STOPPER AND CONTAINER HAVING THE SAME

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ABSTRACT
The present invention relates to a stopper including: an outer cap having an upper surface with a discharge hole and a side extending downward from the outer edge of the upper surface; and an inner cap having a cylindrical body and a protrusion and combined with the outer cap, in which the protrusion has an inclined surface extending upward from the lower edge of the body toward the center and a plurality of inlet/outlet holes formed around the inclined surface, and a container having the stopper. According to the present invention, it is possible to provide a stopper that makes it possible to discharge a desired amount of liquid substance by removing slosh generated when the liquid substance is discharged out of a container, and a container having the stopper.
STOPPER AND CONTAINER HAVING THE SAME
CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a national stage application of PCT Application No. PCT/KR2011/003185, filed Apr. 29, 2011, which claims benefit of Korean Application No. 20-2010-0005909, filed Jun. 7, 2010, in the Korean Intellectual Property Office, the disclosures of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention
[0003] The present invention relates to a stopper and a container having the same, particularly a stopper that makes it possible to discharge a desired amount of liquid substance by removing slosh generated when the liquid substance is discharged out of a container.
[0004] 2. Description of Related Art
[0005] In general, the opening of containers storing liquid substance, such as sesame oil or edible oil is covered with a stopper.
[0006] A discharge hole for discharging the liquid substance in the container is formed through the stopper, such that the liquid substance is discharged out through the hole when a user tilts the container.
[0007] In this case, the external air flows into the container by a pressure difference between the outside and the inside of the container, and accordingly, slosh occurs.
[0008] As described above, slosh is generated by repetitive discharge of the substance and inflow of the external air through one discharge hole, and accordingly, it is difficult to not only quickly discharge the substance, but pour a desired amount of substance, because bubbles are produced in the container by the inflow of the air.

SUMMARY OF THE INVENTION

[0009] The present invention has been made in an effort to provide a stopper that makes it possible to discharge a predetermined amount of liquid substance by removing slosh that occurs when discharging the liquid substance from a container, and a container having the stopper.

[0010] Further the present invention has been made in an effort to provide a stopper of which an outer cap and an inner cap can be easily assembled and that prevents a liquid substance from leaking, and a container having the stopper.

[0011] An embodiment of the present invention provides a stopper including: an outer cap having an upper surface with a discharge hole and a side extending downward from the outer edge of the upper surface; and an inner cap having a cylindrical body and a protrusion and combined with the outer cap, in which the protrusion has an inclined surface extending upward from the lower edge of the body toward the center and a plurality of inlet/outlet holes formed around the inclined surface.

[0012] Further, the outer cap further has a first locking step protruding from the inner surface of the side, and the inner cap further has a coupling portion extending outward from the body and locked to the first locking step.

[0013] Further, the coupling portion is formed such that a bottom further protrudes outward than a top, and the top and the bottom are connected by a curved surface.

[0014] Further, the outer cap further has an outer cap skirt that extends downward from the bottom of the upper surface.

[0015] Further, the inner cap further has an anti-leak step that is formed on the top of the body, with the inner surface in close contact with the outer cap skirt.

[0016] Further, the inner cap further has an inner cap skirt that extends downward from the bottom of the coupling portion.

[0017] Further, the outer cap further has a second locking step that protrudes from the inner surface of the side, under the first locking step.

[0018] Further, the outer cap further has: a cutting cap that has a sealing member connected with the upper surface and closing the discharge hole and a removal tab formed on the top of the sealing member; and a cutting groove that is formed at the joint of the sealing member and the upper surface.

[0019] Further, the stopper further includes: a cap coupled to the upper portion of the outer cap; and a hinged portion connecting the cap with the outer cap and being pivotable.

[0020] Another embodiment of the present invention provides a container including a container body with an opening and a stopper coupled to the opening, in which the stopper includes: an outer cap having an upper surface with a discharge hole, a side extending downward from the outer edge of the upper surface, a first locking step protruding from the inner surface of the side, and a second locking step protruding from the inner surface of the side, under the first locking step; and an inner cap having a cylindrical body, a protrusion having an inclined surface extending upward from the lower edge of the body toward the center and a plurality of inlet outlet holes formed around the inclined surface, and a coupling portion extending outward from the body and locked to the first locking step, and the container body includes a protrusion protruding from the outer surface of the opening and locked to the second locking step.

[0021] Further, the inner cap further has an inner cap skirt that extends downward from the bottom of the coupling portion, in close contact with the inner surface of the opening.

[0022] Further, the coupling portion is formed such that a bottom further protrudes outward than a top, and the top and the bottom are connected by a curved surface.

[0023] Further, the outer cap further has an outer cap skirt that extends downward from the bottom of the upper surface.

[0024] Further, the inner cap further has an anti-leak step that is formed on the top of the body, with the inner surface in close contact with the outer cap skirt.

[0025] Further, the outer cap further has: a cutting cap that has a sealing member connected with the upper surface and closing the discharge hole and a removal tab formed on the top of the sealing member; and a cutting groove that is formed at the joint of the sealing member and the upper surface.

[0026] Further, the container further includes: a cap coupled to the upper portion of the outer cap; and a hinged portion connecting the cap with the outer cap and being pivotable.

[0027] According to the present invention described above, it is possible to provide a stopper that makes it possible to discharge a desired amount of liquid substance by removing slosh generated when the liquid substance is discharged out of a container, and a container having the stopper.

[0028] Further, according to the present invention, it is possible to provide a stopper of which the outer cap and the inner cap can be smoothly assembled and that prevents a liquid substance from leaking, and a container having the stopper.
[0029] Additional aspects and/or advantages of the invention will be set forth in part in the description which follows and, in part, will be obvious from the description, or may be learned by practice of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0030] These and/or other aspects and advantages of the invention will become apparent and more readily appreciated from the following description of the embodiments, taken in conjunction with the accompanying drawings of which:

[0031] FIG. 1 is an exploded perspective view showing a stopper according to a preferred embodiment of the present invention and a container having the stopper.

[0032] FIG. 2A is a top view of an outer cap according to a preferred embodiment of the present invention and FIG. 2B is a cross-sectional view taken along the line A-A in FIG. 2A.

[0033] FIG. 3A is a top view of an inner cap according to a preferred embodiment of the present invention and FIG. 3B is a cross-sectional view taken along the line B-B in FIG. 3A and an enlarged view showing the main parts.

[0034] FIG. 4 is a cross-sectional view showing when the outer cap and the inner cap according to a preferred embodiment of the present invention are assembled.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0035] Reference will now be made in detail to the present embodiments of the present invention, examples of which are illustrated in the accompanying drawings, wherein like reference numerals refer to the like elements throughout.

[0036] Although a few embodiments of the present invention have been shown and described, it would be appreciated by those skilled in the art that changes may be made in this embodiment without departing from the principles and spirit of the invention, the scope of which is defined in the claims and their equivalents.

[0037] The details of other embodiments are included in the detailed specification and the drawings.

[0038] Advantages and features of the present invention and methods to achieve them will be clear from exemplary embodiments described below in detail with reference to the accompanying drawings.

[0039] However, the present invention is not limited to exemplary embodiments described herein and will be implemented in various forms. The exemplary embodiments are provided by way of example only so that a person of ordinary skill in the art can fully understand the disclosures of the present invention and the scope of the present invention. Therefore, the present invention will be defined only by the scope of the appended claims. Like reference numerals designate like components throughout the specification.

[0040] Hereinafter, the present invention is described with reference to the drawings for illustrating a stopper and a container having the stopper according to embodiments of the present invention.

[0041] FIG. 1 is an exploded perspective view showing a stopper according to a preferred embodiment of the present invention and a container having the stopper.

[0042] A stopper according to a preferred embodiment of the present invention includes an outer cap 10 and an inner cap 20 combined with the outer cap 10 and container having the stopper further includes a container body 30, in addition to the outer cap 10 and the inner cap 20.

[0043] FIG. 2A is a top view of an outer cap according to a preferred embodiment of the present invention and FIG. 2B is a cross-sectional view taken along the line A-A in FIG. 2A.

[0044] Referring to FIGS. 2A and 2B, the outer cap 10 has a side 11 and an upper surface 12.

[0045] The upper surface 12 is the portion forming the top of the outer cap 10 and a discharge hole 13 for discharging a liquid substance is formed through the upper surface 12.

[0046] The discharge hole 13, as shown in FIG. 2A, is preferably formed at the center of the upper surface 12, and is covered later by a cutting cap 40.

[0047] The side 11 is the portion forming the outer side of the outer cap 10 and extends downward from the outer side of the upper surface 12.

[0048] An opening 31 where the outer cap 10 is combined is usually formed in a circular shape and the side 11 is also preferably formed in a circular shape to be combined with the opening 31.

[0049] The outer cap 10 may further has a discharge guide 18 that extends upward from the upper surface 12, around the discharge hole 13, in order to allow the liquid substance discharged through the discharge hole 13 to stably flow to the outside.

[0050] FIG. 3A is a top view of an inner cap according to a preferred embodiment of the present invention and FIG. 2B is a cross-sectional view taken along the line B-B in FIG. 3A and an enlarged view showing the main parts.

[0051] Referring to FIGS. 3A and 3B, the inner cap 20 is disposed inside the outer cap 10 and has a body 21 and a protrusion 23.

[0052] The body 21 has a cylindrical shape and forms the body of the inner cap 20.

[0053] The protrusion 23 has an inclined surface 200 and inlet/outlet hole 210 and the inclined surface 200 extends upward toward the center from the lower edge of the body 21.

[0054] A plurality of inlet/outlet holes 201 is formed around the inclined surface 200. Although five inlet/outlet holes 201 are formed in a triangular shape in FIGS. 3A and 3B, the shape may be modified in various ways and the number inlet/outlet holes may be modified in various ways in accordance with the size of the protrusion 23.

[0055] Substantially, the protrusion 23 is formed in a conical shape with the top removed, and the top-cut portion 210 is closed, as shown in the figures, such that it prevents the liquid substance from being poured and discharged, when the liquid substance is discharged, with the container tilted.

[0056] According to the stopper according to a preferred embodiment of the present invention, since the inlet/outlet holes 201 are formed at the inner cap 20, the liquid substance is discharged through the inlet/outlet hole 201 at the lower portion when the substance is discharged, and the external air flows into the container through the inlet/outlet holes 210 at the upper portion, such that the slosh of the substance does not occur, and accordingly, the substance can be smoothly discharged and a desired amount of substance can be discharged.

[0057] Further, since the protrusion 23 is formed not in a flat surface, but a conical shape with the top cut (cone), the inlet/outlet holes 201 can be more widely formed along the inclined surface and the external air can more smoothly flow inside.

[0058] FIG. 4 is a cross-sectional view showing when the outer cap and the inner cap according to a preferred embodiment of the present invention are assembled.
[0059] In the stopper according to a preferred embodiment of the present invention, the outer cap 10 further has a first locking step 101.

[0060] The first locking step 101 protrudes from the inner surface of the side 11 of the outer cap 10.

[0061] The inner cap 20 further has a coupling portion 26 that extends outward from the body 21 of the inner cap 20 and the coupling portion 26 preferably extends from the top of the body 21.

[0062] As the inner cap 20 is pushed down with respect to the outer cap 10 by force above a predetermined level, the coupling portion 26 is fitted in a groove formed by the first locking step 101, across the first locking step 101, and then locked not to be separated to the outside by the first locking step 101.

[0063] It is preferable that the portion that is in contact with the first locking step 101 where inserting is formed in a curved surface in order to smoothly couple the inner cap 20 to the outer cap 10.

[0064] For this configuration, as shown in FIG. 3, the coupling portion 26 is formed such that the bottom 262 further protrudes outward than the top 261, and the top 261 and the bottom 262 are connected by a curved surface 263.

[0065] Therefore, the edge of the coupling portion 26 is formed in a convex curved surface and the coupling portion 26 can smoothly slide across the first locking step 101, such that the inner cap 20 can be smoothly coupled to the outer cap 10. Further, the bottom 262 further protrudes outward than the top 261, such that separation can be prevented after assembly.

[0066] Further, a second locking step 102 is further formed at the outer cap 10 to couple the container body 30 later.

[0067] The second locking step 102 protrudes from the inner surface of the side 11 of the outer cap 10, similar to the first locking step 101, and position is preferably under the first locking step 101.

[0068] In the stopper according to a preferred embodiment of the present invention, the outer cap 10 further has an outer cap skirt 120.

[0069] The outer cap skirt 120 extends downward from the lower surface of the outer cap 10, that is, is formed between the discharge hole 13 and the side 11.

[0070] In this structure 20, the inner cap 20 further has an anti-leak step 220 that prevents the substance from leaking, in close contact with the outer cap skirt 120.

[0071] The anti-leak step 220 is a groove formed on the top of the body 231 and is preferably formed in a step shape with a side open, such as [L] and [L] shown in FIG. 4, such that the outer surface of the outer cap skirt 120 is in close contact with the inner surface of the anti-leak step 1220.

[0072] However, the anti-leak step 220 may be formed in [L] shape with sides closed, because it can be close contact with the outer cap skirt 120.

[0073] In the stopper according to a preferred embodiment of the present invention, the inner cap 20 further has an inner cap skirt 27 that extends downward from the bottom of the coupling portion 26.

[0074] The inner cap skirt 27 prevents the substance from leaking, in close contact with the inner surface of the opening 31 of the container body 30 later.

[0075] The outer cap 10 according to a preferred embodiment of the present invention further includes a cutting cap 40 and the cutting cap 40 has a sealing member 42 and a removal tab 45.

[0076] The sealing member 42 is formed in the shape of the discharge hole 13 and integrally connected to the upper surface 12, such that it closes the discharge hole 13.

[0077] The removal tab 45 is formed in a ring shape such that a user can put in a finger and pull it, and is preferably integrally connected with the top of the sealing member 42.

[0078] Further, a triangular cutting groove 47 is preferably formed at the joint of the sealing member 42 and the upper surface 12 such that the user can easily remove the cutting cap 40 in the first use.

[0079] However, the shape of the cutting groove 47 may be modified in various ways and is not limited to the triangular shape.

[0080] The stopper according to a preferred embodiment of the present invention further has a cap 50 and a hinged portion 52.

[0081] The cap 50 is coupled to the upper portion of the outer cap 10 and covers the outer cap 10 and preferably has an inner step 55 protruding from the inner surface to be opened/closed in a one touch type and an opening flange 51 protruding from the outer surface such that the user can hold it to open the cap 50, and accordingly, it is preferable that a coupling step 17 that is locked to the inner step 55 protrudes upward from the upper surface 12 of the outer cap 10.

[0082] Further, it is preferable that the cap 50 is integrally connected with the outer cap 10 and the hinged portion 52 connecting the cap 50 with the outer cap 10 is formed such that the cap 50 can pivot.

[0083] FIG. 5 is a cross-sectional view showing when the container according to a preferred embodiment of the present invention is assembled.

[0084] The container according to a preferred embodiment of the present invention includes a container body 30 having an opening 31 and a stopper coupled to the opening 31.

[0085] The container body 30 has an inner space where a liquid substance is accommodated and has the opening 31 at the top to discharge the substance.

[0086] Further, the container body 30 further has a protrusion 33 that protrudes from the outer surface of the opening 31.

[0087] The stopper includes an outer cap 10 having an upper surface 12 where a discharge hole 13 is formed, a side 11 that extends downward from the outer edge of the upper surface 12, a first locking step 101 that protrudes from the inner surface of the side 11, and a second locking step 102 that protrudes from the inner surface of the side 11, under the first locking step 101, and an inner cap 20 having a cylindrical body 21, a protrusion 23 that has an inclined surface extending upward toward the center from the lower edge of the body 21 and a plurality of inlet/outlet holes 201 formed around the inclined surface 200, and a coupling portion 26 that extends outward from the body 21 and is locked to the first locking step 101.

[0088] The components were described in detail and are not described below.

[0089] Referring to FIG. 5, when the opening 31 is inserted by applying a predetermined magnitude of force downward with respect to the outer cap 10, the protrusion 33 formed at the opening 31 slides across the second locking step 102 and is fitted in a groove formed between the first locking step 101 and the second locking step 101, such that it is not separated outside by the second locking step 102.

[0090] Accordingly, the container body 30 and the outer cap 10 are assembled and fixed.
In the container according to a preferred embodiment of the present invention, the inner cap 20 further has an inner cap skirt 27.

The inner cap skirt 27 extends downward from the bottom of the coupling portion 26, in close contact with the inner surface of the opening 31.

As shown in FIG. 5, when the container body 30 is combined with the outer cap 10, the inner cap skirt 27 is in close contact with the inner surface of the opening 31, such that a liquid substance is prevented from leaking outside.

In the container according to a preferred embodiment of the present invention, the coupling portion 26 is formed such that a bottom 262 further protrudes outward than a top 261, and the top 261 and the bottom 262 are connected by a curved surface 263.

This was described in detail in the detailed description and is not provided.

In the container according to a preferred embodiment of the present invention, the outer cap 10 further has an outer cap skirt 120 that extends downward from the upper surface 12 of the outer cap 10.

In this structure, the inner cap 20 further has an anti-leak step 220 that prevents the substance from leaking, in close contact with the outer cap skirt 120.

This was described in detail in the detailed description and is not provided.

In the container according to a preferred embodiment of the present invention, the outer cap 10 further includes a cutting cap 40 and the cutting cap 40 has a sealing member 45.

This was described in detail in the detailed description and is not provided.

The container according to a preferred embodiment of the present invention further has a cap 50 and a hinged portion 52.

This was described in detail in the detailed description and is not provided.

It will be understood to those skilled in the art that the present invention may be implemented in various ways without changing the spirit of necessary features of the present invention. Accordingly, the apparatus described herein should not be limited based on the described embodiments. The scope of the present invention is defined in the following claims and all changed or modified types derived from the meanings and scope of the claims and the equivalent concept thereof should be construed as being included in the scope of the present invention.

1. A stopper comprising:
   - an outer cap having an upper surface with a discharge hole and a side extending downward from the outer edge of the upper surface; and
   - an inner cap having a cylindrical body and a protrusion and combined with the outer cap,

wherin the protrusion has an inclined surface extending upward from the lower edge of the body toward the center and a plurality of inlet/outlet holes formed around the inclined surface.

2. The stopper according to claim 1, wherein the outer cap further has a first locking step protruding from the inner surface of the side, and

the inner cap further has a coupling portion extending outward from the body and locked to the first locking step.

3. The stopper according to claim 2, wherein the coupling portion is formed such that a bottom further protrudes outward than a top, and the top and the bottom are connected by a curved surface.

4. The stopper according to claim 1, wherein the outer cap further has an outer cap skirt that extends downward from the bottom of the upper surface.

5. The stopper according to claim 4, wherein the inner cap further has an anti-leak step that is formed on the top of the body, with the inner surface in close contact with the outer cap skirt.

6. The stopper according to claim 2, wherein the inner cap further has an inner cap skirt that extends downward from the bottom of the coupling portion.

7. The stopper according to claim 2, wherein the outer cap further has a second locking step that protrudes from the inner surface of the side, under the first locking step.

8. The stopper according to claim 1, wherein the outer cap further has:
   - a cutting cap that has a sealing member connected with the upper surface and closing the discharge hole and a removal tab formed on the top of the sealing member;

   - a cutting groove that is formed at the joint of the sealing member and the upper surface.

9. The stopper according to claim 1, further comprising:
   - a cap coupled to the upper portion of the outer cap; and
   - a hinged portion connecting the cap with the outer cap and the cap being pivotable.

10. A container including a container body with an opening and a stopper coupled to the opening, wherein the stopper includes:

   - an outer cap having an upper surface with a discharge hole, a side extending downward from the outer edge of the upper surface, a first locking step protruding from the inner surface of the side, and a second locking step protruding from the inner surface of the side, under the first locking step;

   - an inner cap having a cylindrical body, a protrusion having an inclined surface extending upward from the lower edge of the body toward the center and a plurality of inlet/outlet holes formed around the inclined surface, and a coupling portion extending outward from the body and locked to the first locking step; and

   - the container body includes a protrusion protruding from the outer surface of the opening and locked to the second locking step.

11. The container according to claim 10, wherein the inner cap further has an inner cap skirt that extends downward from the bottom of the coupling portion, in close contact with the inner surface of the opening.

12. The container according to claim 10, wherein the coupling portion is formed such that a bottom further protrudes outward than a top, and the top and the bottom are connected by a curved surface.

13. The container according to claim 10, wherein the outer cap further has an outer cap skirt that extends downward from the bottom of the upper surface.

14. The container according to claim 13, wherein the inner cap further has an anti-leak step that is formed on the top of the body, with the inner surface in close contact with the outer cap skirt.
15. The container according to claim 10, wherein the outer cap further has:
   a cutting cap that has a sealing member connected with the upper surface and closing the discharge hole and a removal tab formed on the top of the sealing member; and
   a cutting groove that is formed at the joint of the sealing member and the upper surface.

16. The container according to claim 10, further comprising:
   a cap coupled to the upper portion of the outer cap; and
   a hinged portion connecting the cap with the outer cap and being pivotable.