Title: COMPACT CASE HAVING AIRTIGHT STRUCTURE REFILLABLE WITH CAPSULE COSMETIC

Abstract: A compact case having an airtight structure, refillable with a capsule cosmetic includes: a lower case having a hole and an elastic locking member on a bottom; an upper case connected to the lower case by a first hinge pin to be opened and closed; a capsule cosmetic for refilling including a capsule and a liquid cosmetic material impregnated in a porous pad within a capsule, sealed with a sealing member removed upon the first makeup application, and fitted in the hole of the lower case with a bottom of the capsule exposed to the outside and a locking groove on the capsule elastically detachably locked to the locking pins; an internal container having an inner wall and an outer wall for forming a fitting groove and disposed outside the capsule cosmetic; and a lid connected to the internal case by a second hinge pin to be opened and closed, having a puff seat on a top and a fitting rib, which is fitted in the fitting groove of the internal container, on a bottom, in which the capsule cosmetic and the lid are sealed by being elastically in close contact with sealing projections, respectively, on the inner wall and the outer wall of the internal container. Therefore, it is very simple to replace a capsule cosmetic in the lower case for refilling and the cosmetic material is not vaporized by the sealing structure, so it is possible to use the cosmetic, maintaining the quality of the cosmetic for a long period of time.
Description

Title of Invention: COMPACT CASE HAVING AIRTIGHT STRUCTURE REFILLABLE WITH CAPSULE COSMETIC

Technical Field

[1] The present invention relates to a compact case, and more particularly, to a compact case that has an airtight structure directly refillable with a capsule cosmetic containing a liquid cosmetic material, which is impregnated in a porous pad such as a sponge or a urethane foam, and that can prevent vaporization of a liquid cosmetic material in an air cushion by hermetically sealing a capsule cosmetic.

Background Art

[2] In general, a compact, a portable cosmetic, has a cosmetic material such as a solid-state powder in a case and is carried by people so that they can apply make up with a puff with the aid of a mirror inside a lid. Compacts are easy to carry due to a relatively small volume and are manufactured in various designs including a circle or a rectangle, and their functions have also been developed in various ways.

[3] However, the existing compacts are limited in usage despite their convenience. That is, they are usually limited to accommodating only powder types of cosmetic materials. Therefore, the usage needs to be expanded.

[4] In this respect, recently, separate refilling cases are designed to be put into compact cases, and for the refilling cases, there have been proposed compact cosmetic containers for keeping a cosmetic containing a liquid cosmetic material impregnated in a carrier, for example a porous pad such as a sponge or a urethane foam, that is, a so-called air cushion cosmetic, including a powder cosmetic.

[5] However, these compact cosmetic containers require the separate manufacture of a refilling case in order to keep an air cushion cosmetic and have a structure composed of at least three or more pieces of a body for accommodating an air cushion cosmetic, a lid hinged to the body to open/close it, a covering for keeping the air cushion cosmetic in the body, and a base for supporting the air cushion cosmetic within the body.

[6] Accordingly, the refilling cases of the related art are complicated in structure and compacts for keeping them are necessarily complicated in structure because they are manufactured to fit the refilling cases, so the manufacturing cost is unnecessarily increased. Further, various hermetic structures for hermetically coupling a lid to the body of a refilling case have been proposed, but they fail to achieve effective airtightness. Therefore, there is a limit in preventing vaporization of water from air cushion type cosmetics, so it is urgently required to solve this problem.

[7] [Related Art Document]
Disclosure of Invention

Technical Problem

Accordingly, the present invention has been made keeping in mind the above problems occurring in the related art, and the present invention is intended to propose a compact case having an airtight structure refillable with a capsule cosmetic which can be refilled with a capsule cosmetic, simplify the structure of a capsule cosmetic with a liquid cosmetic material impregnated in a porous pad, and effectively prevent vaporization of a liquid cosmetic material impregnated in a porous pad by stably and hermetically sealing the capsule cosmetic.

Solution to Problem

In order to achieve the above object, according to one aspect of the present invention, there is provided a compact case having an airtight structure refillable with a capsule cosmetic that includes: a lower case having a hole and an elastic locking member on a bottom; an upper case connected to the lower case by a first hinge pin to be opened and closed; a capsule cosmetic for refilling including a capsule and a liquid cosmetic material impregnated in a porous pad within a capsule, sealed with a sealing member removed upon the first makeup application, and fitted in the hole of the lower case with a bottom of the capsule exposed to the outside and a locking groove on the capsule elastically detachably locked to the locking pins; an internal container having an inner wall and an outer wall for forming a fitting groove and disposed outside the capsule cosmetic; and a lid connected to the internal case by a second hinge pin to be opened and closed, having a puff seat on a top and a fitting rib, which is fitted in the fitting groove of the internal container, on a bottom, in which the capsule cosmetic and the lid are sealed by being elastically in close contact with sealing projections, respectively, on the inner wall and the outer wall of the internal container.

The capsule cosmetic and the lid may be sealed by an outer side of an upper end of the capsule and an outer side of the fitting rib that are elastically in close contact with sealing projections on the inner wall and the outer wall of the internal container.

The internal container may be made of a soft material and the soft material may be any one of polypropylene, polyethylene, and low density polyethylene.

A vent may be formed at the puff seat of the lid.

A flexible part for smoothly opening and closing the lid with respect to the internal container may be formed at the internal container connected to the lid by the second hinge pin.

A top of the inner wall of the internal container may be in close contact with an inner side of the fitting rib, when the lid is closed.
Advantageous Effects of Invention

According to the present invention having the above-described characteristics, it is possible to very simply separate and replace a capsule cosmetic in the lower case for refilling. Further, since the capsule cosmetic keeps a porous pad impregnated with a liquid cosmetic material in a capsule, it is possible to make the structure of the capsule cosmetic very simple; and to stably and hermetically seal the capsule cosmetic in the lower case, so it is possible to prevent vaporization or leakage of the liquid cosmetic material in the porous pad. Furthermore, air can flow to the puff, so the puff can be sanitarily used without mold or bacterial growth due to humidity.

Brief Description of Drawings

FIG. 1 is a perspective view showing an assembly according to an embodiment of the present invention.
FIG. 2 is an exploded perspective view showing a capsule cosmetic according to an embodiment of the present invention.
FIG. 3 is a cross-sectional view taken along line Al-Al of FIG. 1.
FIG. 4 is a cross-sectional view taken along line B2-B2 of FIG. 1.
FIG. 5 is an enlarged cross-sectional view of the part A of FIG. 3.
FIG. 6 is an enlarged cross-sectional view of the part B of FIG. 4.
FIG. 7 is an exploded perspective view showing the capsule cosmetic open for use, according to an embodiment of the present invention.
FIGS. 8 and 9 are front and rear cross-sectional view of the capsule cosmetic according to the present invention.

Mode for the Invention

Reference will now be made in greater detail to an exemplary embodiment of the present invention, an example of which is illustrated in the accompanying drawings. Wherever possible, the same reference numerals will be used throughout the drawings and the description to refer to the same or like parts.

Referring to FIGS. 1 to 9, a compact case 1 with an airtight structure refillable with a capsule cosmetic has an entirely circular shape. However, it is just an example and may be designed in various shapes including a rectangle.

The compact case 1 includes a lower case 10 and an upper case 20 divided into halves. The bottom and upper cases are open to each other, when they are combined. The upper case 20 is connected to the lower case 10 at a side by a first hinge pin 22, so it can be opened and closed at the other side about the first hinge pin 22 with respect to the lower case 10.

A hole 12 is formed through the bottom inside the lower case 10 and a capsule cosmetic 30 for refilling is fitted in the hole.
The capsule cosmetic 30 is fitted in the hole 12, with its bottom exposed through the bottom of the lower case 10, in which a locking groove 33 formed around the edge of a capsule 32 of the capsule cosmetic 30 is elastically and detachably locked to one or more elastic hooks 14 around the hole, thereby preventing separation of the capsule cosmetic 30.

The capsule cosmetic 30 includes the capsule 32 open at a side and accommodates a porous pad 34 such as a sponge or a urethane foam and a liquid cosmetic material is impregnated in the porous pad. The top of the capsule is sealed with a sealing member 36.

The sealing member 36 of the capsule cosmetic 30 will be opened, when a user purchases the product and first applies makeup. Accordingly, the liquid cosmetic material in the porous pad 34 is prevented from vaporizing in distribution of the product.

An internal container 40 is held outside the capsule cosmetic 30 inside the lower case 10. An inner wall 43 and an outer wall 44 for forming a fitting groove 42 having a predetermined depth are formed around the upper end of the internal container.

The internal container 36 is combined without separating by a tension support member 45 formed under the fitting groove 42 is elastically locked to a tension support member 16 formed around the bottom inside the lower case 10.

The internal container 40 may be made of a soft material to have predetermined elasticity, in which the soft material may be polypropylene, polyethylene, and low density polyethylene.

An intermediate case 50 is provided to cover a space defined outside the internal container 40 mounted in the lower case 10.

A lid 60 connected to the internal container 40 at a side by a second hinge pin 62 to be opened/closed is disposed over the internal container 40. A puff seat 64 for keeping a puff 63 is formed on the top of the lid 60 and has a vent.

Since air can flow inside and outside through the vent 65 of the puff seat 64, the puff 63 in the puff seat 64 can be dried and mold or bacteria cannot be generated accordingly, so the puff 63 can be sanitarily used.

A fitting rib 66 that protrudes down to be fitted in the fitting groove 42 of the internal container 40 is formed on the bottom of the lid 60.

The lid 60 that is opened/closed over the internal container 40 is opened/closed at a right angle with the upper case 20, so it does not interfere with the upper case when opening/closing.

The capsule cosmetic 30 and the lid 60 are hermetically combined by sealing projections 43a and 44a on the inner wall 43 and the outer wall 44 of the internal container 40.
That is, when the capsule cosmetic 30 is fitted in the hole 12 of the lower case 10, the top edge of the capsule 32 is elastically in close contact with the sealing projection 43a on the inner wall 43 of the internal container and the outer side of the fitting rib 66 of the lid 60 is elastically in close contact with the sealing projection 44a on the outer wall 44 of the internal container 40, so it is hermetically combined.

In particular, since the internal container 40 is made of an elastic soft material, the capsule cosmetic 30 and the lid 60 can be more elastically pushed to each other by the sealing projections 43a and 44a, when they are combined.

Further, the inner wall 43 and the outer wall 44 at both sides of the fitting groove 42 of the internal container 40 push the capsule 32 of the capsule cosmetic 30 and the fitting rib 66 of the lid 60 in close contact with them, which are combined and closed in contact with the sealing projections 43a and 44a, so they hermetically and stably hold the capsule cosmetic 30 and the lid 60.

The top 43b of the inner wall 43 of the internal container 40 is in close contact with the inner side of the fitting rib 66, when the lid 60 is closed, as shown in FIG. 6, so it contributes the sealing. In particular, the lid 60 is forcibly pressed with the upper case 20 closed, so it seals the capsule cosmetic 30 more hermetically.

As a result, according to the present invention, the capsule cosmetic 30 is sealed by the multiple sealing made by sealing projections 43a and 44a on the inner wall 43 and the outer wall 44 of the internal container 40 and the top 43b of the inner wall 43.

Therefore, even after the sealing member 36 is removed, in addition to before it is removed, the liquid cosmetic material in the porous pad 34 of the capsule cosmetic 30 can be prevented from vaporizing or leaking by the sealing made by the sealing projections 43a and 44a on the inner wall 43 and the outer wall 44 of the internal container 40 and the close contact between the lower inner side of the lid 60 and the top 43b of the inner wall 43.

On the other hand, according to the present invention, a flexible part 46 for smoothly opening/closing the lid with respect to the internal container 40 may be further formed at the internal container 40 connected to the lid 60 by the second hinge pin 62.

By the flexible part 46 of the internal container 40, the lid 60 connected by the second hinge pin 62 is smoothly opened/closed with respect to the internal container 40, and particularly, the fitting rib 66 of the lid 60 can be more stably fitted in the fitting groove 42 of the internal container 40.

In the drawings, a reference numeral "11" not stated above indicates a button on the lower case provided to contribute opening the upper case. A reference numeral "24" indicates a mirror inside the upper case. A reference numeral "70" indicates a tension rubber for contributing opening the upper case at the earlier stage.

Use of the compact case having an airtight structure refillable with a capsule
cosmetic having the configuration described above in accordance with the present invention is described hereafter.

Referring to FIGS. 3 and 4 first, in which the capsule cosmetic 30 is in the lower case 10, and the lid 60 and the upper case 20 are closed. Further, the capsule cosmetic 30 is held with the locking groove 33 formed around the lower portion of the capsule 32 locked to the elastic locking member 14 around the hole 12 of the lower case 10 and without the sealing member 36 removed.

Accordingly, the capsule 30 cannot be unintentionally separated from the lower case 10, as long as it is forcibly separated for refilling.

Further, since the bottom of the capsule cosmetic 30 is exposed to the outside through the hole 12 of the lower case 10, so it can be easily pushed out for refilling later.

When the upper case 20 and the lid 60 are closed, the edge of the top of the capsule 32 of the capsule cosmetic 30 is elastically fitted on the sealing projection 43a on the inner wall 43 of the internal container 40, and when the fitting rib 66 of the lid 60 is fitted in the fitting groove 42 of the internal container, the outer side of the fitting rib is elastically in close contact with the sealing projection 44a on the outer wall 44 and the top 43b of the inner wall 43 is also in close contact with the inner bottom of the fitting rib 66 of the lid 60.

Accordingly, the capsule cosmetic 30 is naturally sealed by the sealing member 36, before the sealing member 36 is removed, but even if the sealing member 36 is removed after the product is purchased, the liquid cosmetic material in the porous pad 34 is prevented from vaporizing or leaking by the multiple sealing structure, so the compact case 1 can be easily carried.

When the compact case 1 is carried, the external air flowing inside through the gap between the lower case 10 and the upper case 20 cannot flow into the capsule cosmetic 30 by the multiple sealing structure, but can flow through the vent 65 formed above the puff seat 64 of the lid 60, so the puff 63 can be dried and mold or bacteria cannot be generated; therefore, it can be sanitarily used.

When a user wants to apply makeup using the liquid cosmetic material in the porous pad 34 of the capsule cosmetic 30, the user can open the upper case 20 by pushing the button 11 on the lower case 10, as shown in FIG. 7, sequentially open the lid 60 and the internal container 40, and then put the liquid cosmetic material in the porous pad 34 and apply makeup to his/her face with it. Obviously, when a user first applies makeup after purchasing the product, he/she can apply makeup after removing the sealing member.

After finishing applying makeup, he/she can close the upper case 20 and the lid 60. In particular, when the lid 60 is closed, it is stably and hermetically closed by the
flexible part 46 for connection with the internal container 40 connected by the second hinge pin 62, in detail, the outer wall 44.

[59] Further, when a user wants to replace the capsule cosmetic 30 that is used up with another one, he/she can combine a new capsule cosmetic after separating the capsule cosmetic 30 by pushing up the bottom of the capsule cosmetic 30 from the lower case 10.

[60] Therefore, according to the present invention, since the capsule cosmetic 30 is replaced in the way described above, other parts can be semi-permanently used, so it is possible to achieve an economic advantage that the cost for purchasing a cosmetic can be minimized. Further, even if the structure refillable with a capsule cosmetic is employed, the capsule cosmetic 30 and the lid 60 can be hermetically combined by the top 43b of the inner wall 43 in addition to the sealing projections 43a and 44a on the inner wall 43 and the outer wall 44 of the internal container 40 made of a soft material, so the capsule cosmetic 30 can be always stably used without vaporization or leakage of the liquid cosmetic material in the porous pad 34.

[61] Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.
Claims

[Claim 1] A compact case having an airtight structure refillable with a capsule cosmetic, the compact case comprising:
a lower case having a hole and an elastic locking member on a bottom;
an upper case connected to the lower case by a first hinge pin to be opened and closed;
a capsule cosmetic for refilling including a capsule and a liquid cosmetic material impregnated in a porous pad within a capsule, sealed with a sealing member removed upon the first makeup application, and fitted in the hole of the lower case with a bottom of the capsule exposed to the outside and a locking groove on the capsule elastically detachably locked to the locking pins;
an internal container having an inner wall and an outer wall for forming a fitting groove, disposed outside the capsule cosmetic to cover the capsule cosmetic, and held inside the lower case; and
a lid connected to the internal case by a second hinge pin to be opened and closed, having a puff seat on a top and a fitting rib, which is fitted in the fitting groove of the internal container, on a bottom, wherein the capsule cosmetic and the lid are sealed by being elastically in close contact with sealing projections, respectively, on the inner wall and the outer wall of the internal container.

[Claim 2] The compact case of claim 1, wherein the capsule cosmetic and the lid are sealed by an outer side of an upper end of the capsule and an outer side of the fitting rib that are elastically in close contact with sealing projections on the inner wall and the outer wall of the internal container.

[Claim 3] The compact case of claim 1, wherein the internal container is made of a soft material.

[Claim 4] The compact case of claim 3, wherein the soft material is any one of polypropylene, polyethylene, and low density polyethylene.

[Claim 5] The compact case of claim 1, wherein a vent is formed at the puff seat of the lid.

[Claim 6] The compact case of claim 1, wherein a flexible part for smoothly opening and closing the lid with respect to the internal container is formed at the internal container connected to the lid by the second hinge pin.

[Claim 7] The compact case of claim 1, wherein a top of the inner wall of the
internal container is in close contact with an inner side of the fitting rib, when the lid is closed.
INTERNATIONAL SEARCH REPORT

INTERNATIONAL APPLICATION NO.
PCT/KR2015/004122

A. CLASSIFICATION OF SUBJECT MATTER

A45D 34/00(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)
A45D 34/00; A45D 33/00; B65D 53/00; A45D 40/00; A45D 33/24

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
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: cosmetic, refill, compact, case, container, expose, airtight, hermetic, capsule, foundation

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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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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