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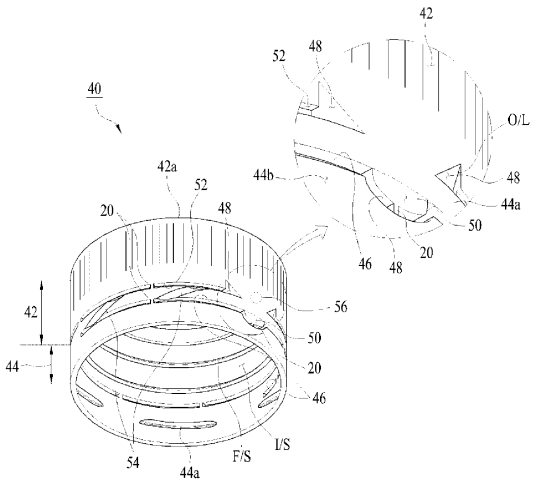
(54) CONTAINER CAP HAVING FUNCTION OF MAINTAINING OPEN STATE

(57) The present invention relates to a container cap having a function of maintaining an open state, the container cap comprising: an indication ring prevented from escaping from a container spout; a cap body screw-coupled to an outer circumferential surface of the container spout; a hinge portion connecting the cap body and the indication ring to each other in a partial section of a circumference of a cut portion disposed between the cap body and the indication ring; and a bridge which connects the cap body and the indication ring at an interval along the circumference of the cut portion and is cut when the cap body is open, wherein: the hinge portion has widthwise opposite edge parts adjacent to opposite cut portions and depressed from the outer side to the inner side thereof, a bending guide groove formed to be integrally connected to the cap body, the indication ring, and the hinge portion, and a protrusion portion having a shape extending and protruding downward from a lower part of the widthwise center thereof; and the indication ring includes a slit formed in a predetermined section of a middle part in a vertical height direction and a concave portion formed therein, wherein the concave portion is disposed at a position corresponding to the protrusion portion, is adjacent to the protrusion portion while being spaced apart therefrom, and is depressed downward.

FIG. 5



EP 3 689 774 A1

Description

[TECHNICAL FIELD]

[0001] The present invention relates to a container cap having a function of maintaining an open state, and more specifically, to a container cap having a function of maintaining an open state, in which the container cap is connected with an indication ring fixed to a spout of a container, and a cap body for opening or closing an opening of the container is maintained while being folded outward from the opening of the container as much as possible in a state in which the opening of the container is opened by the cap body.

[BACKGROUND ART]

[0002] In general, a container that contains liquid materials such as beverages, oils, paints, chemicals and the like as well as mineral water is formed with a spout to allow the liquid materials to enter and exit.

[0003] In addition, a container cap for opening or closing an opening of the spout of the container is provided on the spout in order to restrict the entrance and exit of the liquid materials.

[0004] As shown in FIGS. 1 to 3, according to a general coupling structure between a spout N of a container B and a container cap 10, a male screw M/S is formed on an outer peripheral surface E/S of the spout N, which relatively protrudes from the container B, and a female screw F/S is formed on an inner peripheral surface I/S of the container cap 10 covering the spout N correspondingly such that the container cap 10 can be screw-coupled with or released from the spout N of the container B.

[0005] As disclosed in Korean Patent Publication No. 10-1325850 (packaging container cap: hereinafter referred to as 'related art 1') and Korean Patent Publication No. 10-1038894 (packaging container cap: hereinafter referred to as 'related art 2'), according to a container cap 10, which has been recently developed, the container cap 10 is still connected to the spout N of the container B even when the spout N of the container B is opened in order to eliminate the risk of loss of the container cap 10 separated from the spout N and the possibility of contamination from the surroundings,.

[0006] Referring to FIGS. 1 and 2, the container cap 10 according to the related arts 1 and 2 includes a cap body 16 having a ceiling portion 12 and a sidewall portion 14 cylindrically formed downward of the ceiling portion 12 and formed at an inner wall thereof with a female screw F/A, a plurality of bridges 20 provided at a lower portion of the container body 16 and arranged in a radial direction, and an indication ring 18 integrally formed with one side of the container cap 10 through a hinge portion 22.

[0007] In addition, a slit 24, which is incised in a horizontal direction, is formed at a vertical intermediate portion of the indication ring 18 below the hinge portion 22, and a latching portion 30 protrudes around an inner wall below the slit 24.

[0008] Thus, when opening the spout N of the container B by rotating the cap body 16, the cap body 16 moves up, but the indication ring 18 disposed between a latching jaw C and a support jaw S/C, which are provided in the container B, is blocked by the latching jaw C without moving up so that the bridges 20 connected to a cut portion 25 between the indication ring 18 and the cap body 16 are broken.

[0009] Accordingly, it is possible to check whether the container cap 10 is opened from the container B based on the breakage of the bridges 20.

[0010] The hinge portion 22 described above is connected to the indication ring 18 above the position of the slit 24, and the slit 24 is widened when the cap body 16 moves up from the spout N of the container B, so that the connection state between the indication ring 18 and the cap body 16 can be maintained through the hinge portion 22.

[0011] In addition, according to related arts 1 and 2, a cutout portion 26, which is incised through the cap body 16 and the indication ring 18, is formed on both sides of the hinge portion 22, and the cutout portion 26 is for securing a space to allow the hinge part 22 to be bent inward and outward and has a length from the boundary position between the cap main body 16 and the indication ring 18 in the direction of the cap body 16 located above the indication ring 18.

[0012] In addition, the hinge portion 22 located in the cutout portion 26 has a thin thickness from an inner side to an outer side along the vertical intermediate portion between the cap body 16 and the indication ring 18, and a step portion 28, which is bent in the tangential direction horizontal to the cap body 16 and the indication ring 18 is formed at the position of the hinge portion 22, so that both sides of the step portion 28 in the horizontal direction protrude outward more than surfaces of the cap body 16 and the indication ring 18.

[0013] As described above, since both sides of the step portion 28 in the transverse direction of the step portion 28 protrude outward more than the surfaces of the cap body 16 and the indication ring 18, a user may feel inconvenience due to the sense of difference when the user grasps the container and a hand of the user may be damaged when the container cap 10 is fastened with a strong force or when the user attempts to open with excessive force while the contents between the container B and the container cap 10 are hardened.

[0014] Above all, the hinge portion 22 of the related arts 1 and 2 has a step portion 28 so that the cap body 16 can be folded outward from the container B. However, since the folded cap body 16 is eventually positioned to partially cover the opening of the container B under the influence of the elastic restoring force of the hinge portion 22 in the natural state, when the user wants to drink the beverage through the spout N of the container B, the cap body 16 may interfere with the user so that the user has to intentionally fold out the cap body 16.

[0015] In order to solve such inconvenience, as shown in FIG. 3, there is disclosed a technique in Korean Patent Publication No. 10-0981240 (hereinafter referred to as 'related art 3'), in which a support 32 is provided in the hinge portion 22' such that an end of the support 32 can be supported against an outer wall of the container spout, thereby securely maintaining the open state of the cap body 16.

[0016] The position of the end of the support 32 mentioned above is located above the slit 24.

[0017] However, according to above related art 3, in a state in which the opening of the container B is opened by the cap body 16 as shown in FIGS. 3 and 4, a portion of the indication ring 18 above the slit 24 is twisted from a portion fixed by the latching jaw C at both end positions P1 of the slit 24, a position P2 of the cutout portion 26 formed in the indication ring 18, and a position P3 where the cap body 16 is connected to the support, and the twist length corresponds to a length d1 to d3 obtained by connecting the "P1 to P3" as shown in FIG. 3.

[0018] That is, the above-mentioned length d1-d3 of the twisted section includes the protruding length d3 of the support 32, and finally, the twisted section d1-d3 may form a space larger than a margin space D in a state in which the spout N of the container B is twisted against the outer wall, so that it is difficult to exert a support force onto the support 32. As a result, the cap body 16 is located in a position covering the opening of the spout N of the container B due to the restoring force against the twist.

[0019] In order to compensate for the above problem, the position of the upper portion of the cutout portion 28 leading to an upper side of the cap body 16 is formed up to a maximum upper position which does not interfere with the female screw F/S formed in the inner wall of the cap body 16, and the length of the support 32 has to be long enough at that position.

[0020] However, the extension of the length of the support 32 may not allow the support 32 to closely adhere to the inner wall of the spout N of the container B, but allow the support 32 to be suspended to the inner wall of the spout N of the container B. Thus, the folding angle of the cap body 16 from the opening of the container B may be less than 90°, which causes the user to take the action to move the cap body 16 away from the opening of the container B by a hand to prevent interference.

[0021] In addition, in order to solve such a problem, related art 3 has a protrusion T in the support 32 such that the protrusion T can be suspended to the latching jaw C or the male screw M/S formed in the spout N of the container B. However, the protrusion T protrudes from an outer surface of the cap body 16 in a state where the opening of the spout N of the container B is closed, so that the protrusion T may interfere with the user when the user attempts to open the opening of the container B.

[0022] Further, in a state in which the cap body 16 is opened, connecting positions P1 to P3 between the indication ring 18 on the upper side of the slit 24, the hinge portion 22, and the cap body 16 are forcibly twisted. As a result, a thin portion in the connecting positions P1 to P3 may be easily broken by the physical force derived from the force to restore from the twisted state and the supporting force of the support so that the cap body 16 may be lost.

[DETAILED DESCRIPTION OF THE INVENTION]

[TECHNICAL PROBLEM]

[0023] The present invention has been made to solve the above-mentioned problems of the related arts, and an object of the present invention is to provide a container cap having a function of maintaining an open state, which can be maintained in a stable state by preventing damage or breakage of the connection state between a cap body and an indication ring even when the container cap is continuously used, and can ensure that the cap body is located in a position completely out of an opening of a container spout when using a container, such as for drinking a beverage.

[TECHNICAL SOLUTION]

[0024] In order to achieve the above-described object, according to an aspect of the present invention, there is provided a container cap having a function of maintaining an open state, the container cap including: an indication ring prevented from escaping from a container spout; a cap body screw-coupled to an outer circumferential surface of the container spout; a hinge portion connecting the cap body and the indication ring to each other in a partial section of a circumference of a cut portion disposed between the cap body and the indication ring; and a bridge which connects the cap body and the indication ring at an interval along a circumference of the cut portion and is cut when the cap body is open, wherein the hinge portion has widthwise opposite edge parts adjacent to opposite cut portions and depressed from an outer side to an inner side thereof, a bending guide groove formed to be integrally connected to the cap body, the indication ring, and the hinge portion, and a protrusion portion having a shape extending and protruding downward from a lower part of the widthwise center thereof; and the indication ring includes a slit formed in a predetermined section of a middle part in a vertical height direction thereof and a concave portion disposed at a position corresponding to the protrusion portion, adjacent to the protrusion portion while being spaced apart therefrom, and depressed downward.

[0025] The bending guide groove may have a depth from an outer side to an inner side thereof, and form an inclined surface having a thickness gradually reduced from a widthwise center of the hinge portion to an outer edge thereof, thereby allowing a part of the bending guide portion adjacent to the cap body in a height direction at the opposite cut portions having a relatively thin thickness to be cut.

[0026] A twist groove having a width, a length and a depth defined from an outside to an inside thereof may be formed in opposite sides of the indication ring provided at an upper side of the slit on opposite sides of the hinge portion, at least one twist groove may be formed along the indication ring, and the twist groove may have a predetermined gradient such that one upper end of each twist groove in a longitudinal direction of the twist groove is adjacent to the hinge portion and one lower end of each twist groove is adjacent to a front end of the slit.

[ADVANTAGEOUS EFFECTS OF THE INVENTION]

[0027] According to the present invention described above, the cap body in contact with the bending guide groove is integrally connected with the hinge portion and the indication ring portion provided at an upper side of the slit, and the protrusion portion is located lower than a horizontal position of the slit, so that the protrusion portion is supported against the container spout by the strong force in response to the twist restoring force of the twisted indication ring, which is continuously twisted from both ends of the slit to the hinge portion, and the tension including the twist restoring force when the cap body is opened. Thus, the bending angle of the cap body with respect to the container spout can be enlarged as compared with that of the related arts. Therefore, the cap body can be stably located without interfering with the contents when the contents flow out through the opening of the container spout.

[0028] In addition, a part of a relatively thin portion may be torn by the inclined surface of the above-described bending guide groove, and the depth is formed inward so that the torn portion does not protrude outward. Thus, the torn portion can be prevented from being touched by a hand of the user and there is an advantage in terms of the aesthetics because the torn portion does not protrude outward.

[DESCRIPTION OF THE DRAWINGS]

[0029]

FIG. 1 is a perspective view to explain the technical configuration of a container cap and the operational relationship thereof according to a related art.

FIG. 2 is a perspective view illustrating a state of use in which a gap between an indication ring and a cap body shown in FIG. 1 is enlarged.

FIGS. 3 and 4 are views to explain the installation configuration of a support and the operational relationship thereof according to another related art.

FIG. 5 is a perspective view schematically showing the configuration and the operational relationship of a container cap having a function of maintaining an open state according to an embodiment of the present invention.

FIG. 6 is a front view to explain an arrangement relationship between a concave groove and a protrusion portion of FIG. 5.

FIG. 7 is a sectional view schematically illustrating a state of use according to the configuration of a container cap shown in FIG. 5

[BEST MODE]

[0030] The present invention provides a container cap having a function of maintaining an open state, the container cap including: an indication ring prevented from escaping from a container spout; a cap body screw-coupled to an outer circumferential surface of the container spout; a hinge portion connecting the cap body and the indication ring to each other in a partial section of a circumference of a cut portion disposed between the cap body and the indication ring; and a bridge which connects the cap body and the indication ring at an interval along a circumference of the cut portion and is cut when the cap body is open,

wherein the hinge portion has widthwise opposite edge parts adjacent to opposite cut portions and depressed from an outer side to an inner side thereof, a bending guide groove formed to be integrally connected to the cap body, the indication ring, and the hinge portion, and a protrusion portion having a shape extending and protruding downward from a lower part of the widthwise center thereof; and

the indication ring includes a slit formed in a predetermined section of a middle part in a vertical height direction thereof and a concave portion disposed at a position corresponding to the protrusion portion, adjacent to the protrusion portion while being spaced apart therefrom, and depressed downward.

[MODE FOR INVENTION]

[0031] The terms or words used in the specification and claims of the present invention are not to be construed as being limited to the ordinary or dictionary meanings, but the inventors may properly interpret the concept of terms in order to explain their own invention in the best way. It can be defined as 'definable' and should be interpreted as meanings and concepts corresponding to the technical spirit of the present invention.

[0032] In addition, the structure described in the embodiments and shown in the drawings of the present invention is only for an exemplary embodiment of the present invention and does not represent all the technical idea of the present invention. It should be understood that various equivalents and modifications that can be substituted for the present invention at the time of filing of the present invention may fall within the claims of the present invention.

[0033] Further, In the description of the present invention, a container is in an upright state, that is, a state in which a spout of the container is on the upper side, and the expression of the inside refers to a central direction

of the inside of the container or a portion in the inner direction at the corresponding height and the expression of the outside refers to a direction opposite to the inside or a portion in the outer direction.

[0034] Hereinafter, exemplary embodiments of the present invention will be described in detail with reference to the accompanying drawings.

[0035] As shown in FIGS. 5 to 7, similar to the related arts, the container cap 40 having a function of maintaining an open state according to the present invention may include an indication ring 44, which can be prevented from being separated by a latching jaw C formed in a spout N of a container B, a cap body 42 screw-coupled to an outer peripheral surface E/S of the spout N of the container B and having a lower portion spaced apart from an upper side of the indication ring 44 to form an cut portion 52, a hinge portion connecting the cap body 42 and the indication ring 44 to each other in a partial section of a circumference of the cut portion 52 disposed between the cap body 42 and the indication ring 44, and a bridge 20 that supports an interval between the cap body 42 and the indication ring 44 along the circumference of the cut portion 52 and cut as the interval of the cut portion 52 is enlarged when the cap body 42 is opened.

[0036] In the above-described configuration, the hinge portion 56 according to the present invention has widthwise opposite edge parts adjacent to ends of opposite cut portions 52 and depressed from the outside to the inside thereof, and a bending guide groove 48 formed to be integrally connected to the cap body 42, the indication ring 44, and the hinge portion 56.

[0037] The bending guide groove 48 has a depth from an outer side to an inner side thereof, and forms an inclined surface having a thickness gradually reduced from a widthwise center of the hinge portion 56 (circumferential direction of the cap body 42) to an outer edge thereof, so that a portion of the bending guide portion 48 is thin at the sidewall of the cap body 42 formed at an upper side adjacent to the cut portion 52.

[0038] The thinly formed portion of the bending guide groove 48 may form a cutout line O/L such that the cutting can be gradually performed from the thin portion under the tension applied to the indication ring 44a located at an upper side of the slit 46 in a section between both ends of the slit 46 when the cut portion 52 is enlarged in the process of opening of the cap body 42.

[0039] In addition, a portion where the thickness of the bending guide groove 48 gradually increases in the widthwise center direction of the hinge portion 56 may not be gradually cut in response to the tension acting on the indication ring 44a in the above-described section. That is, the portion is provided to endure the tension acting on the indication ring 44a without incision.

[0040] Further, the hinge portion 56 described above has a protrusion portion 50 that protrudes downward at the lower portion of the widthwise center of the hinge portion 56, that is, the lower portion of the indication ring 44a on the upper side of the slit 46 which is integrally connected.

[0041] In addition, a concave portion 49 having a depth defined downward is formed at an upper portion of the indication ring 44b provided at a lower portion of the slit 46 corresponding to the protrusion portion 50 such that the concave portion 49 has a shape corresponding to a shape of the protrusion portion 50 at a predetermined interval.

[0042] Therefore, the above-described slit 46 may be formed along an intermediate portion of the vertical direction of the indication ring 44 and extend to be connected to the concave portion 49 having a depth defined downward at a position corresponding to the protrusion portion 50.

[0043] In addition, at least one twist groove 54 having a width, a length and a depth defined from an outside to an inside thereof may be formed in the above-described section, that is, the section of the indication ring 44a provided on the upper side of the slit 46, which extends from both ends of the slit 46 to both ends of the cut portion 52.

[0044] In addition, the twist groove 54 has a shape in which a longitudinal direction is inclined with respect to a vertical direction at a predetermined angle, and specifically, one upper end of the twist groove 54 in the longitudinal direction is adjacent to the hinge portion 56 and one lower end of the twist groove 54 is adjacent to an end of the slit 46.

[0045] In a state in which the cap body 42 is opened, the force of restoring the original shape is provided while the indication ring 44 on the upper side of the slit 46 is twisted. The restoring force may provide a rotational force to the cap body 42 to cover the opening of the spout N of the container B, and the above-described twist groove 54 induces deformation of the twisted state to relieve the restoring force due to the twist.

[0046] That is, the twist groove 54 is provided to allow the above section to be easily twisted while allowing the tension to be applied only onto the section of the indication ring 44 provided at the upper side of the slit 46 extending from both ends of the slit 46 to both ends of the cut portion 52 in a state in which the cap body 42 is opened.

Claims

1. A container cap having a function of maintaining an open state, the container cap comprising:

   an indication ring prevented from escaping from a container spout;
   a cap body screw-coupled to an outer circumferential surface of the container spout;
   a hinge portion connecting the cap body and the indication ring to each other in a partial section of a circumference of a cut portion disposed between the cap body and the indication ring; and
   a bridge which connects the cap body and the

indication ring at an interval along a circumference of the cut portion and is cut when the cap body is open,
wherein the hinge portion has widthwise opposite edge parts adjacent to opposite cut portions and depressed from an outer side to an inner side thereof, a bending guide groove formed to be integrally connected to the cap body, the indication ring, and the hinge portion, and a protrusion portion having a shape extending and protruding downward from a lower part of the widthwise center thereof; and the indication ring includes a slit formed in a predetermined section of a middle part in a vertical height direction thereof and a concave portion disposed at a position corresponding to the protrusion portion, adjacent to the protrusion portion while being spaced apart therefrom, and depressed downward.

2. The container cap of claim 1, wherein the bending guide groove has a depth from an outer side to an inner side thereof, and forms an inclined surface having a thickness gradually reduced from a widthwise center of the hinge portion to an outer edge thereof, thereby allowing a part of the bending guide portion adjacent to the cap body in a height direction at the opposite cut portions having a relatively thin thickness to be cut.

3. The container cap of claim 1, wherein a twist groove having a width, a length and a depth defined from an outside to an inside thereof is formed in opposite sides of the indication ring provided at an upper side of the slit on opposite sides of the hinge portion, at least one twist groove is formed along the indication ring, and the twist groove has a predetermined gradient such that one upper end of each twist groove in a longitudinal direction of the twist groove is adjacent to the hinge portion and one lower end of each twist groove is adjacent to a front end of the slit.

FIG. 1

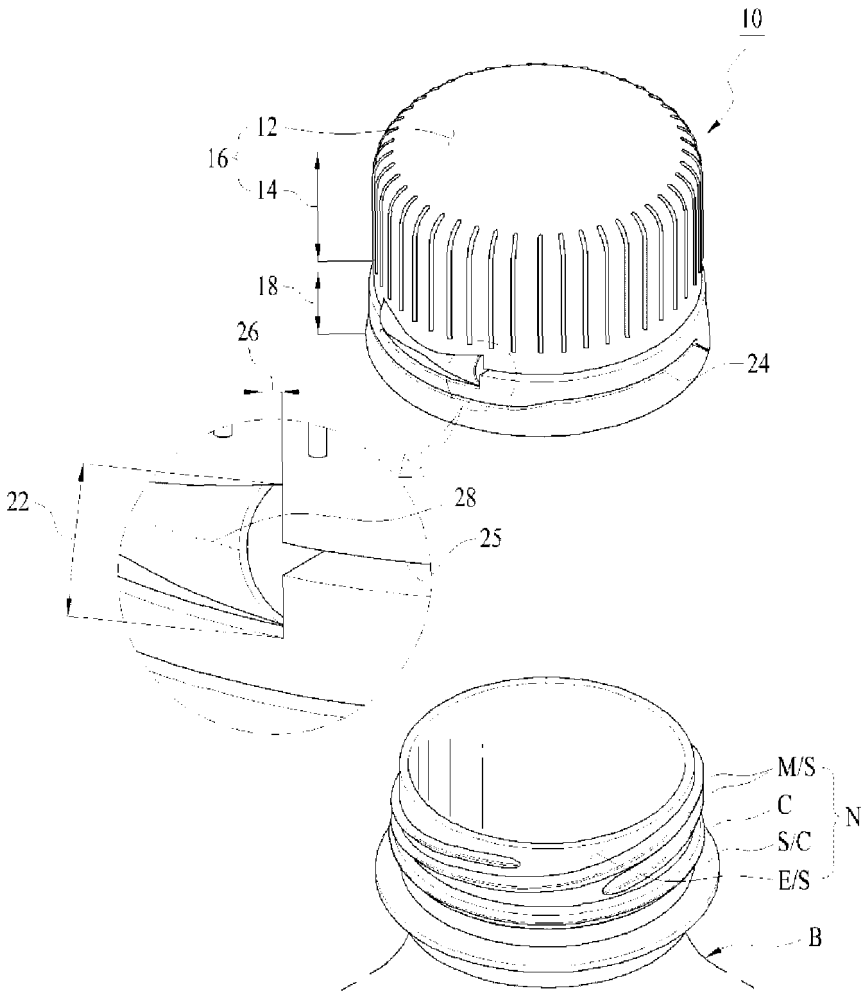


FIG. 2

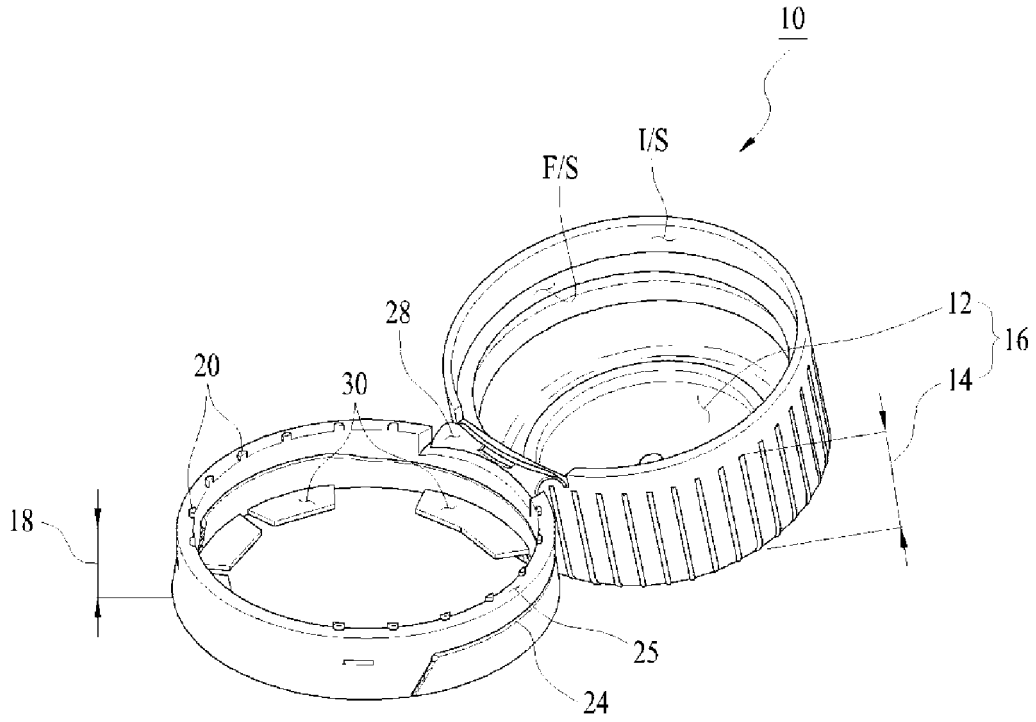

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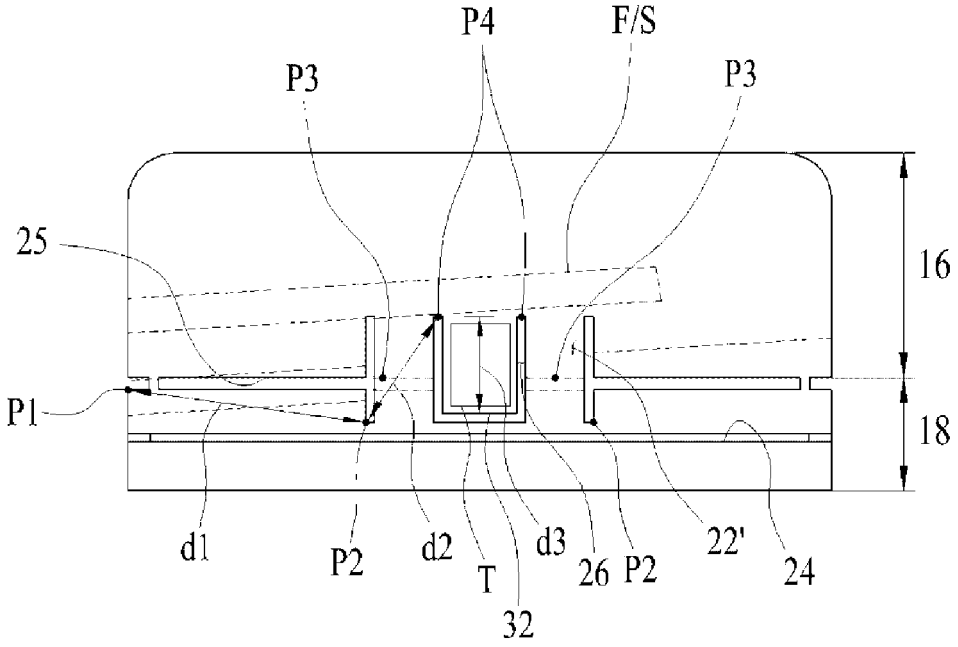
FIG. 3


P4
F/S
P3
P3
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16
P1
18
d1
P2
d2
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d3
26
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22'
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32

FIG. 4

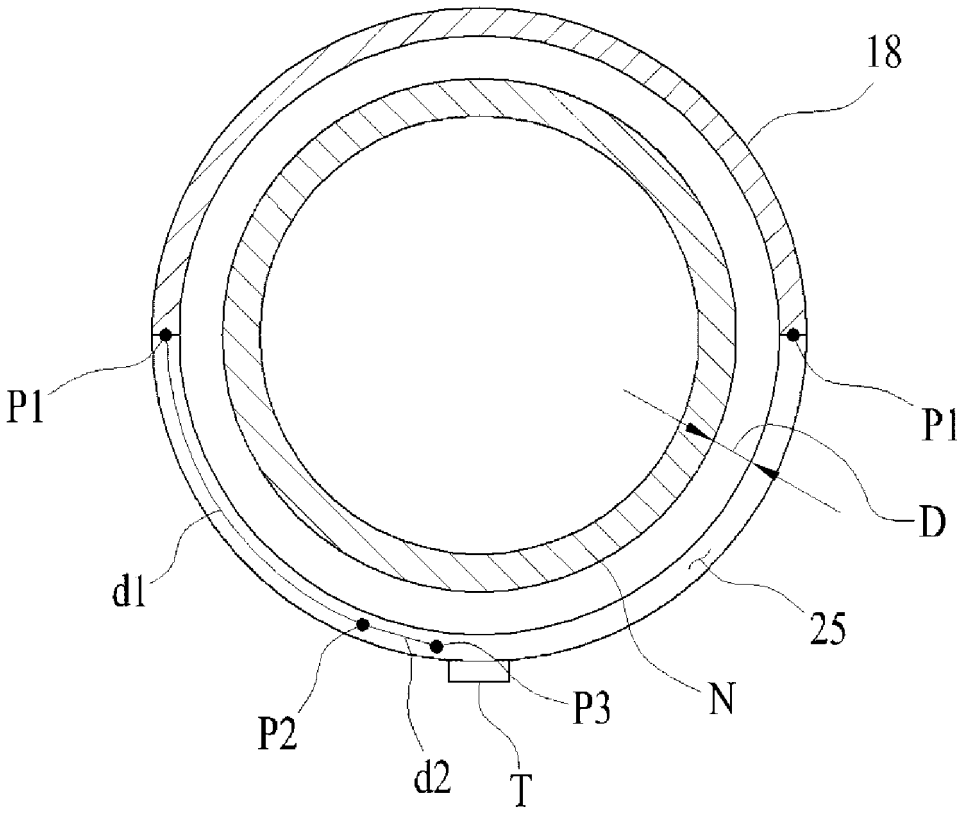
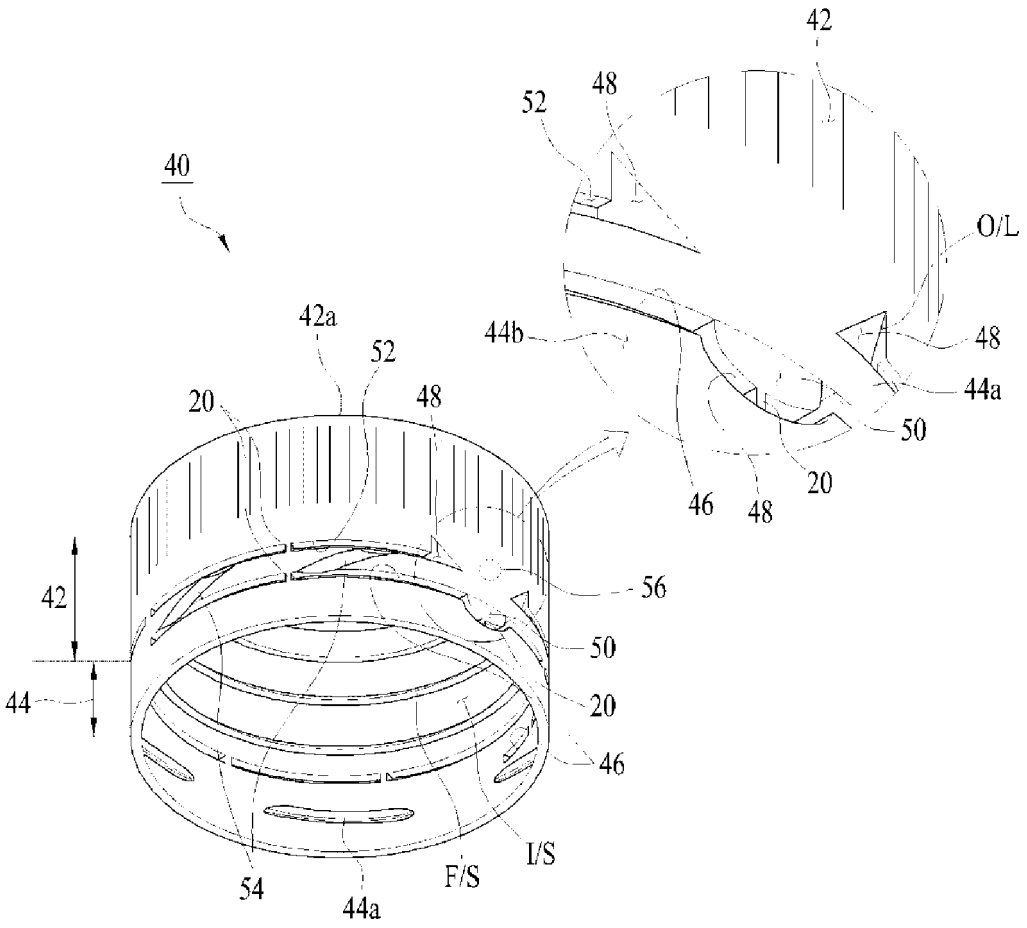


FIG. 5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52
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O/L
42a
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F/S
44a

FIG. 6

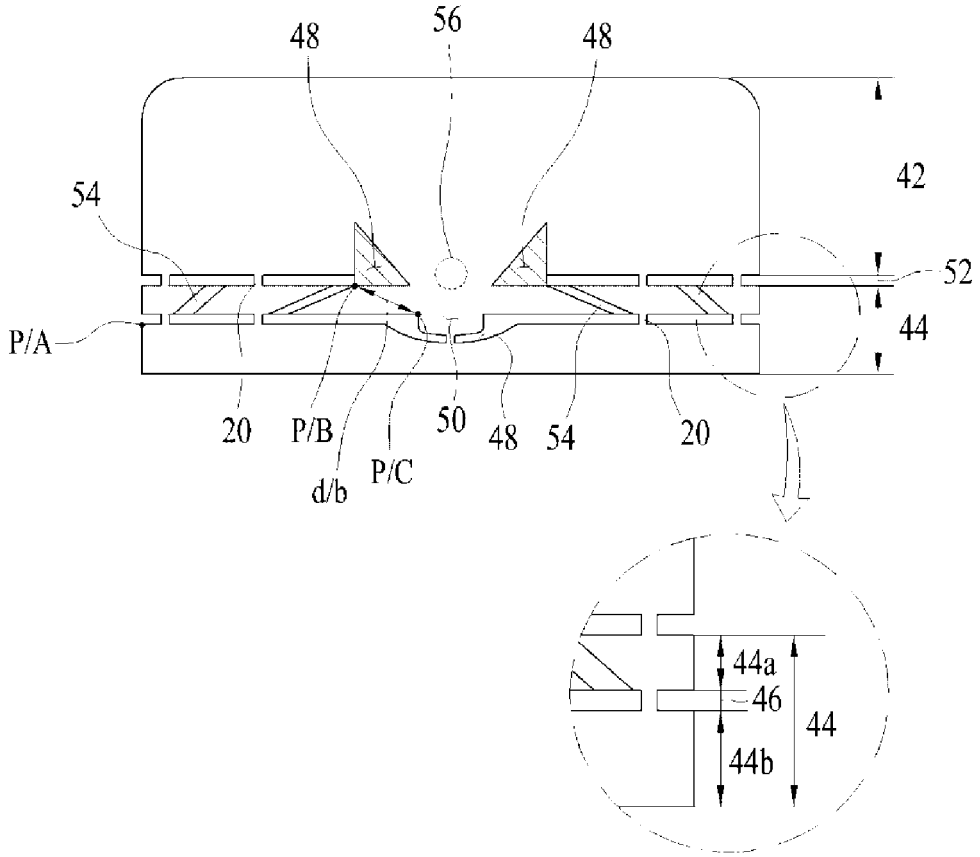
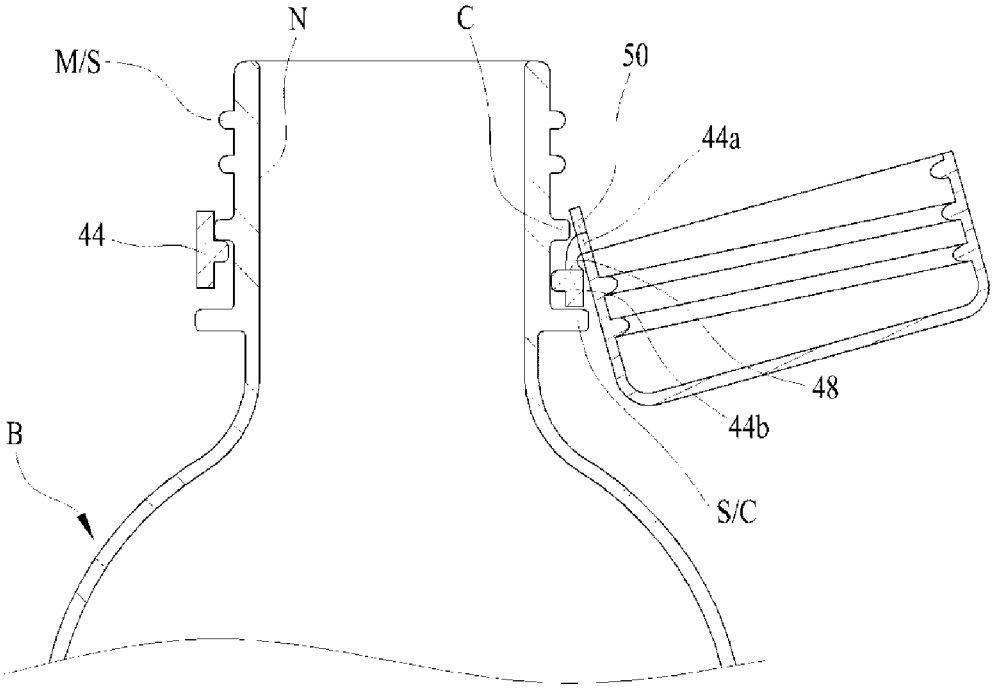


FIG. 7



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2018/008874

A. CLASSIFICATION OF SUBJECT MATTER

B65D 41/04(2006.01)i, B65D 43/24(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B65D 41/04; B65D 39/04; B65D 41/32; B65D 41/34; B65D 43/16; B65D 51/24; B65D 55/16; B65D 43/24

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean Utility models and applications for Utility models: IPC as above
Japanese Utility models and applications for Utility models: IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS (KIPO internal) & Keywords: stopper, container, neck, hinge, cut, bridge, protrusion, torsion, bending

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-0981240 B1 (KWON, Si Joong) 10 September 2010 See paragraphs [0015]-[0025]; and figures 1-3.	1-3
A	KR 10-2009-0005746 A (BEST EASY CAP CO., LTD.) 14 January 2009 See paragraphs [0022]-[0032]; and figures 1-6.	1-3
A	KR 10-2006-0090211 A (LEE, Sung Jun) 10 August 2006 See paragraphs [0027]-[0036]; and figures 1-3.	1-3
A	KR 20-2011-0007234 U (KIM, Yun Ha) 20 July 2011 See paragraphs [0013]-[0021]; and figures 1-3.	1-3
A	US 2011-0114593 A1 (ISHII et al.) 19 May 2011 See paragraphs [0036]-[0050]; and figures 1-8.	1-3

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 DECEMBER 2018 (10.12.2018)	**10 DECEMBER 2018 (10.12.2018)**
Name and mailing address of the ISA/KR Korean Intellectual Property Office Government Complex Daejeon Building 4, 189, Cheongsa-ro, Seo-gu, Daejeon, 35208, Republic of Korea Facsimile No. +82-42-481-8578	Authorized officer Telephone No.

Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
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