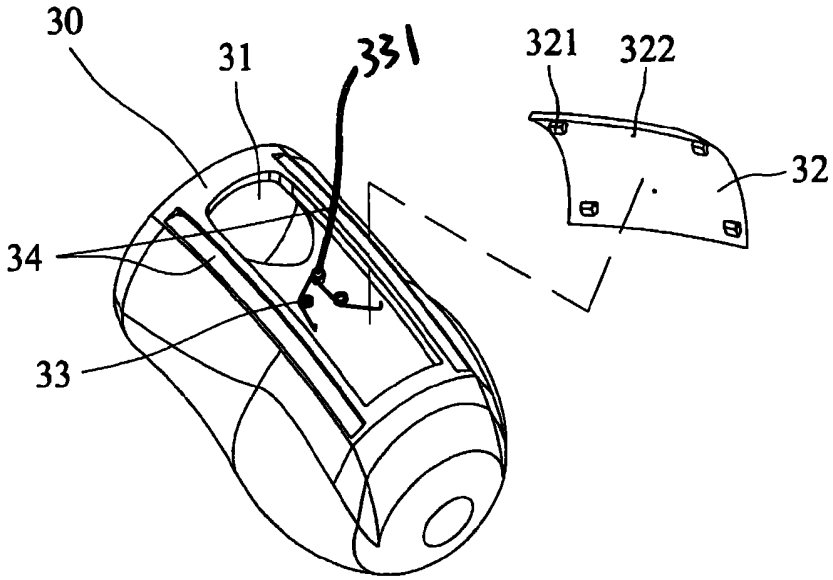


FIG. 5

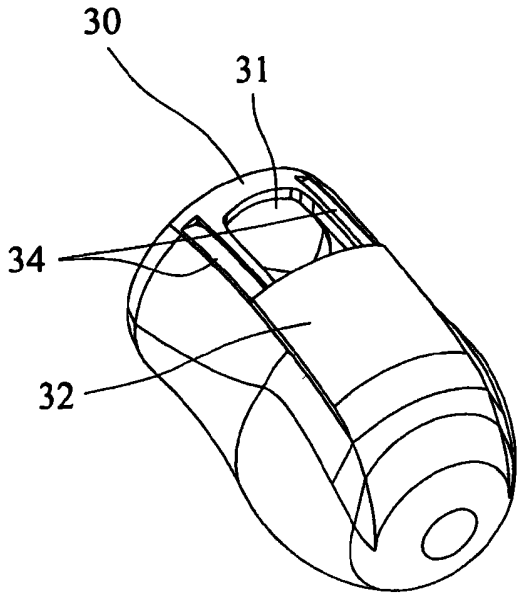


FIG. 6A

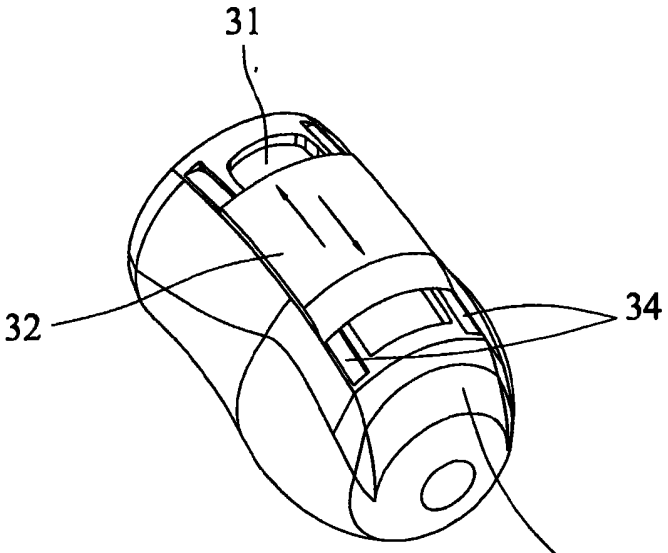


FIG. 6B

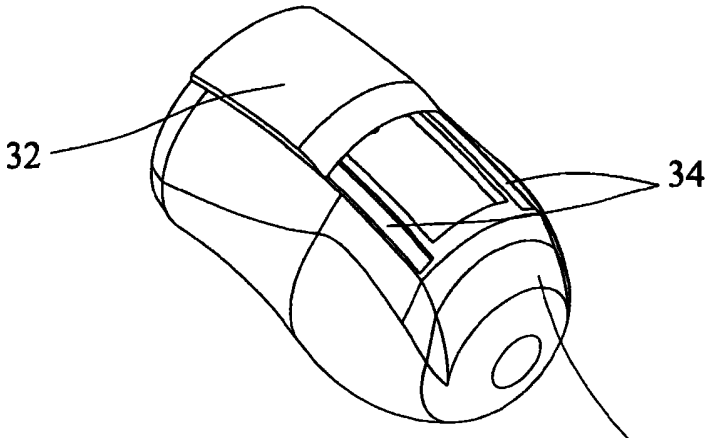


FIG. 6C

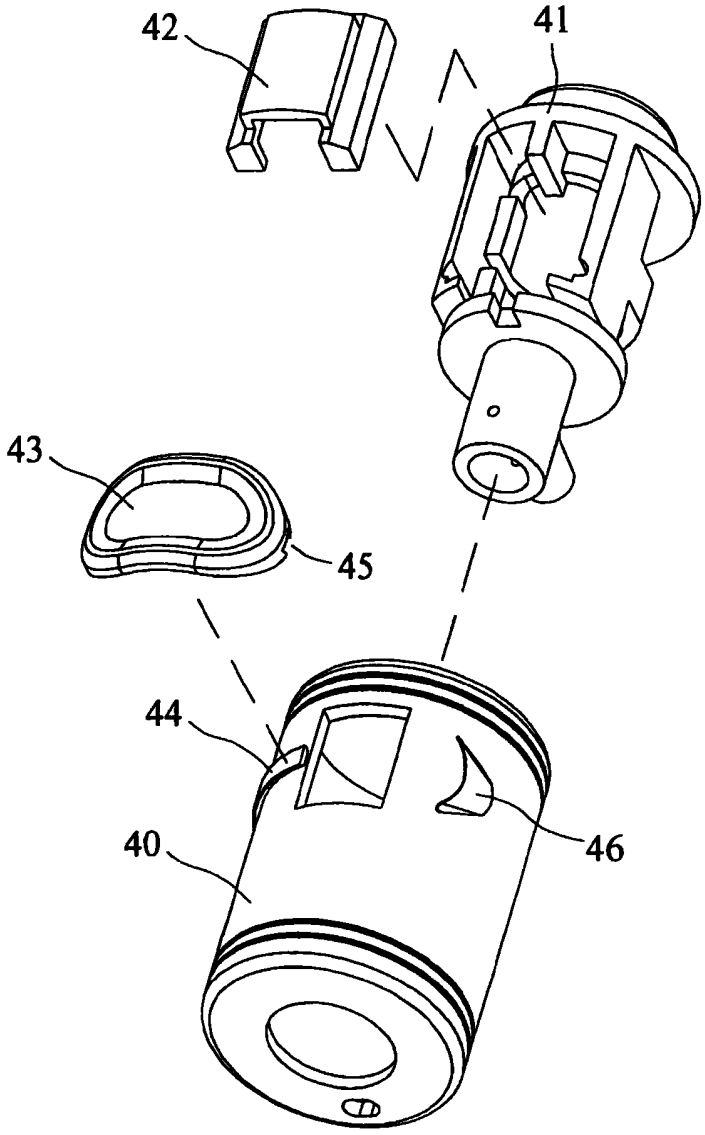


FIG. 7

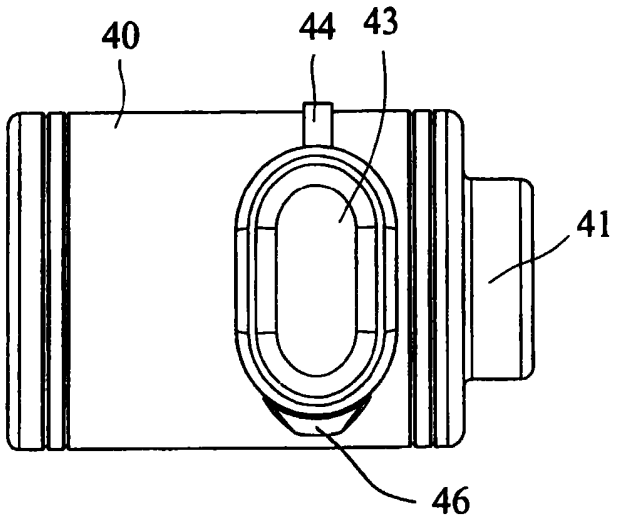


FIG. 8A

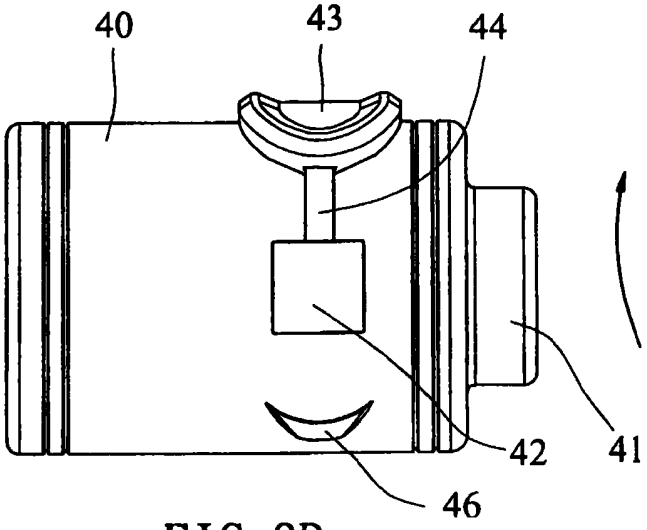


FIG. 8B

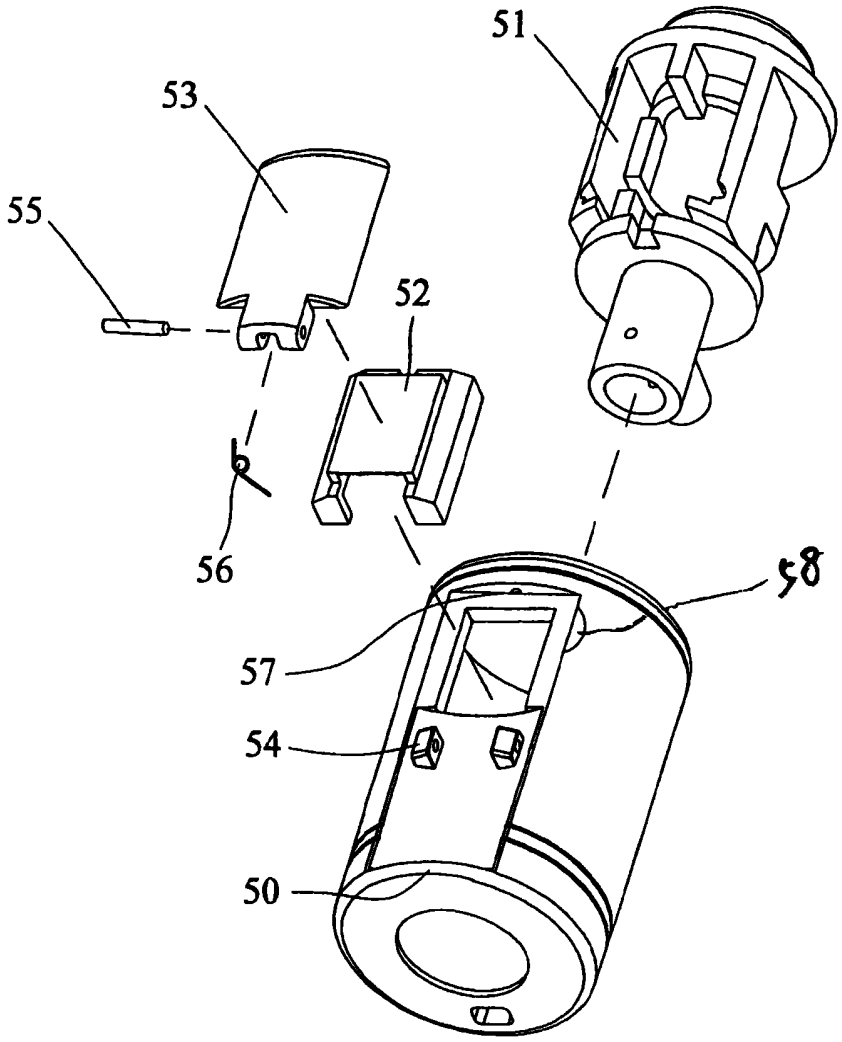


FIG. 9

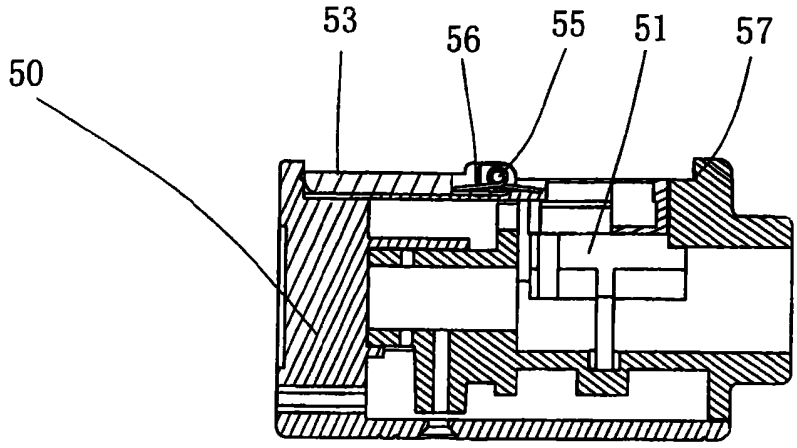


FIG. 10A

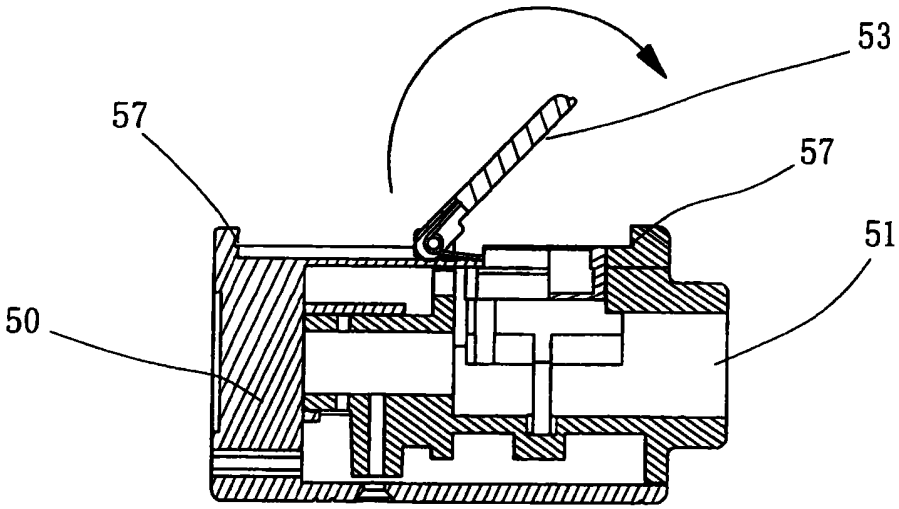


FIG. 10B

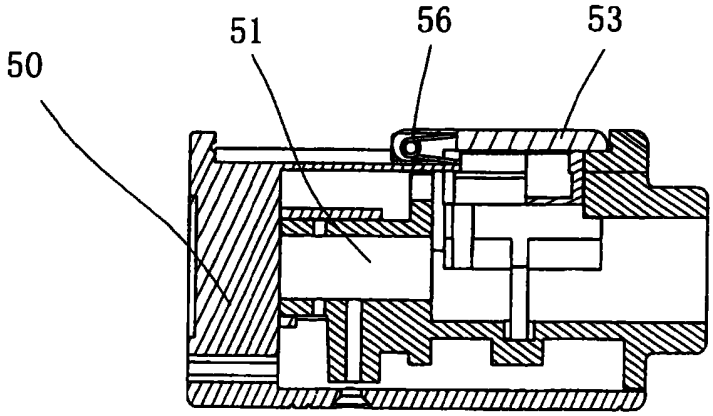


FIG. 10C

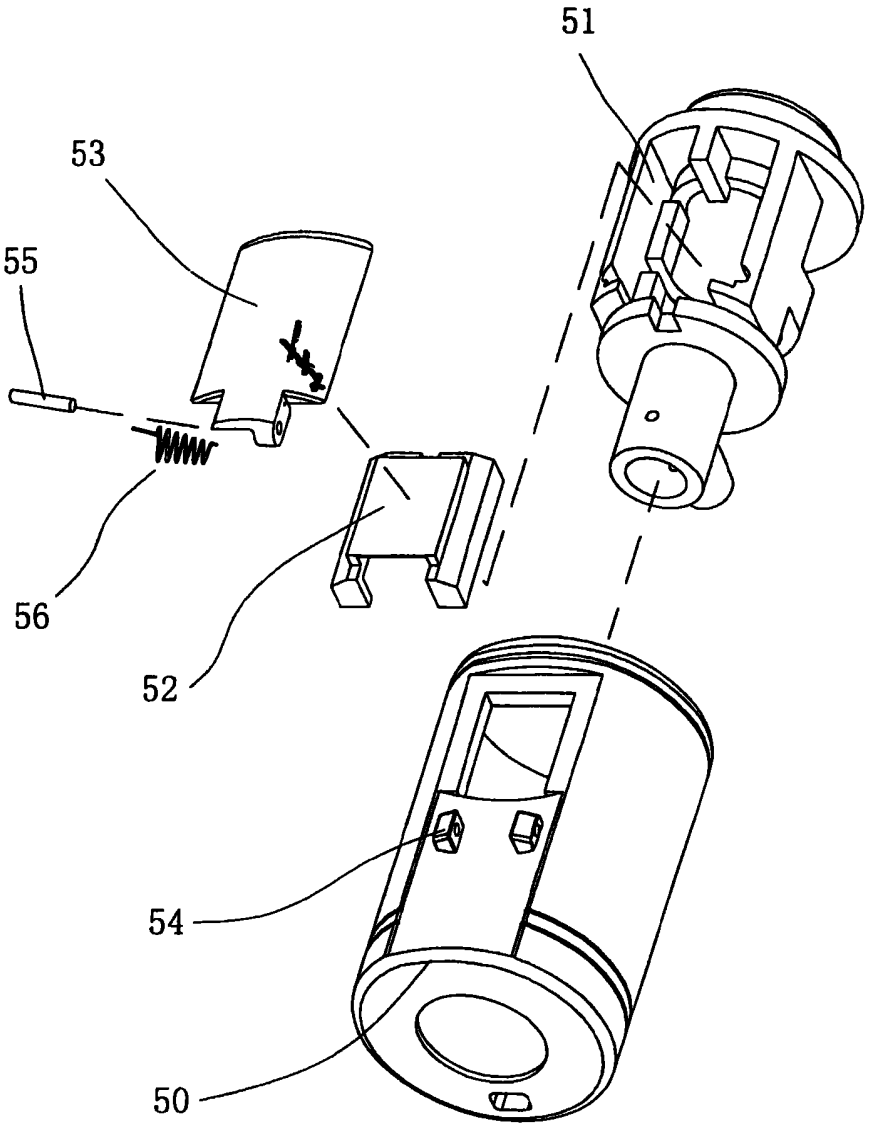


FIG. 11

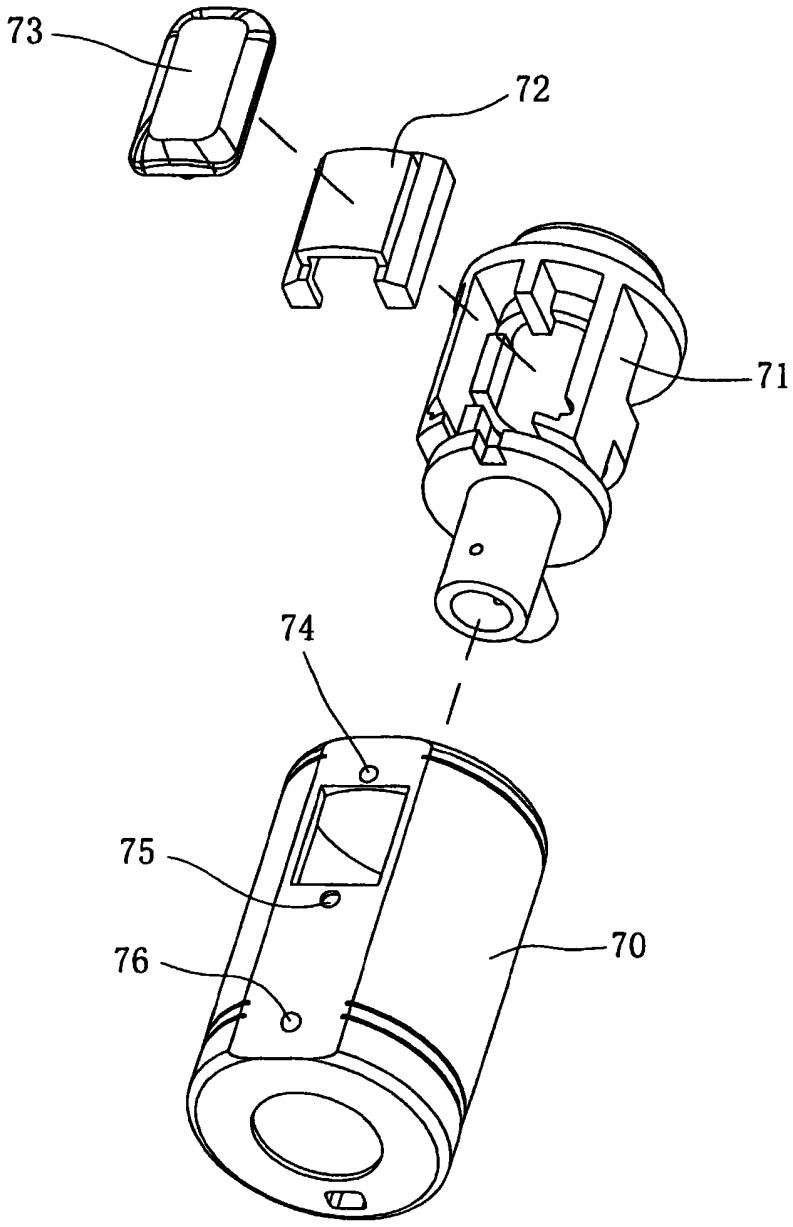


FIG. 12

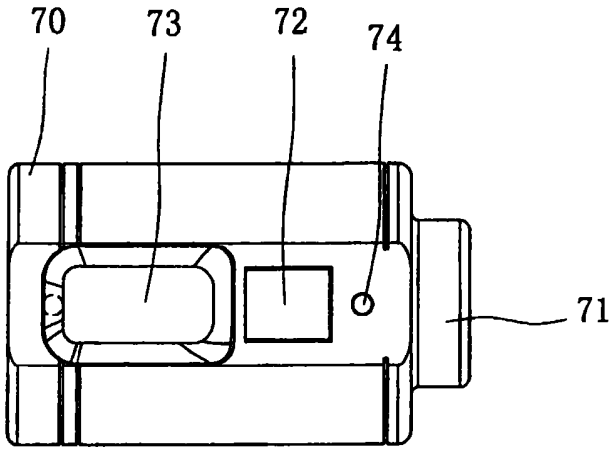


FIG. 13A

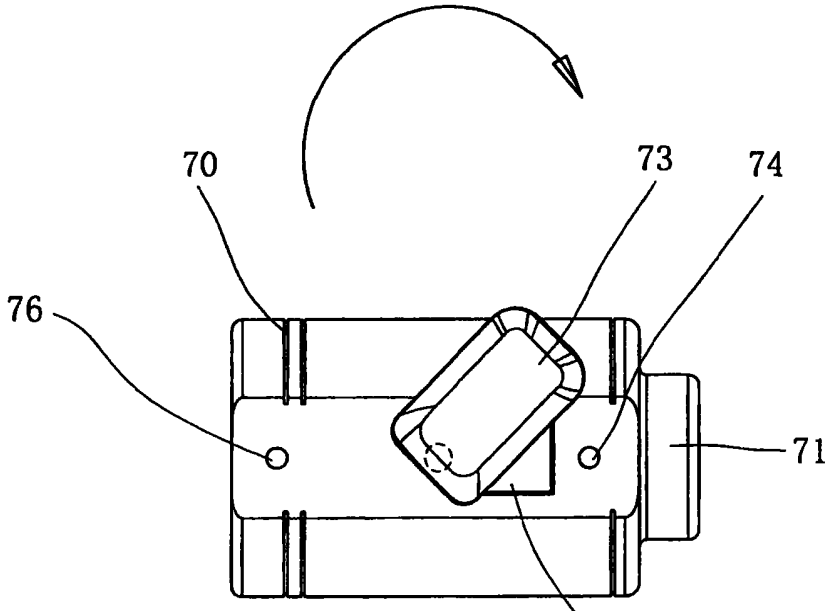


FIG. 13B

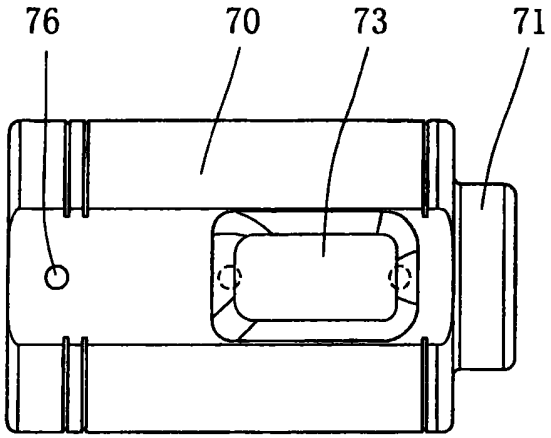


FIG. 13C

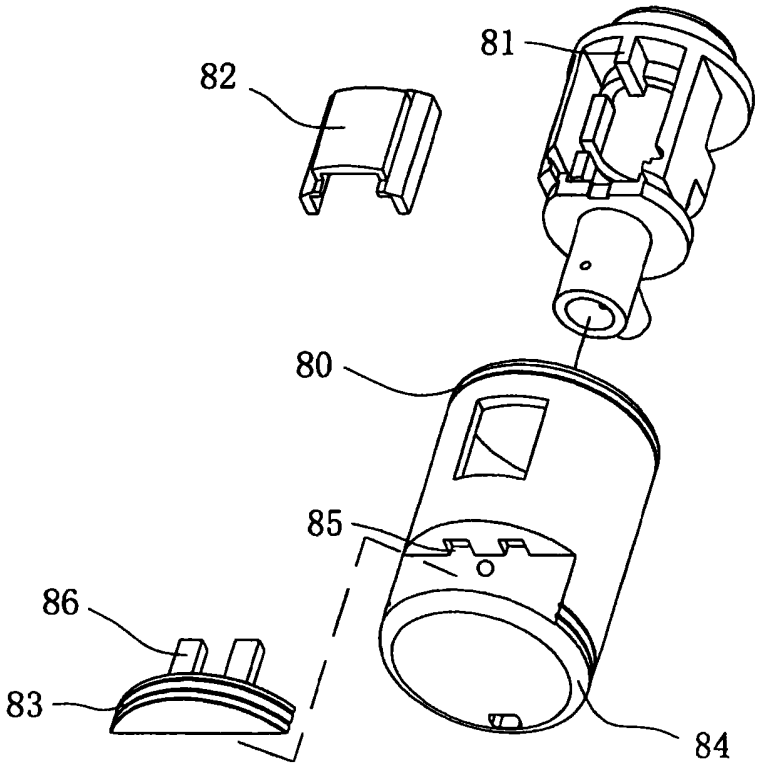


FIG. 14

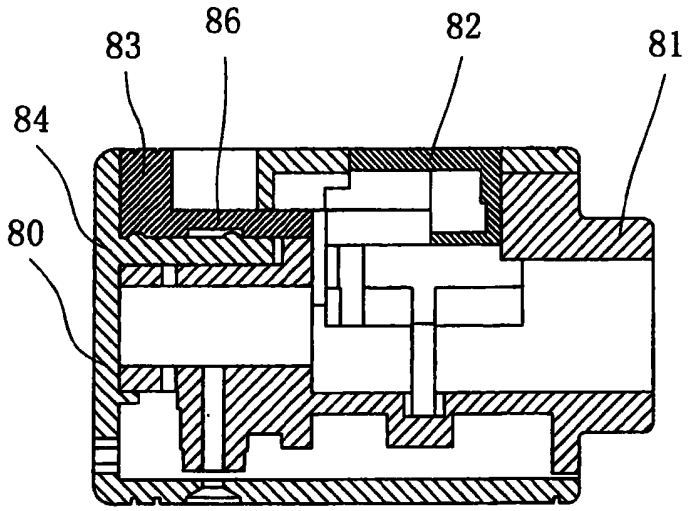


FIG. 15A

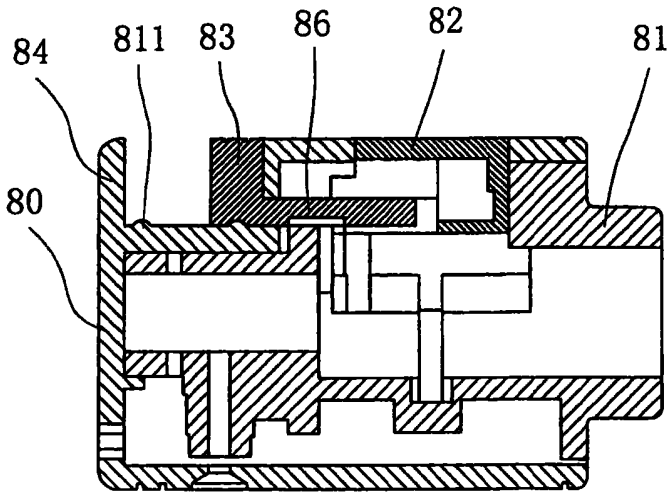


FIG. 15B

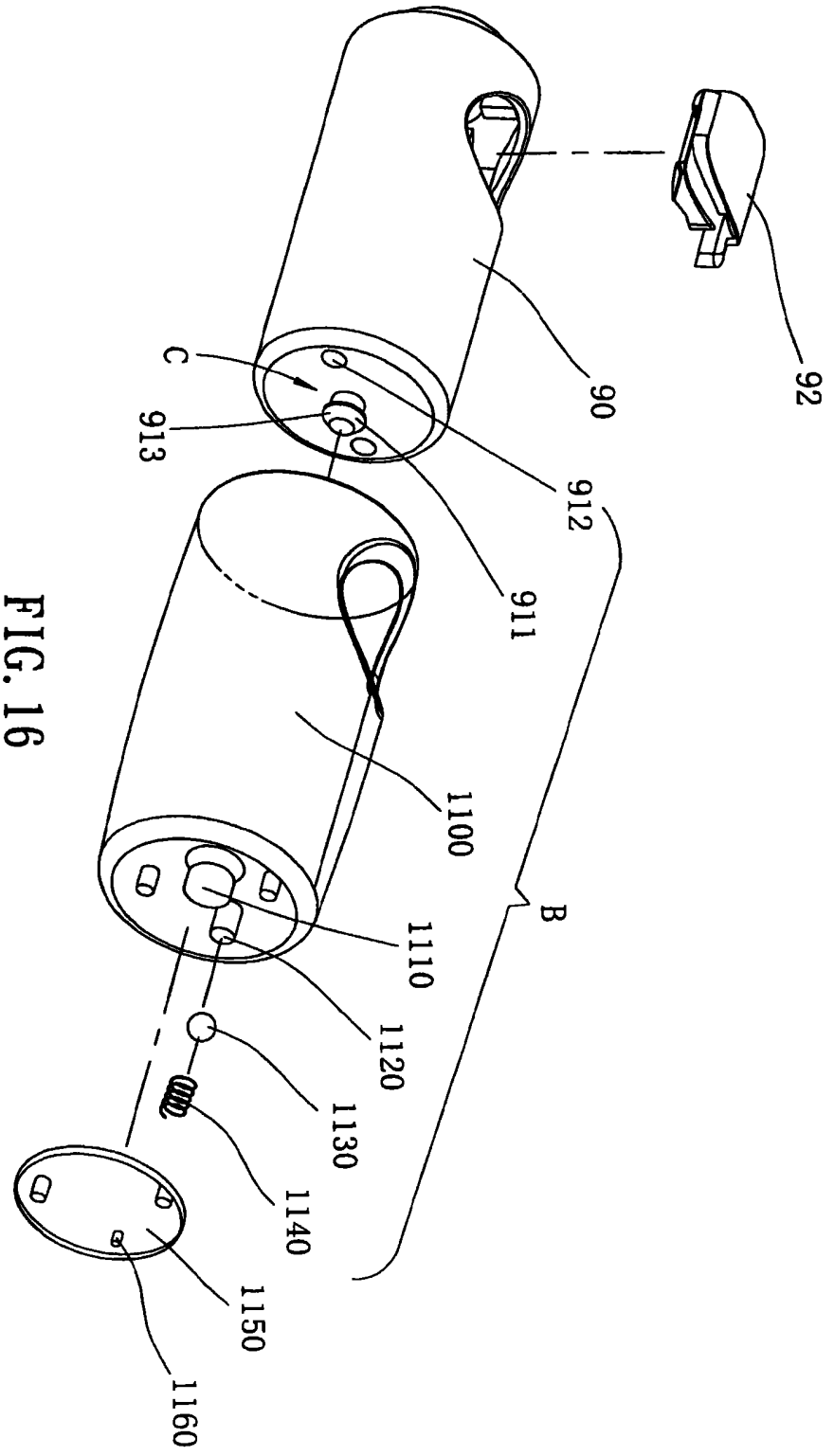


FIG. 16

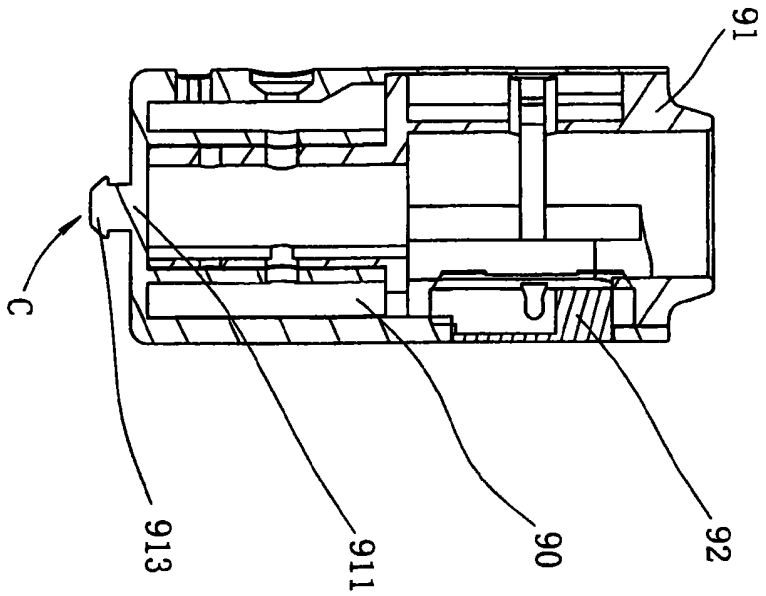


FIG. 17A

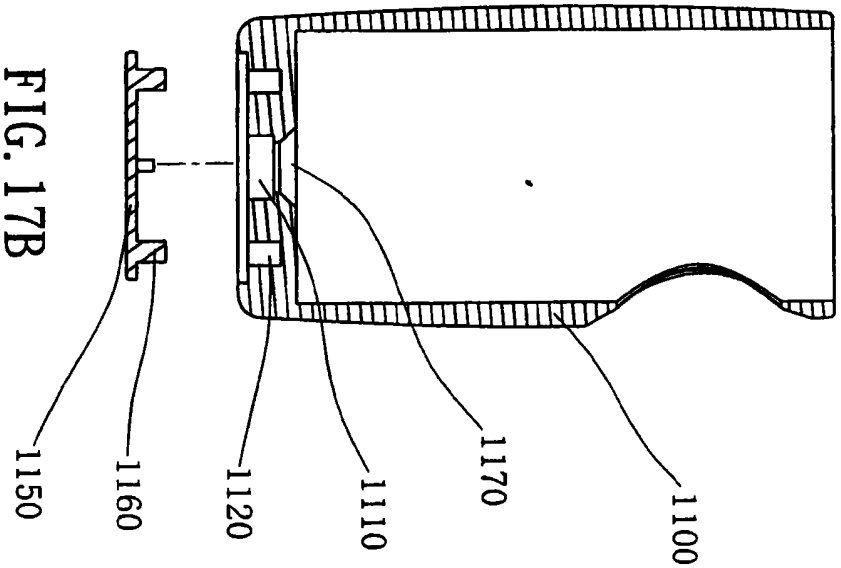


FIG. 17B

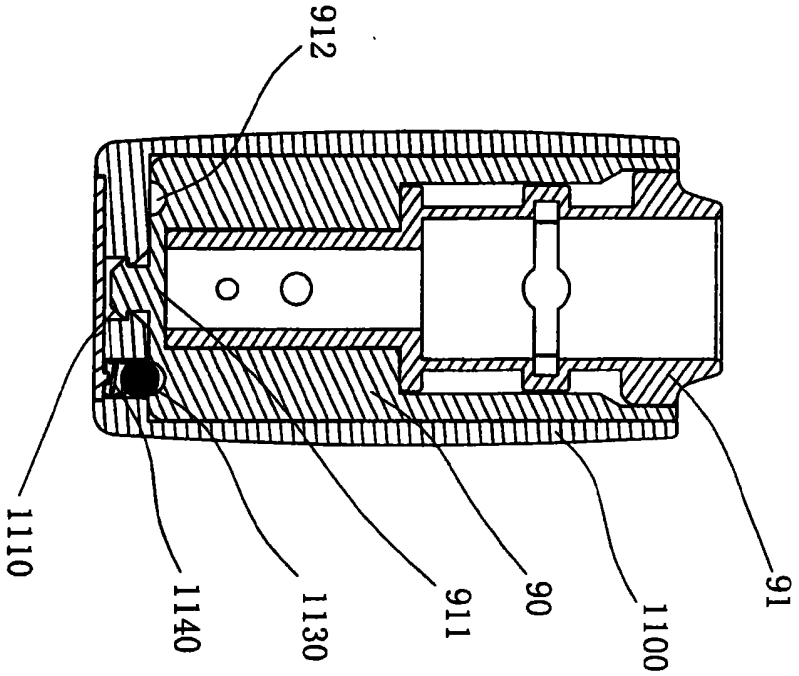


FIG. 17C

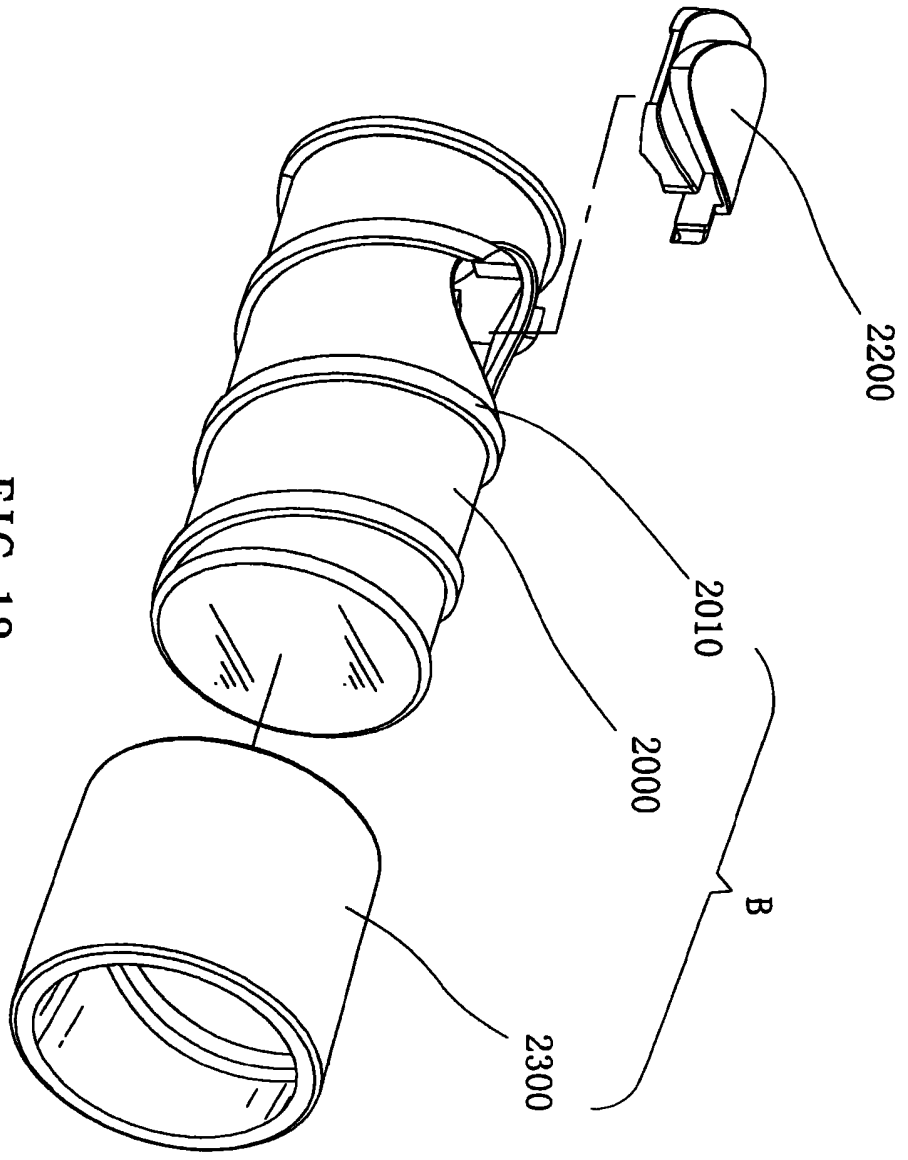


FIG. 18

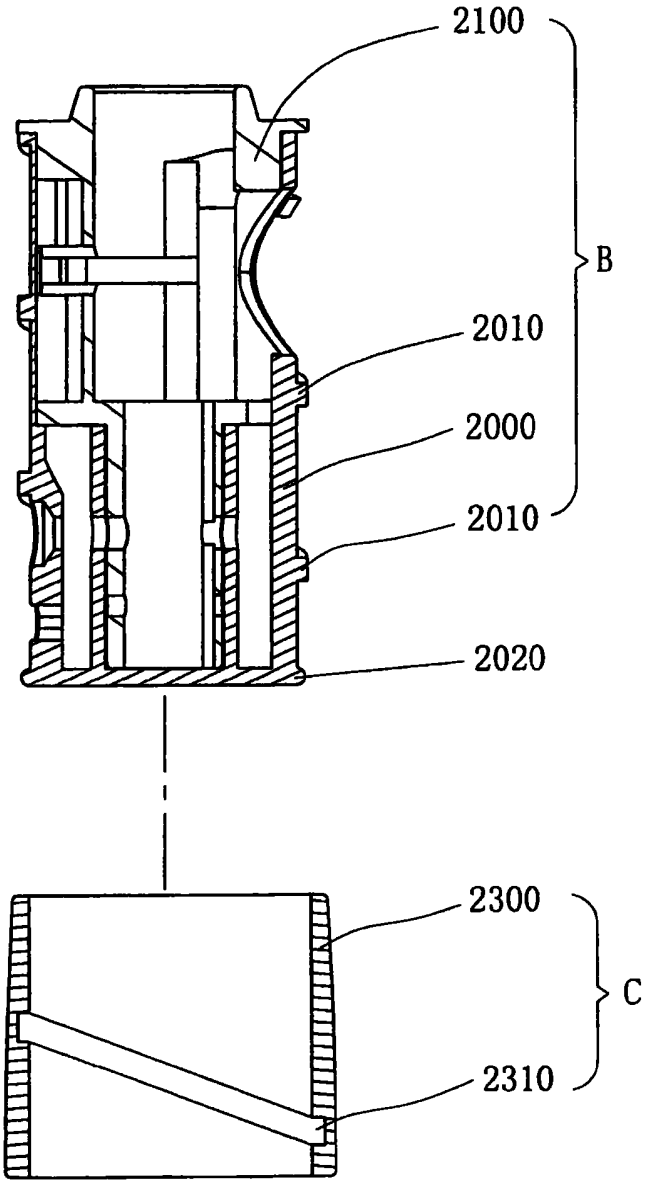


FIG. 18A

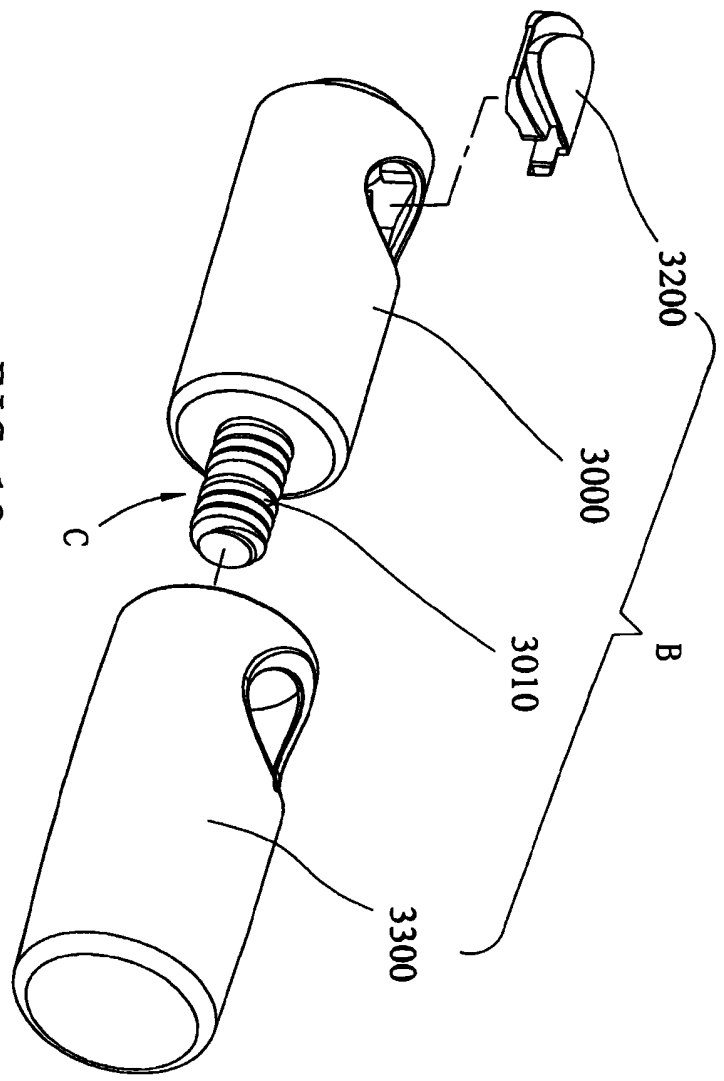


FIG. 19

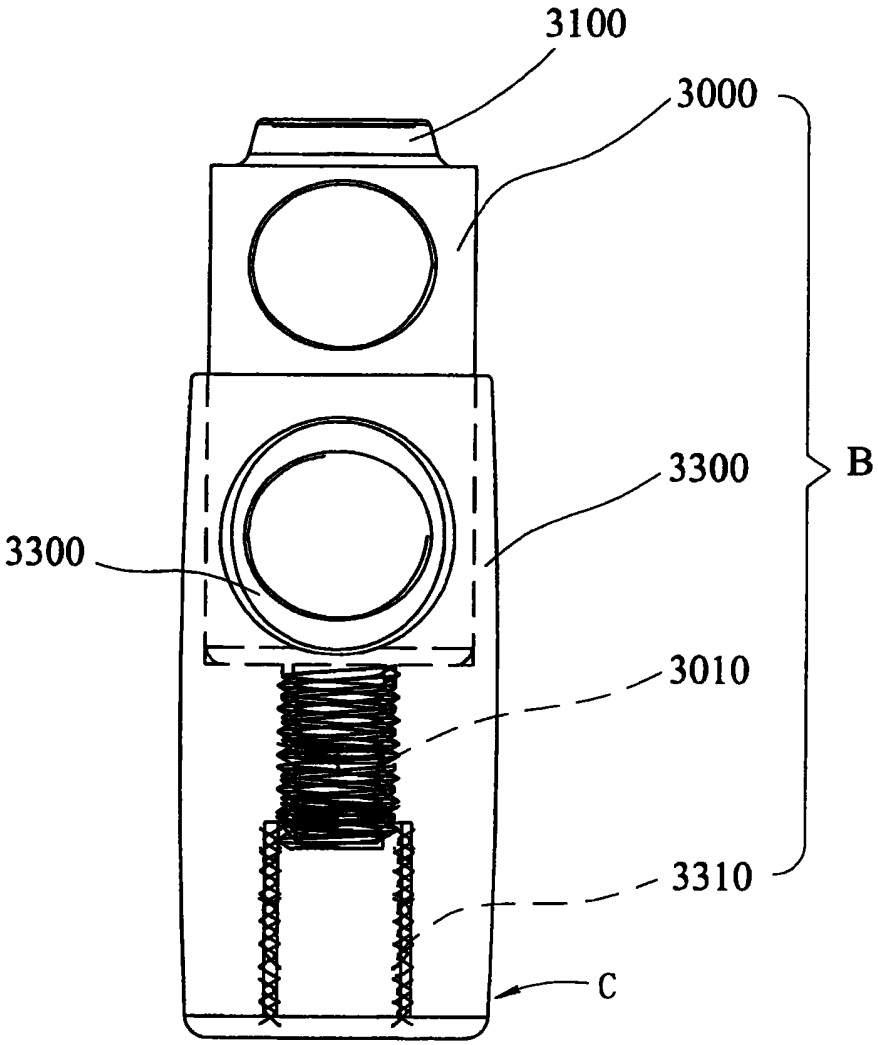


FIG. 19A

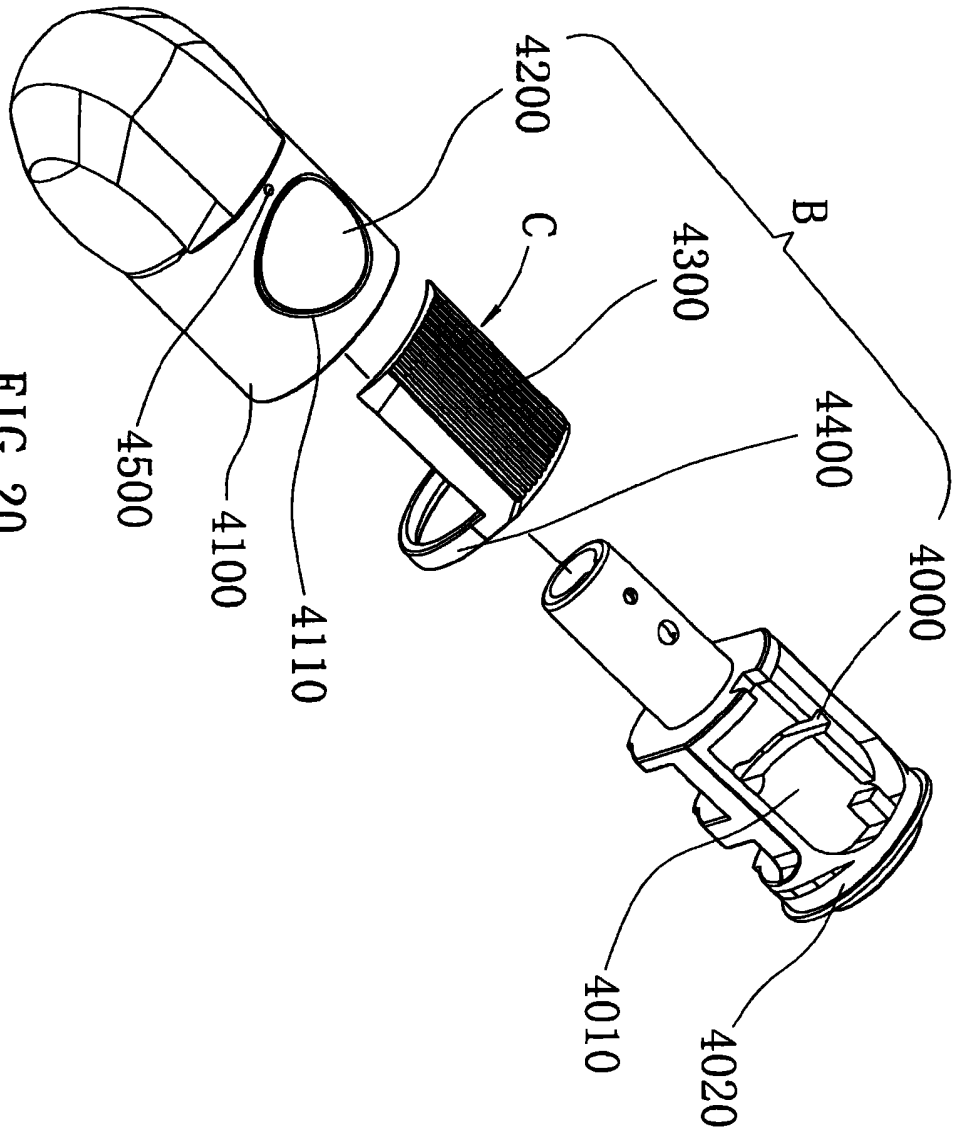


FIG. 20

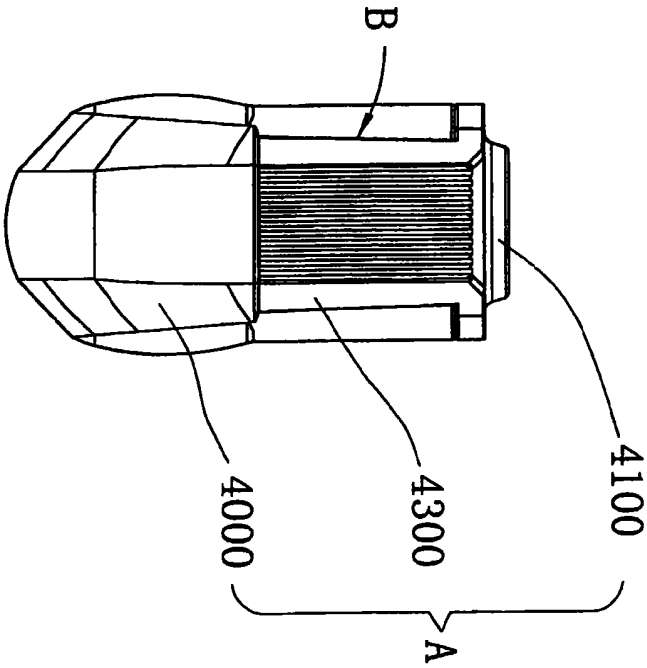


FIG. 20A

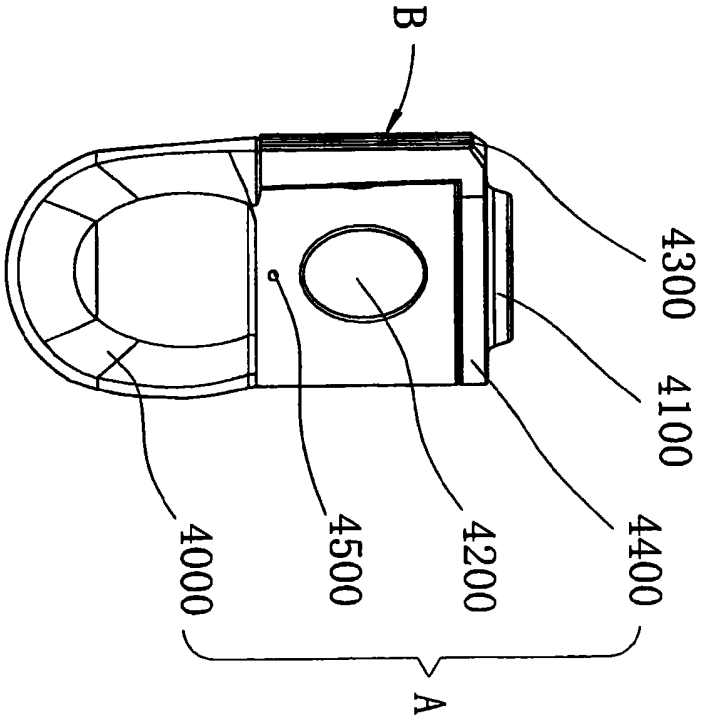
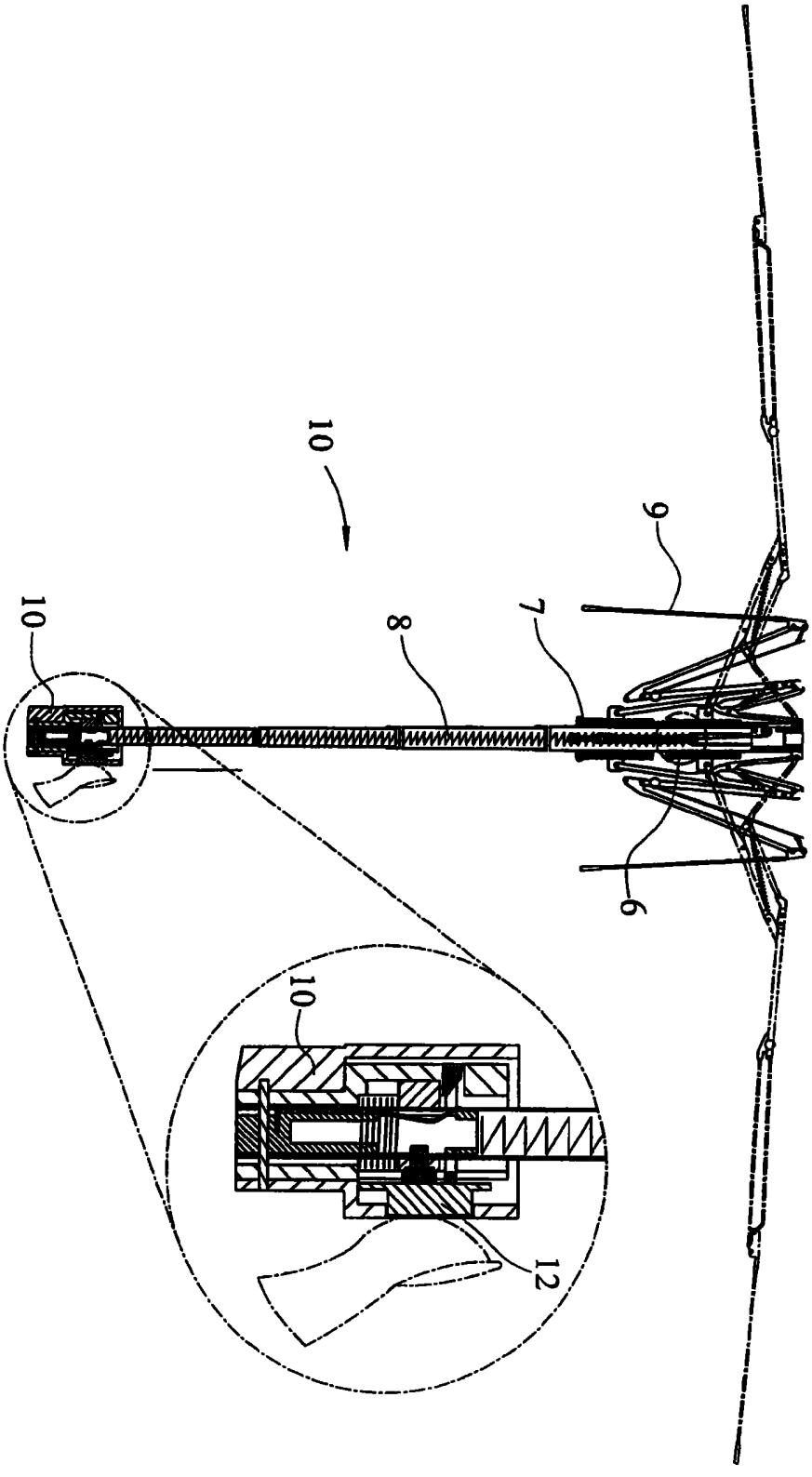


FIG. 20B



PRIOR ART FIG. 21

SAFETY DEVICE FOR SWITCH OF UMBRELLA

FIELD OF THE INVENTION

This is a safety device which includes a cap or an operation member movably or rotatably connected to the handle of an umbrella so as to avoid the switch of the umbrella from being touched unintentionally.

BACKGROUND OF THE INVENTION

A conventional umbrella 10 is shown in Fig. 21 and generally includes a shaft 8 with a runner 7 movably mounted to the shaft 8, a cap unit 6 connected to a top end of the shaft 8, and a frame and a handle 10 which is connected to a lower end of the shaft 8. The frame 9 includes a plurality of stretchers pivotably connected between the runner 7 and ribs which can be folded to collapse the frame 9. Most of the umbrellas are self-opening umbrellas which have a switch 12 and allow the user to touch the switch to open the umbrella or collapse the umbrella. However, the switch 12 does not have any safety device so that it might be touched unintentionally.

The present invention intends to provide a safety device which restricts the switch from being touched or operated unintentionally.

SUMMARY OF THE INVENTION

The present invention relates to a handle assembly for umbrellas and the handle assembly comprises a handle and a frame is received in the handle, a switch is connected to the frame and engaged with an opening defined in the handle. An operation member is rotatably mounted to the handle so that the switch can be

covered or uncovered by the operation member when the operation member is rotated.

Another embodiment of the present invention replaces the operation member with a cap which is slidably connected to the handle and movably between a first position and a second position. The first position of the cap is located to cover the cap and the second position of the cap is located to uncover the switch. A positioning device is connected between the cap and the handle so as to position the cap at one of the first position and the second position.

The present invention will become more obvious from the following description when taken in connection with the accompanying drawings which show, for purposes of illustration only, a preferred embodiment in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an exploded view to show the first embodiment of the handle assembly for umbrella of the present invention;

Fig. 2a shows the cap is positioned at the first position to cover the switch;

Fig. 2b shows that the cap movably between the first and second positions;

Fig. 2c shows the cap is positioned at the second position to uncover the switch;

Fig. 3 is an exploded view to show the second embodiment of the handle assembly for umbrella of the present invention;

Fig. 4a shows the cap is positioned at the first position to cover the switch in Fig. 3;

Fig. 4b shows that the cap movably between the first and second positions of the second embodiment;

Fig. 4c shows the cap is positioned at the second position to uncover the switch of the second embodiment;

Fig. 5 is an exploded view to show the third embodiment of the handle assembly for umbrella of the present invention;

Fig. 6a shows the cap is positioned at the first position to cover the switch in Fig. 5;

Fig. 6b shows that the cap movably between the first and second positions of the third embodiment;

Fig. 6c shows the cap is positioned at the second position to uncover the switch of the third embodiment;

Fig. 7 is an exploded view to show the fourth embodiment of the handle assembly for umbrella of the present invention;

Fig. 8a shows the cap is positioned at the first position to cover the switch in Fig. 7;

Fig. 8b shows the cap is positioned at the second position to uncover the switch of the fourth embodiment;

Fig. 9 is an exploded view to show the fifth embodiment of the handle assembly for umbrella of the present invention;

Fig. 10a shows the cap is positioned at the first position to cover the switch in Fig. 9;

Fig. 10b shows the cap is pivotable between the first and second positions of the fifth embodiment;

Fig. 10c shows the cap is positioned at the second position to uncover the switch of the fifth embodiment;

Fig. 11 is an exploded view to show the sixth embodiment of the handle assembly for umbrella of the present invention;

Fig. 12 is an exploded view to show the seventh embodiment of the handle assembly for umbrella of the present invention;

Fig. 13a shows the cap is positioned at the first position to cover the switch in Fig. 12;

Fig. 13b shows the cap is pivotable between the first and second positions of the seventh embodiment;

Fig. 13c shows the cap is positioned at the second position to uncover the switch of the seventh embodiment;

Fig. 14 is an exploded view to show the eighth embodiment of the handle assembly for umbrella of the present invention;

Fig. 15a shows the cap is positioned at the first position to cover the switch in Fig. 14;

Fig. 15b shows the cap is positioned at the second position to uncover the switch of the eighth embodiment;

Fig. 16 is an exploded view to show the ninth embodiment of the handle assembly for umbrella of the present invention;

Fig. 17A is a cross sectional view to show the frame of the ninth embodiment of the handle assembly for umbrella of the present invention;

Fig. 17B is a cross sectional view to show the operation member of the ninth embodiment of the handle assembly for umbrella of the present invention;

Fig. 17C is a cross sectional view to show that the frame is rotatably received in the operation member of the ninth embodiment of the handle assembly for umbrella of the present invention;

Fig. 18 is an exploded view to show the tenth embodiment of the handle assembly for umbrella of the present invention;

Fig. 18A is a cross sectional view to show the frame and the operation member of the tenth embodiment of the handle assembly for umbrella of the present invention;

Fig. 19 is an exploded view to show the eleventh embodiment of the handle assembly for umbrella of the present invention;

Fig. 19A is a cross sectional view to show that the frame is rotatably connected to the operation member of the eleventh embodiment of the handle assembly for umbrella of the present invention;

Fig. 20 is an exploded view to show the twelfth embodiment of the handle assembly for umbrella of the present invention;

Fig. 20A shows that the cover covers the switch of the twelfth embodiment of the handle assembly for umbrella of the present invention;

Fig. 20B shows that the cover is shifted away and the switch is accessible of the twelfth embodiment of the handle assembly for umbrella of the present invention, and

Fig. 21 shows a conventional self-opening umbrella.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Figs. 1, 2a, 2b and 2c, the first embodiment of the handle assembly of a self-opening umbrella of the present invention comprises a handle 15 which is a hollow handle and a frame 11 is received in the handle 15. A switch 12 is connected to the frame 11 and can be accessed via an opening defined in the handle 15. The handle 15 has two grooves 19 defined therein and a cap 18 is slidably engaged with the grooves 19 so that the cap 18 is slidably connected to the handle 15 and movably between a first position and a second position. The first position of the cap 18 is located to cover the cap 18 and the second position of the cap 18 is located

to uncover the switch 12. Two decoration boards 16, 17 are connected to two sides of the handle 15.

A positioning device is connected between the cap 18 and the handle 15 so as to position the cap 18 at one of the first position and the second position. The positioning device includes a recess 151 defined in the handle 15. A spring 14 and a bead 13 are received in the recess 151, the bead 13 is biased by the spring 14 and a part of the bead 13 extends out from the recess 151 to contact against the cap 18 so as to position the cap 18. When the cap 18 is at the first position, the switch 12 is not touched unintentionally.

Figs. 3 and 4a to 4c show the second embodiment of the handle assembly for umbrella of the present invention, wherein handle 23 is a hollow handle and the frame 21 is received in the handle 23. The switch 22 is connected to the frame 21 and can be accessed via an opening defined in the handle 23. Two decoration boards 24, 25 are connected on two sides of the handle 23. A close part 27 is connected to the handle 23 and a space is defined between the close part 27 and the handle 23. The cap 26 is received in the space when the cap is located in the second position. A stop 28 extends perpendicularly from the handle 23 so as to stop the cap 26 and prevents the cap 26 from being disengaged from the handle 23. A ridge 261 extends from an end of the cap 26 and is higher than an outer surface of the close part 27 and the user can push the ridge 261 to operate the cap 26. The positioning device 29 includes a spring and a bead so as to position the cap 26.

Figs. 5 and 6a to 6c show the third embodiment of the handle assembly for umbrella of the present invention, wherein the cap 32 has a plurality of blocks 321 extending from two sides of an underside thereof and the blocks 321 are movably engaged with the grooves 34 in the handle 3 so as to cover or uncover the switch 31. The positioning device includes two torsion springs 33 and each torsion spring 33 has a first leg and a second leg. Two respective first legs are connected to a protrusion 331 on the handle 30 and two respectively second legs are connected to two holes 322 in the underside of the cap 32.

Figs. 7 and 8a to 8b show the fourth embodiment of the handle assembly for umbrella of the present invention, wherein a rail 44 extends radially from the handle 40 and is located perpendicular to a longitudinal axis of the handle 40. The frame 41 is received in the handle 40 and the switch 42 is connected to the frame 41. The cap 43 has a guide slot 45 defined in an underside thereof and the rail 44 is engaged with the guide slot 45. A stop 46 extends perpendicularly from the handle 40 so as to stop the cap 43 which is not disengaged from the rail 44.

Figs. 9 and 10a to 10c show the fifth embodiment of the handle assembly for umbrella of the present invention, wherein the frame 51 is received in the handle 50 and the switch 52 is connected to the frame 51. The opening is defined in the handle 50 and the switch 52 is engaged with the opening. The handle 50 includes a recessed area and the two lugs 54 extend from the handle 50 and are located at a middle of the recessed area. The cap 53 has an extension which is pivotably

connected between the two lugs 54 by the pin 55 and the cap 53 is received in the recessed area. The cap 53 is pivotable about the pin 55 and positioned between the first position and the second position. The first position of the cap 53 is located to cover the switch 52 and the second position of the cap 18 located to uncover the switch 52. The positioning device is connected between the cap 53 and the handle 50 so as to position the cap 53 at one of the first position and the second position. The positioning device includes the spring 56 which is mounted to the pin 55 and biased between the handle 50 and the cap 53. Two finger accesses 58 are defined in the handle 50 and communicate with the recessed area so that the user may insert a finger into the finger recesses 58 to pivot the cap 53. Two bosses 57 extend from two inner ends of the recessed area so as to respectively contact against and position the cap 53.

Fig. 11 shows the sixth embodiment of the handle assembly for umbrella of the present invention, wherein the sixth embodiment has the same structure as the embodiment in Fig. 9 such as the handle 60, the frame 61, the switch 62, the cover 63, the pin 65, the spring 66 and the lugs 64. The only difference is that the spring 66 is a coil-type torsion spring.

Figs. 12 and 13a to 13c show the seventh embodiment of the handle assembly for umbrella of the present invention, wherein handle assembly for umbrellas comprises a handle 70 and a frame 71 is received in the handle 70. A switch 72 is connected to the frame 71 and can be accessed via an opening defined in

the handle 70. A hole 75 is defined in the handle 70 and located at a middle portion of the handle 70. A cap 73 has a pivot 77 extending from an underside thereof and the pivot 77 is rotatably engaged with the hole 75. The cap 73 pivotably swings about the pivot 77 and is positioned between a first position and a second position. The first position of the cap 73 is located to cover the switch 72 and the second position of the cap 73 is located to uncover the switch 72. A positioning device is connected between the cap 73 and the handle 70 so as to position the cap 73 at one of the first position and the second position. The positioning device includes two bosses 74, 76 extending from the handle 70 and the cap 73 has a detent 78 defined in the underside thereof. The detent 78 is engaged with one of the two bosses 74, 76 to position the cap 73.

Figs. 14 and 15a to 15b show the eighth embodiment of the handle assembly for umbrella of the present invention, wherein the handle assembly comprises a handle 80 having a frame 81 received therein and a switch 82 is connected to the frame 81. An opening is defined in the handle 8 and the switch 82 is engaged with the opening. A recess is defined in the handle 84 and located at an end of the handle 80. Two openings 85 are defined through a wall defining the recess and communicate with an interior of the frame 8. A control member 83 is movably engaged with the recess in the handle 80 and has two insertions 86 which are movably inserted through the openings 85. The cap 83 is movably positioned between a first position and a second position. The two insertions 86 are located

beside the switch 82 and the two insertions 86 fill the room at the underside of the switch 82, so that the switch 82 cannot be pushed inward when the cap 83 is located at the first position. When the cap 83 is located at the second position, two insertions 86 are located away from the switch 82 so that the switch can be pushed inward. A stop 84 extends from an inner bottom so as to stop the control member 83 from dropping from the recess 84. Two bosses 811 extend from the surface of the recess and the cap 83 has a notch defined in an underside thereof so that when the cap 83 is moved to the first and the second positions, the two bosses 811 are respectively engaged with the notch to position the cap 83.

Figs. 16, 17A, 17B and 17C show the ninth embodiment of the handle assembly for umbrella of the present invention and the handle assembly for umbrellas comprises a handle 90 having a frame 91 received therein and a switch 92 is connected to the frame 91. An opening is defined in the handle 90 and the switch 92 is engaged with the opening. An operation member 1100 is rotatably mounted to the handle 90 so that the switch 92 is covered by the operation member 1100 when the operation member 1100 is located at a first position, and the switch 92 is accessible when the operation member 1100 is located at a second position. A hole is defined through a wall of the operation member 1100 so that the switch 92 is accessible via the hole of the operation member 1100 when the hole of the operation member 1100 is located at the second position.

A pivot 911 extends from an underside of the handle 90 and includes a tapered enlarged head 913. A reception hole 1110 is defined in an inner end of the operation member 1100 and includes a tapered space 1170 opening to the inner end of the operation member 1100. A narrow space is located in communication between the reception hole 1110 and the tapered space 1170. The tapered enlarged head 913 is forced to pass through the tapered space 1170 and the narrow space so as to be received in the reception hole 1110. An end cap 1150 includes a plurality of protrusions 1160 which are inserted into notches 1120 defined in an outside of an end of the operation member 1100. A spring 1140 has one end connected on an inner side of the end cap 1150 and a bead 1130 is biased by the other end of the spring 1140. The underside of the handle 90 includes two recesses 912 and the bead 1130 is engaged with one of the two recesses 912 so as to position the operation member 1100 between the first and second positions.

Figs. 18 and 18A show the tenth embodiment of the handle assembly for umbrella of the present invention, wherein the handle 2000 has a spiral rail 2010 extending from an outer periphery thereof and the operation member 2300 includes a spiral groove 2310 defined in an inner periphery thereof, the spiral rail 2010 is engaged with the spiral groove 2310. By this way, the switch 2200 can be covered when the operation member 2300 is moved to cover it, and be accessible when the operation member 2300 is moved away from it. An end flange 2020 extends from an

end of the outer periphery of the handle 2000 and the operation member 2300 is stopped by the end flange 2020 so as not to disengage from the handle 2000.

Figs. 19 and 19A show the eleventh embodiment of the handle assembly for umbrella of the present invention, wherein a threaded rod 3010 extends from an underside of the handle 3000 and the operation member 3300 has a tube 3310 extending from an inner end thereof. The tube 3310 includes inner threads which are threadedly connected to the threaded rod 3010. The operation member 3300 is moved along a longitudinal axis of the handle 3000 and has a hole through which the switch 3200 can be accessible via the hole. The switch 3200 is connected to a frame 3100 received in the handle 3000.

Figs. 20, 20A and 20B show the twelfth embodiment of the handle assembly for umbrella of the present invention, wherein the operation member 4300 includes a plate and collar 4400 extends laterally from an inner side of the plate. The collar 4400 is rotatably mounted to a groove 4020 of the frame 4000 which includes a space 4010 so as to accommodate the switch 4200 therein. By rotating the operation member 4300, the plate covers the switch 4200 received in the opening 4110 of the handle 4100 when the plate is located at the first position. A boss 4500 extends from an outer surface of the handle 4100 and is engaged with a recess 4310 defined in an inner side of the plate of the operation member 4300 so as to position the plate at the first position.

While we have shown and described the embodiment in accordance with the present invention, it should be clear to those skilled in the art that further embodiments may be made without departing from the scope of the present invention.

WHAT IS CLAIMED IS:

1. A handle assembly for umbrellas, comprising:

a handle having a frame received therein and a switch connected to the frame, an opening defined in the handle and the switch engaged with the opening;

a cap slidably connected to the handle and movably between a first position and a second position, the first position of the cap being located to cover the cap and the second position of the cap being located to uncover the switch, and

a positioning device connected between the cap and the handle so as to position the cap at one of the first position and the second position.

2. The assembly as claimed in claim 1, wherein the handle has two grooves 19 defined therein and the cap is slidably engaged with the grooves.

3. The assembly as claimed in claim 1, wherein two decoration boards are connected to two sides of the handle.

4. The assembly as claimed in claim 1, wherein the positioning device includes a recess defined in the handle, a spring and a bead are received in the recess, the bead is biased by the spring and a part of the bead extends out from the recess to contact against the cap.

5. The assembly as claimed in claim 1, wherein a stop extends perpendicularly from the handle so as to stop the cap.

6. The assembly as claimed in claim 5, wherein a close part is connected to the handle and a space is defined between the close part and the handle, the cap is received in the space when the cap is located in the second position.

7. The assembly as claimed in claim 5, wherein a ridge extends from an end of the cap and is higher than an outer surface of the close part.

8. The assembly as claimed in claim 1, wherein the cap has a plurality of blocks extending from two sides of an underside thereof and the blocks are movably engaged with the grooves in the handle.

9. The assembly as claimed in claim 8, wherein the positioning device includes two torsion springs and each torsion spring has a first leg and a second leg, two respective first legs are connected to a protrusion on the handle and two respectively second legs are connected to two holes in the underside of the cap.

10. The assembly as claimed in claim 1, wherein a rail extends radially from the handle and is located perpendicular to a longitudinal axis of the handle, the cap has a guide slot defined in an underside thereof, the rail is engaged with the guide slot.

11. The assembly as claimed in claim 10, wherein a stop extends perpendicularly from the handle so as to stop the cap.

12. A handle assembly for umbrellas, comprising:

a handle having a frame received therein and a switch connected to the frame, an opening defined in the handle and the switch engaged with the opening, two lugs extending from the handle;

a cap having an extension which is pivotably connected between the two lugs by a pin, the cap being pivotable about the pin and positioned between a first position and a second position, the first position of the cap being located to cover the switch and the second position of the cap being located to uncover the switch, and

a positioning device connected between the cap and the handle so as to position the cap at one of the first position and the second position.

13. The assembly as claimed in claim 12, wherein the positioning device includes a spring which is mounted to the pin and biased between the handle and the cap.

14. The assembly as claimed in claim 12, wherein the handle includes a recessed area in which the cap is received, two finger accesses are defined in the handle and communicate with the recessed area.

15. The assembly as claimed in claim 14, wherein the two lugs are located at a middle of the recessed area and two bosses extend from two inner ends of the recessed area so as to respectively contact against the cap.

16. A handle assembly for umbrellas, comprising:

a handle having a frame received therein and a switch connected to the frame, an opening defined in the handle and the switch engaged with the opening, a hole defined in the handle and located at a middle portion of the handle;

a cap having a pivot extending from an underside thereof and the pivot rotatably engaged with the hole, the cap being pivotably swing about the pivot and positioned between a first position and a second position, the first position of the cap being located to cover the switch and the second position of the cap being located to uncover the switch, and

a positioning device connected between the cap and the handle so as to position the cap at one of the first position and the second position.

17. The assembly as claimed in claim 16, wherein the positioning device includes two bosses extending from the handle and the cap has a detent defined in the underside thereof, the detent is engaged with one of the two bosses.

18. A handle assembly for umbrellas, comprising:

a handle having a frame received therein and a switch connected to the frame, an opening defined in the handle and the switch engaged with the opening, a recess defined in the handle and located at an end of the handle, two openings defined through a wall defining the recess and communicating with an interior of the frame;

a control member movably engaged with the recess in the handle and having two insertions which are movably inserted through the openings, the cap

movably positioned between a first position and a second position, the two insertions located beside the switch so that the switch cannot be pushed when the cap is located at the first position, the two insertions located away from the switch so that the switch can be pushed when the cap is located at the second position, and

a stop extending from an inner bottom so as to stop the control member from dropping from the recess.

19. The assembly as claimed in claim 18, wherein two bosses extend from a surface of the recess and the cap has a notch defined in an underside thereof so that when the cap is moved to the first and the second positions, the two bosses are respectively engaged with the notch to position the cap.

20. A handle assembly for umbrellas, comprising:

a handle having a frame received therein and a switch connected to the frame, an opening defined in the handle and the switch engaged with the opening, and

an operation member rotatably mounted to the handle, the switch being covered by the operation member when the operation member is located at a first position, the switch being accessible when the operation member is located at a second position.

21. The assembly as claimed in claim 20, wherein a pivot extends from an underside of the handle and a reception hole is defined in an inner end of the operation member, the pivot is rotatably engaged with the reception hole.

22. The assembly as claimed in claim 21, wherein the pivot includes a tapered enlarged head and the reception hole includes a tapered space opening to the inner end of the operation member, a narrow space is located in communication between the reception hole and the tapered space, the tapered enlarged head is forced to pass through the tapered space and the narrow space so as to be received in the reception hole.

23. The assembly as claimed in claim 20, wherein an end cap is snapped to an outside of an end of the operation member, the end cap includes a plurality of protrusions which are inserted into notches defined in the end of the operation member.

24. The assembly as claimed in claim 23, wherein a spring has one end connected on an inner side of the end cap and a bead is biased by the other end of the spring, the underside of the handle includes two recesses and the bead is engaged with one of the two recesses.

25. The assembly as claimed in claim 20, wherein a hole is defined through a wall of the operation member, the switch is accessible via the hole of the operation member when the hole of the operation member is located at the second position.

26. The assembly as claimed in claim 20, wherein the handle has a spiral rail extending from an outer periphery thereof and the operation member includes a spiral groove defined in an inner periphery thereof, the spiral rail is engaged with the spiral groove.

27. The assembly as claimed in claim 26, wherein an end flange extends from an end of the outer periphery of the handle and the operation member is stopped by the end flange from disengaging from the handle.

28. The assembly as claimed in claim 20, wherein a threaded rod extends from an underside of the handle and the operation member has a tube extending from an inner end thereof, the tube includes inner threads which are threadedly connected to the threaded rod.

29. The assembly as claimed in claim 20, wherein the operation member includes a plate and collar extends laterally from an inner side of the plate, the collar is rotatably mounted to a groove of the frame, the plate covers the switch received in the opening of the handle when the plate is located at the first position.

30. The assembly as claimed in claim 29, wherein a boss extends from an outer surface of the handle and is engaged with a recess defined in an inner side of the plate of the operation member so as to position the plate at the first position.

31. A handle assembly for umbrellas substantially as hereinbefore described with reference to figures 1 to 20 of the drawings.

Application No: GB0706642.6 **Examiner:** Mr Hal Young

Claims searched: 1-31 **Date of search:** 26 June 2007

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
A		DE20215417 U1 (KUO)
A		US5186197 A (LAVINE)
A		US5458144 A (LAVINE)

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
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Field of Search:

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A4P

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A45B

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC

International Classification:

Subclass	Subgroup	Valid From
A45B	0025/12	01/01/2006
A45B	0025/08	01/01/2006