(57) Abstract: The present invention relates to the cup-cover that is assembled to various type of the cups, particularly, it is relates to the cup-cover that once the fluid is filled in the cup and the cup is covered by the cup-cover as described above, the fluid does not leak out, and the cup-cover containing the coolant keeps the fluid temperature low for a certain period of time.
Description
CUP-COVER AND CUP

Technical Field
[1] The present invention relates to a cup-cover that can be assembled to various types of cup, and more particularly when a cup is filled with fluid and covered by a cup-cover, fluid does not leak and a coolant that fills inside of a cup cover keeps fluid cool for a certain period of time.

Background Art
[2] The present invention relates to the cup-cover, generally a beverage turns to cool by the chilly cup or ice, however these method require an additional space for freezer to make the cup chilly, and temperature of the cup increases fast in summer season so that a beverage becomes to less taste, more ever, concentration of the beverage turns low as ice in the beverage melts, then results poor taste. Under these drawbacks, the requirement of the cold cup-cover is prominent to maintain taste of beverage by isolation from air and water.

[3] In general, the bottom of the conventional cup is blocked, and the cup-cover can be simply pushed-in/pulled-out from the cup and its structure is decided depending on the type of fluid. However, the general structure, as described above, has a drawback of fluid leaking when the upside of the cup is downed. Even though the fluid can be added ice to maintain low temperature, it cannot keep temperature consistently once ice melts out.

[4] In addition, the conventional structure of cup has some drawbacks such as leaking problem when the upside of the cup is downed, evaporation of gas in soda or beer.

[5] Therefore, to solve theses problems, necessity of the cup and the cup-cover becomes prominent where adhesion of the cup-cover is enforced to prevent leaking of fluid once the cup is covered.

Disclosure of Invention
Technical Solution
[6] The purpose of the present invention is that the cup is covered by the cold cup-cover to maintain coolness for a certain period of time and keep no adding of ice which makes beverage less taste so that the concentration of beverage does not change serving good taste of the cool beverage.

[7] In addition, another purpose of the present invention is to provide the cup-cover where once the cup containing fluid is covered and the upside is downed, there is no leak, to make easy the way of push-in/pull-out of the cup-cover, and to maintain coolness of the beverage for a certain period of time by a coolant which fill the inside
of the cup cover.

[8] In addition, to solve the drawbacks as described above, the present invention provides a set of the cup which are a perforated structure without block of the top and the bottom, thresholds and spiral structure at the top and the bottom of the outside surface, and the cup-cover operating vertically, which contains a spiral structure, a sealant and a space for the coolant to prevent gas evaporation from soda and leak of fluid, and to maintain fluid cool for certain period of time.

**Brief Description of the Drawings**

[9] Fig. 1 is a general view, as followed the first embodiment of the present invention, showing the cold cup-cover.

[10] Fig. 2 is a plain view, as followed the first embodiment of the present invention, showing the cold cup-cover when it is looked from the top.

[11] Fig. 3 is a general view, as followed the first embodiment of the present invention, showing another structure of the cold cup-cover.

[12] Fig. 4 is a cross sectional view of the cold cup-cover as followed the first embodiment of the present invention.

[13] Fig. 5 is a general view of the cup-cover, as followed the second embodiment of the present invention.

[14] Fig. 6 is a general view of the cup-cover, as followed the second embodiment of the present invention showing another structure of the cold cup-cover.

[15] Fig. 7 is a general disassembled view of the cup-cover, as followed the second embodiment of the present invention.

[16] Fig. 8 is a sectional view of the cup-cover, as followed the second embodiment of the present invention.

[17] Fig. 9 is a sectional view of the cup-cover, as followed the second embodiment of the present invention showing another structure of the cold cup-cover.

[18] Fig. 10 is a general disassembled view of the cup-cover, as followed the second embodiment of the present invention showing an overall structure of the cold cup-cover and the cup.

[19] Fig. 11 is a sectional view of the cup-cover, as followed the second embodiment of the present invention showing an overall structure of the cup and the cold cup-cover.

[20] Fig. 12 is a general view of the cup-cover, as followed the third embodiment of the present invention.

[21] Fig. 13 is a general view of the cup-cover, as followed the third embodiment of the present invention showing another structure of the cold cup-cover.

[22] Fig. 14 is a plain view of the cup-cover, as followed the third embodiment of the present invention showing another structure of the cold cup-cover when it is looked
from the top.

[23] Fig. 15 is a general disassembled view of the cup-cover as followed the third embodiment of the present invention.

[24] Fig. 16 is a sectional view of the cup-cover, as followed the third embodiment of the present invention.

[25] Fig. 17 is a sectional view of the cup-cover, as followed the third embodiment of the present invention showing an overall structure of the cup and the cold cup-cover.

[26] Fig. 18 is a general disassembled view of the cup and the cup-cover as followed the third embodiment of the present invention.

[27] Fig. 19 is a sectional view as followed the third embodiment showing an overall structure of the cup and the cold cup-cover.

Mode for the Invention

[28] The cup-cover, the present invention proposed to accomplish the purpose as described above, is composed of the cylindrical main body that contains the following compositions such as the certain inside space, the first and the second thresholds in a fashion of stairs, the cover that is supposed to insert to the first threshold, the support pad that is supposed to insert to the second threshold, and the sealant that is formed through the edge of the bottom of the main body. More ever, the advertisement draft can be inserted in between the cup-cover and the support pad, and the space in the main body is also can be filled with water or coolant, and then sealed.

[29] In addition, the cylindrical prominence is assembled to the bottom surface of the main body, more ever it has a distinctive feature that the inside is filled with water or coolant, then sealed, and a vulcanized synthetic resin is recommended as a composition of the main body.

[30] In addition, the hole for pressure release is formed at the certain position of the sealant.

[31] Meanwhile, the another embodiment of the cup-cover, according to the present invention, represents the following components; it is the cylindrical main body having a certain space inside, the first and the second thresholds that are prepared stepwise at the upper part of the inside, the first and the second material insertion parts that are shaped like projection are prepared at the middle-down part of the outside surface, the cylindrical sealant that is inserted through the first insertion part located at the outside surface of the main body, the parallel sealant that is inserted through the second insertion part located at the below of the first insertion part, the cover that is supposed to fit to the first threshold prepared at the upper part of the main body, the support pad that is fit to the second threshold located at the upper part of inside of the main body, the sealant is filled the space, and then sealed.
In addition, the cylindrical prominence, filled with a coolant and sealed, is prepared at the down part of the main body. A vulcanized synthetic resin is recommended as a composition material of the main body.

In addition, the hole is prepared to release pressure and the insulator is inserted between the cover and the support pad.

In addition, the cup-cover is in a shape of perforated structure from the top to the bottom and assembled to the cup, precisely, the cup-cover without the cylindrical prominence is assembled to the perforated cup or the cup-cover with and without the cylindrical prominences are assembled on the top and the bottom of the cup respectively.

Meanwhile, another embodiment of the cup-cover, according to the present invention, represents that the main body of the cup-cover is composed of a vulcanized synthetic resin and shaped in a cylinder having a certain space. The upper part of inside is prepared the spiral line and the hole for material insertion is also prepared at the end of the spiral line. The sealant is filled through the hole, the coolant is filled into the space in the main body, the cover is assembled at the bottom part of the main body, and then it is sealed completely by glue or high frequency energy.

Hereinafter, according to the present invention, the functions and the preferred embodiments of the cup-cover are explained in detail.

According to the first embodiment, Fig. 1 is a general view of the cold-cup cover, Fig. 2 is a plain view of the cold cup-cover when looked it from the top, Fig. 3 is a general view of the cold cup-cover showing other structure and Fig. 4 is a sectional view of the cold cup-cover as followed Fig. 1 or Fig. 3 in the first embodiment.

As described in Figs. 1 to 4, the cold cup-cover in the present invention is composed of the following components such as the main body (10) that covers the cup, the sealant that is formed at the bottom of the main body (10) and seals the cup and the cold cup-cover (10).

As described in Fig. 3, the cylindrical prominence (22) is assembled to the bottom of the main body in the cold cup-cover (10).

The main body (10) of the cup-cover in Figs. 1 and 3 and the cylindrical prominence (22) in Fig. 3 are composed of a vulcanized synthetic resin. Diameter of the bottom of the main body (10) is smaller than the inside diameter of the cup and the upper part is larger than the inside diameter of the cup so that it keeps the cup-cover embedded.

The inside of the main body of the cup-cover is prepared two thresholds (first and second thresholds) and the space part (20). The space part is filled with water or coolant, the support pad (13) is assembled, and then sealed by glue or high frequency
energy to keep any leaking out. An advertisement (12) is inserted in between the cover (11) and the support pad (13), the cover (11) is assembled to the first threshold, and then sealed by glue or high frequency energy to keep leaking of the second coolant out.

[43] The insertion hole (31) is prepared to insert a sealant (30) at the bottom part of the main body (10) in the cup-cover and, the hole for pressure release is prepared at the certain position of sealant (30) to keep tight contact between the cup and the main body (10) of the cup-cover.

[44] The space part (20) in the cup-cover and the space (21) in the cylindrical prominence (22) are filled with water or coolant, and refrigerated to prolong the cold environment.

[45] As described, the first embodiment in the present invention shows that the coolant in the cold cup-cover transfers coolness to beverage, keeps temperature low and maintains the taste and coolness of beverage. When the flexible sealant is used to keep tight contact between the cup and the cup-cover, it is also efficient to reduce gas evaporation from soda.

[46] <The Second Embodiment>

[47] Hereinafter, according to the second embodiment in the present invention, the function and proper embodiments are presented thoroughly through the figures attached.

[48] Fig. 5 shows a general view of the cup-cover, Fig. 7 shows a separated general view of the cup-cover and Fig. 8 shows a sectional view of the cup-cover.

[49] As described in Figs. 5, 7 and 8, the cup-cover is composed of the main body (112), the cylindrical sealant (129) that is inserted to the middle-bottom part of the outside face in the main body, the parallel sealant (130), the cover (111) that is assembled to the upper part of the inside in the main body (112) and the support pad (113).

[50] The main body is in a form of cylindrical having a certain space part (120). In addition, the two thresholds (first (114) and second threshold (115)) are prepared stepwise at the upper part of the inside, and the first and second material insertion parts (131) are prepared stepwise at the middle-bottom part of outside face in the main body (112).

[51] The cover (11) is inserted to the first threshold (114) that is prepared at the upper part of the inside in the main body (112), the support pad (113) is inserted to the second threshold (115) that is prepared at the upper part of the inside in the main body (112), and the two material insertion parts are prepared at the middle-bottom part of the outside in the main body (112).

[52] For both material insertion parts, the cylindrical sealant (129) is inserted to the first insertion part (128) and the parallel sealant (130) is inserted to the second insertion part (131), which is located at the bottom of the first insertion part (128).
Meanwhile, the coolant is filled to the space part (120) of the main body (112).

Fig. 6 shows a general view that describes other structure of the cup-cover as followed the second embodiment and Fig. 9 shows a sectional view of the cup-cover described in Fig. 6.

As described at Fig. 6, the cylindrical prominence (122) is assembled at the bottom part of the cup-cover. As filled to the space part (120) in the main body (112), the same coolant is filled to the space part (121) in the cylindrical prominence (122), and then sealed.

The cup-cover and the cylindrical prominence (122) as shown in Figs. 5 and 6 are composed of a vulcanized synthetic resin that possesses strong solidity, and the bottom diameter of the main body (112) is smaller than the inside diameter of the cup (101), and the upper diameter is bigger than the inside diameter of the cup (101).

Meanwhile, the hole for pressure release (132) is prepared at the certain position on the parallel sealant (130). Therefore, in case the cup-cover is assembled to the cup (101), the air pressure is released through the hole (132) and the cup cover (110) can seal doubly the cup (101) by the cylindrical sealant (129) and the parallel sealant (130).

In addition, the insulator (116) is inserted to keep from the outside heat between the cover (111), inserted to the first threshold (114) and the support pad (113), inserted to the second threshold (115).

Therefore, once the cup (101) is covered by the cup-cover that contains insulator (116), the fluid temperature is maintained low.

Fig. 10 shows a general view where the cup-cover (110) is assembled to the cup (101) that is perforated from the top to the bottom, and Fig. 11 shows a sectional view where the cup (101) and the cup-cover (110) are assembled.

As described in Figs. 10 and 11, the cup-cover (110) with or without the cylindrical prominence (122) can be assembled to the cup (101). Therefore, the cup (101) can be covered by the cup-covers (110) without the cylindrical prominence (122), the cup (101) can be covered by the cup-covers (110) with the cylindrical prominence (122), and the cup (101) also can be covered by the cup-cover with as well as without the cylindrical prominence (122), respectively.

According to the cup-cover described in the second embodiment in the present invention, since the cup is sealed doubly by the cup-cover, this structure has an additional advantage of no leaking of fluid. In addition, since the cup-covers are assembled to the perforated cup, it is advantageous for easy wash as well as hygiene.

In addition, the coolant in the cup-cover maintains the fluid cool for a long period of time, and since the cup-covers are assembled to the perforated cup, it also can maintain the fluid cool for a long period of time.

<The Third Embodiment>
Next, according to the third embodiment, the functions and the proper embodiments are presented thoroughly through the figures attached.

Figs. 12 and 13 show the general views of the cup-cover (210), Fig. 14 shows a plain view of the cup-cover (210) when look at it from the top. Fig. 15 shows a dis-assembled general view of the cup-cover (210), Figs. 16 and 17 show sectional views of the cup-cover (210), and Fig. 19 shows an assembled general view of the cup (210) and the cup-cover (210).

As described in Figs. 12, 14, 15 and 16, the cup-cover (210) in the third embodiment is composed of the main body (215), the sealant (214) and the cover (219).

The main body (215) is composed of a vulcanized synthetic resin, possesses the cylindrical space part (222) where the spiral line (211) is formed at the top of the inside and the hole for material insertion (220) is prepared at the end of the spiral line (211). And the sealant is filled through the hole (220) in the main body (215).

The space part (222) in the main body (215) is filled with the coolant, the cover (219) is contacted thoroughly to the bottom of the main body (215), and then sealed by glue or high frequency energy.

Meanwhile, as described in Figs. 13 and 17, the upper surface of the main body (215) can be assembled with the cylindrical prominence (213), then the inside space (223) of the cylindrical prominence (213) is filled with the coolant, and then sealed.

Figs. 18 and 19 show a disassembled general view and a sectional view of the cup (201) that is supposed to be assembled to the cup-cover, and also show the assembled structure between the cup-cover (210) and the cup (201).

As described in Figs. 18 and 19, the cup (201), assembled spirally with the cup-cover (210), is formed the counter spiral line (217) at the top and the bottom of the outside surface where it goes in gear with the spiral line of the main body (215) of the cup-cover (210). In addition, the thresholds (218), contacting with the prominence (216) of the main body (215) of the cup-cover (210), are formed at the end of the spiral line (217) of the outside surface.

Meanwhile, the cup (201) is perforated and assembled with the cup-cover (210). Precisely, the cup-cover (210) without the cylindrical prominence (213) in Fig. 12 is assembled to the top and the bottom of the cup (210), the cup-cover (210) with the cylindrical prominence (213) in Fig. 13 is assembled to the top and the bottom of the cup (210), or the cup-covers with and without the cylindrical prominences are assembled to the top and the bottom of the cup (201) respectively.

In summary, as described in Figs. 12 to 19, the cup (201) is perforated from the top to the bottom, and the top and the bottom of the outside surface is formed the thresholds (218) and the spiral line (217).
In addition, the top of the main body (215) of the cup-cover (210) is formed the spiral line (211) and the hole for material insertion where the sealant (214) is inserted, and the bottom is prepared the space part (222) to fill with the coolant and contact tightly between the first threshold (221) and the first hole for the material (220), also prepared the cover (219), and then sealed by glue or high frequency energy.

Fig. 13 shows that the cylindrical prominence can be assembled to the top of the main body (215) of the cup-cover (210). The main body (215) of the cup-cover (210) and the cylindrical prominence (213) as shown in Figs. 5 and 6 is composed of a vulcanized synthetic material and the combination of the cup (201) and the cup-cover (210) is designed to maintain the inside content by gearing the spiral line (217) with another spiral line (211), and contact of sealing material (214) thoroughly.

As described above, the third embodiment shows that the perforated cup can be cleaned easily, and through contact of the cup and the cup-cover can prevent any leaking of fluid and reduce gas evaporation from soda and beer to keep taste good.

In addition, the cup-cover containing the coolant is refrigerated to keep beverage cool for a certain period of time, it is easy to carry on, taste of the fluid can be kept for a long time once the cup is filled with fluid, covered, and then refrigerated, and exchange of the cold cup-cover keeps beverage cool consistently.

**Industrial Applicability**

According to the embodiment of the present invention, the cup-cover and the cup are efficient to provide a cool beverage when we go out in summer season. In addition, it is also useful to the alcoholic liquor business for better service to the customers.
Claims

[1] A cold cup-cover comprising:
a cylindrical main body having a sealed interior space part, and first and second
thresholds formed stepwise at an inner surface of the main body;
a cover configured to be inserted into the first threshold of the main body;
a support pad configured to be inserted into the second threshold of the main
body;
a sealant provided around an outer surface of the main body at a predetermined
lower position of the main body;
an advertisement interposed between the cover and the support pad; and
water or coolant filled in the sealed interior space part of the main body.

[2] The cold cup-cover as set forth in claim 1, further comprising:
a cylindrical hollow prominence bonded to the bottom of the main body, the
hollow prominence having a sealed interior space filled with the water or
coolant.

[3] The cold cup-cover as set forth in claim 2, wherein the main body is made of a
vulcanized synthetic resin.

[4] The cold cup-cover as set forth in claim 1 or 2, wherein the sealant has a hole for
pressure release formed at a predetermined position thereof.

[5] A cup-cover comprising:
a cylindrical main body having a sealed interior space part, first and second
thresholds formed stepwise at an inner surface of the main body at or close to the
top of the main body, first and second material insertion parts formed stepwise at
an outer surface of the main body at predetermined middle and lower positions,
respectively
a cylindrical sealant configured to be inserted into the first material insertion part
formed at the outer surface of the main body;
a parallel sealant configured to be inserted into the second material insertion part
formed at the outer surface of the main body, the second material insertion part
being positioned lower than the first material insertion part
a cover configured to be inserted into the first threshold formed at the inner
surface of the main body at the top of the main body
a support pad configured to be inserted into the second threshold formed at the
inner surface of the main body close to the top of the main body and
coolant filled in the sealed interior space part of the main body.

[6] The cup-cover as set forth in claim 5, further comprising:
a cylindrical hollow prominence bonded to the bottom of the main body, the
hollow prominence having a sealed interior space filled with the coolant.

[7] The cup-cover as set forth in claim 6, wherein the main body is made of a vulcanized synthetic resin.

[8] The cup-cover as set forth in claim 5 or 6, wherein the parallel sealant has a hole for pressure release formed at a predetermined position thereof.

[9] The cup-cover as set forth in claim 8, wherein an insulator is inserted between the cover and the support pad.

[10] The cup-cover as set forth in claim 9, wherein the cup-cover has a cylindrical shape, and is adapted to be assembled with a cup having open top and bottom sides.

[11] A cup-cover comprising:

a cylindrical main body having a sealed interior space part, a spiral line formed at an inner surface of the main body at the top of the main body, and a hole for material insertion formed at the inner surface of the main body at an end of the spiral line, the main body being made of a vulcanized synthetic resin;

a sealant configured to be inserted into the hole for material insertion formed at the main body;

coolant filled in the sealed interior space part of the main body; and

a cover closely bonded to the bottom of the main body via an adhesive bonding or high-frequency bonding.

[12] The cup-cover as set forth in claim 11, further comprising:

a cylindrical hollow prominence bonded to the top of the main body, the hollow prominence having a sealed interior space filled with the coolant.

[13] A cup configured to be assembled with at least one cup-cover as set forth in claim 11 or 12,

wherein the cup has open top and bottom sides, and

wherein the cup comprises:

top and bottom spiral lines each formed at an outer surface of the cup to be engaged with a spiral line formed at a main body of the cup-cover; and
top and bottom thresholds each formed at the outer surface of the main body at lower and upper ends of the top and bottom spiral lines to come into contact with a prominence formed at the main body of the cup-cover.
Cross sectional view of A-A line

Fig. 4

Fig. 5
PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

<table>
<thead>
<tr>
<th>Applicant's or agent's file reference</th>
<th>FOR FURTHER ACTION</th>
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<td>PCT2005/0069</td>
<td>see Form PCT/ISA/220</td>
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<th>International filing date (day/month/year)</th>
<th>(Earliest) Priority Date (day/month/year)</th>
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Applicant

JEON, Kyung-Won

This International search report has been prepared by the International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report
   a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

   b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box No. II)

3. ☐ Unity of Invention is lacking (See Box No. III)

4. With regard to the title,
   ☑ the text is approved as submitted by the applicant.

   ☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,
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   ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,
   a. the figure of the drawings to be published with the abstract is Figure No. 4

   ☑ as suggested by the applicant.

   ☐ because the applicant failed to suggest a figure.

   ☐ because this figure better characterizes the invention.

   b. ☐ none of the figure is to be published with the abstract.
A. **CLASSIFICATION OF SUBJECT MATTER**

**IPC7** A47G 19/22

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)

IPC7 A47G 19/22

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Patents and applications for inventions since 1975

Korean Utility models and applications for Utility models since 1975

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

C. **DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
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<td>US 5,143,248 A (DAVID P. SAWATSKY) 1 SEPTEMBER 1992</td>
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☐ 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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Date of the actual completion of the international search: 18 OCTOBER 2005 (18.10.2005)

Date of mailing of the international search report: 18 OCTOBER 2005 (18.10.2005)

Name and mailing address of the ISA/KR

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Form PCT/ISA/210 (second sheet) (April 2005)