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(54) **AIRTIGHT LOOSE POWDER CASE STRUCTURE HAVING POWDER PUFF**

(57) An airtight loose powder case structure having a powder puff includes a base, an upper lid, an inner cup, the powder puff, and an inner lid, where the powder puff is provided in the inner cup; the inner cup is provided in the base; the upper lid overlays an opening of the base; screw threads matched with each other are respectively provided on the upper lid and the opening of the base;

the inner lid is located under the upper lid; the inner lid is configured to move freely relative to the upper lid in an axial direction; the inner lid is configured to rotate freely relative to the upper lid in a circumferential direction; a seal ring is provided under the inner lid; the seal ring is configured to abut against an inner side of the inner cup; and the powder puff is located in the seal ring.

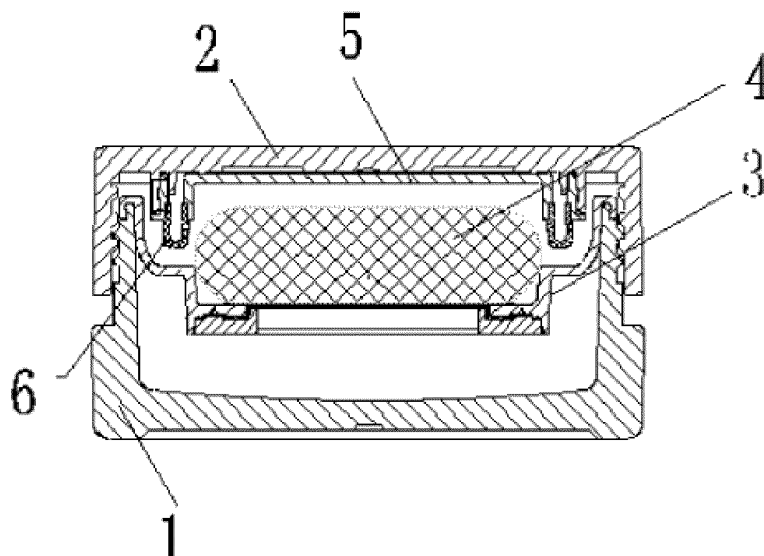


FIG. 1

Description

TECHNICAL FIELD

[0001] The present disclosure relates to a cosmetic case, and in particular to an airtight loose powder case structure having a powder puff.

BACKGROUND

[0002] Cosmetics are usually contained in portable cosmetic cases. Most traditional powder cases include a case body and a lid. The case body is provided with an accommodation cavity for accommodating a cosmetic. The lid is connected to the case body and is configured to unseal and seal the accommodation cavity. The cosmetic can be used through simply opening the lid by a user.

[0003] In spite of a simple structure and ease of operation, the traditional powder cases suffer from poor airtightness. Since a volatile solvent is contained in the cosmetic, in case of the poor airtightness of the powder case, the volatile solvent in the cosmetic is volatilized gradually. Consequently, the cosmetic is hardened and deteriorated to cause a waste. Moreover, when loose powder is directly dipped for makeup, the powder is dipped unevenly and may float in the air, thus causing the uneven makeup and the cosmetic waste.

SUMMARY

[0004] The present disclosure provides an airtight loose powder case structure having a powder puff to overcome the above defects. The airtight loose powder case structure having a powder puff achieves desirable airtightness, can keep the airtightness effective for a long time, prevents a cosmetic from being hardened and deteriorated, and is carried and used conveniently.

[0005] To solve the technical problem, the present disclosure adopts the following technical solutions: An airtight loose powder case structure having a powder puff includes a base, an upper lid, an inner cup, and a powder puff, where the powder puff is provided in the inner cup; the inner cup is provided in the base; the upper lid overlays an opening of the base; the upper lid is configured to seal and unseal the opening of the base; screw threads matched with each other are respectively provided on the upper lid and the opening of the base, for example, the upper lid is provided with an inner screw thread, and the opening of the base is provided with an outer screw thread, such that the upper lid can seal and unseal the opening of the base; an inner lid is further provided; the inner lid is configured to seal and unseal an opening of the inner cup; the inner lid is located under the upper lid (the inner lid is not separated from the upper lid); the inner lid is configured to move freely relative to the upper lid in an axial direction; the inner lid is configured to rotate freely relative to the upper lid in a circumferential direc-

tion; a circle of seal ring (a soft adhesive layer) is provided under the inner lid; the seal ring is configured to abut against an inner side of the inner cup; and the powder puff is located in the seal ring. When the upper lid is screwed to the opening of the base, the upper lid moves down, and the inner lid rotates together with the upper lid and moves down. When the seal ring abuts against the inner side of the inner cup, due to a frictional force between the seal ring and the inner side of the inner cup, the inner lid cannot rotate together with the upper lid. The upper lid is further screwed and moves down, the inner lid moves down along the axial direction, and the seal ring can further press the inner side of the inner cup to attach with the inner cup desirably. In this way, desirable airtightness is achieved. The seal ring does not rotate when pressed down. That is, there is basically no slip between the seal ring and the inner side of the inner cup. After long-term use, the seal ring is not damaged, and the airtightness can be kept effective all the time.

[0006] As a further technical solution of the present disclosure, in order that the inner lid is configured to move freely relative to the upper lid in the axial direction, and the inner lid is configured to rotate freely relative to the upper lid in the circumferential direction, a circle of groove is formed at an inner side of the upper lid; a circle of protrusion is provided at an outer side of the inner lid; the protrusion is movably located in the groove (the inner lid is located on the upper lid and is not separated, provided that an outer diameter of the protrusion is slightly greater than an inner diameter of the groove); and in the axial direction of the inner lid, a height of the groove is greater than a height of the protrusion. In this way, the inner lid is configured to move freely relative to the upper lid in the axial direction, and rotating freely relative to the upper lid in the circumferential direction.

[0007] As a further technical solution of the present disclosure, the groove has a trumpet-shaped rabbet; an upper side of the protrusion is oblique for ease of assembly; and a lower side of the protrusion is horizontal so as not to fall out of the groove.

[0008] As a further technical solution of the present disclosure, in the axial direction of the inner lid, the seal ring has a U-shaped section; a circle of shoulder is provided in the opening of the inner cup; a bottom of the U-shaped seal ring is configured to abut against the shoulder of the inner cup; and the powder puff is located in the inner cup within the shoulder.

[0009] As a further technical solution of the present disclosure, a circle of downward clamping rabbet is formed at a periphery of the inner cup, and the clamping rabbet is clamped and sleeved on a periphery of the opening of the base. In this way, the inner cup is detachably clamped on the opening of the base.

[0010] The present disclosure has the following beneficial effects: Since the screw threads matched with each other are respectively provided on the upper lid and the opening of the base. The upper lid is configured to seal and unseal the opening of the base. The inner lid is con-

figured to seal and unseal the opening of the inner cup. The inner lid is located under the upper lid. The inner lid is configured to move freely relative to the upper lid in an axial direction. The inner lid is configured to rotate freely relative to the upper lid in a circumferential direction. The circle of seal ring is provided under the inner lid. The seal ring is configured to abut against the inner side of the inner cup. The powder puff is located in the seal ring. When the upper lid is screwed to the opening of the base, the upper lid moves down, and the inner lid rotates together with the upper lid and moves down. When the seal ring abuts against the inner side of the inner cup, due to a frictional force between the seal ring and the inner side of the inner cup, the inner lid cannot rotate together with the upper lid. The upper lid is further screwed and moves down, the inner lid moves down along the axial direction, and the seal ring can further press the inner side of the inner cup to attach with the inner cup desirably. In this way, desirable airtightness is achieved. The seal ring does not rotate when pressed down. That is, there is basically no slip between the seal ring and the inner side of the inner cup. After long-term use, the seal ring is not damaged, and the airtightness can be kept effective all the time. The present disclosure achieves the desirable airtightness, can keep the airtightness effective for a long time, prevents a cosmetic from being hardened and deteriorated, and is carried and used conveniently.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011]

FIG. 1 is a schematic view when an upper lid is unscrewed according to the present disclosure (there is a certain distance between a seal ring and a shoulder at an inner side of an inner cup);

FIG. 2 is a schematic view when an upper lid is screwed according to the present disclosure (a seal ring presses a shoulder at an inner side of an inner cup);

FIG. 3 is a schematic view of an inner cup according to the present disclosure;

FIG. 4 is a schematic view of an inner lid according to the present disclosure; and

FIG. 5 is a schematic view of a base according to the present disclosure.

FIG. 1 to FIG. 5 each are an axial sectional view.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0012] The following clearly and completely describes the technical solutions in the embodiments of the present disclosure with reference to the embodiments of the present disclosure. Apparently, the described embodiments are merely a part rather than all of the embodiments of the present disclosure. All other embodiments obtained by those of ordinary skill in the art based on the embodiments of the present disclosure without creative

efforts shall fall within the protection scope of the present disclosure.

[0013] It is to be noted that for ease of description, the spatially relative terms in actual use, such as "on" and "under", can be used to describe the spatial positional relationship between one component or feature and another component or feature shown in the drawings. It is to be understood that if the component or the feature is positioned in other different ways (rotated by 90 degrees or 180 degrees or in other orientations), spatially relative descriptions used shall be correspondingly explained and falls into the scope of protection of the present disclosure.

[0014] Embodiment: An airtight loose powder case structure having a powder puff includes base 1, upper lid 2, inner cup 3, and powder puff 4. The powder puff is provided in the inner cup. The inner cup is provided in the base. The upper lid overlays an opening of the base. The upper lid is configured to seal and unseal the opening of the base. Both the base and the upper lid are circular. Screw threads matched with each other are respectively provided on the upper lid and the opening of the base. For example, the upper lid is provided with an inner screw thread, and the opening of the base is provided with an outer screw thread, such that the upper lid can seal and unseal the opening of the base. Circular inner lid 5 is further provided. The inner lid is configured to seal and unseal an opening of the inner cup. The inner lid is located under the upper lid (the inner lid is not separated from the upper lid). The inner lid is configured to move freely relative to the upper lid in an axial direction. The inner lid is configured to rotate freely relative to the upper lid in a circumferential direction. A circle of seal ring 6 (a soft adhesive layer) is provided under the inner lid. The seal ring is configured to abut against an inner side of the inner cup. The powder puff is located in the seal ring. When the upper lid is screwed to the opening of the base, the upper lid moves down, and the inner lid rotates together with the upper lid and moves down. When the seal ring abuts against the inner side of the inner cup, due to a frictional force between the seal ring and the inner side of the inner cup, the inner lid cannot rotate together with the upper lid. The upper lid is further screwed and moves down, the inner lid moves down along the axial direction, and the seal ring can further press the inner side of the inner cup to attach with the inner cup desirably. In this way, desirable airtightness is achieved. The seal ring does not rotate when pressed down. That is, there is basically no slip between the seal ring and the inner side of the inner cup. After long-term use, the seal ring is not damaged, and the airtightness can be kept effective all the time.

[0015] In order that the inner lid is configured to move freely relative to the upper lid in the axial direction, and the inner lid is configured to rotate freely relative to the upper lid in the circumferential direction, a circle of groove is formed at an inner side of the upper lid 2. A circle of protrusion 51 is provided at an outer side of the inner lid

5. The protrusion is movably located in the groove (the inner lid is located on the upper lid and is not separated, provided that an outer diameter of the protrusion is slightly greater than an inner diameter of the groove). In the axial direction of the inner lid, a height of the groove is greater than a height of the protrusion. In this way, the inner lid is configured to move freely relative to the upper lid in the axial direction, and rotating freely relative to the upper lid in the circumferential direction.

[0016] The groove has a trumpet-shaped rabbet. An upper side of the protrusion is oblique for ease of assembly. A lower side of the protrusion is horizontal so as not to fall out of the groove.

[0017] In the axial direction of the inner lid, the seal ring has a U-shaped section. A circle of shoulder 31 is provided in the opening of the inner cup. A bottom of the U-shaped seal ring is configured to abut against the shoulder of the inner cup. The powder puff is located in the inner cup within the shoulder.

[0018] A circle of downward clamping rabbet 32 is formed at a periphery of the inner cup. The clamping rabbet is clamped and sleeved on a periphery of the opening of the base. In this way, the inner cup is detachably clamped on the opening of the base.

height of the groove is greater than a height of the protrusion.

3. The airtight loose powder case structure having the powder puff according to claim 2, wherein the groove has a trumpet-shaped rabbet, an upper side of the protrusion is oblique, and a lower side of the protrusion is horizontal.
4. The airtight loose powder case structure having the powder puff according to claim 2 or 3, wherein in the axial direction of the inner lid, the seal ring has a U-shaped section; a circle of shoulder (31) is provided in the opening of the inner cup; a bottom of the U-shaped seal ring is configured to abut against the shoulder of the inner cup; and the powder puff is located in the inner cup within the shoulder.
5. The airtight loose powder case structure having the powder puff according to claim 4, wherein a circle of downward clamping rabbet (32) is formed at a periphery of the inner cup; and the clamping rabbet is clamped and sleeved on a periphery of the opening of the base.

Claims

1. An airtight loose powder case structure having a powder puff, comprising a base (1), an upper lid (2), an inner cup (3), and the powder puff (4), wherein the powder puff is provided in the inner cup; the inner cup is provided in the base; the upper lid overlays an opening of the base; the upper lid is configured to seal and unseal the opening of the base; screw threads matched with each other are respectively provided on the upper lid and the opening of the base; an inner lid (5) is further provided; the inner lid is configured to seal and unseal an opening of the inner cup; the inner lid is located under the upper lid; the inner lid is configured to move freely relative to the upper lid in an axial direction; the inner lid is configured to rotate freely relative to the upper lid in a circumferential direction; a circle of seal ring (6) is provided under the inner lid; the seal ring is configured to abut against an inner side of the inner cup; and the powder puff is located in the seal ring.
2. The airtight loose powder case structure having the powder puff according to claim 1, wherein in order that the inner lid is configured to move freely relative to the upper lid in the axial direction, and the inner lid is configured to rotate freely relative to the upper lid in the circumferential direction, a circle of groove is formed at an inner side of the upper lid (2); a circle of protrusion (51) is provided at an outer side of the inner lid (5); the protrusion is movably located in the groove; and in the axial direction of the inner lid, a

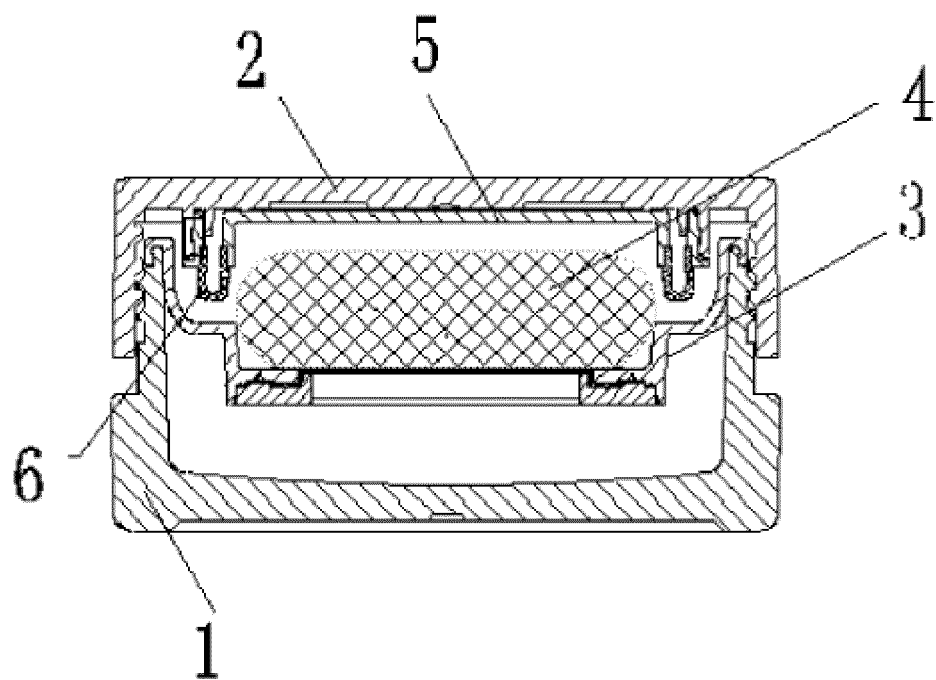


FIG. 1

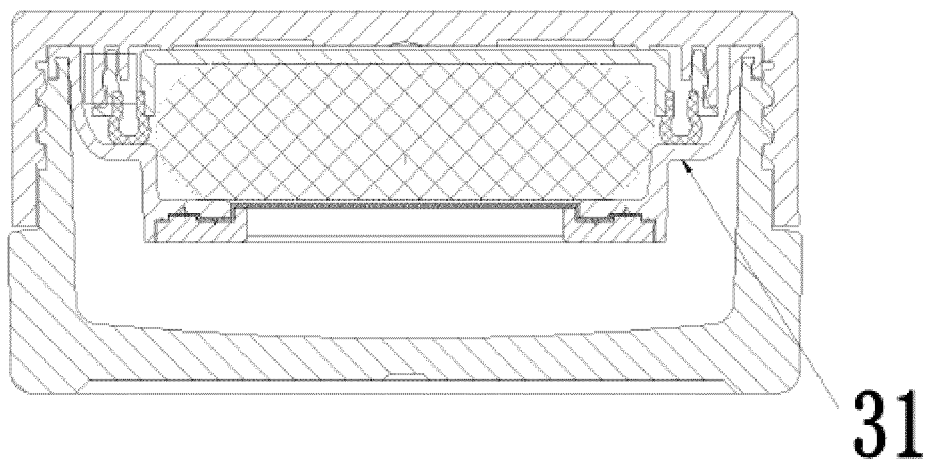


FIG. 2

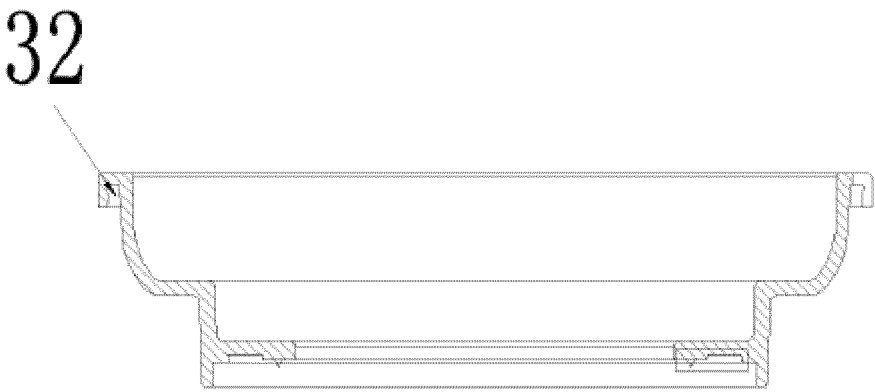


FIG. 3

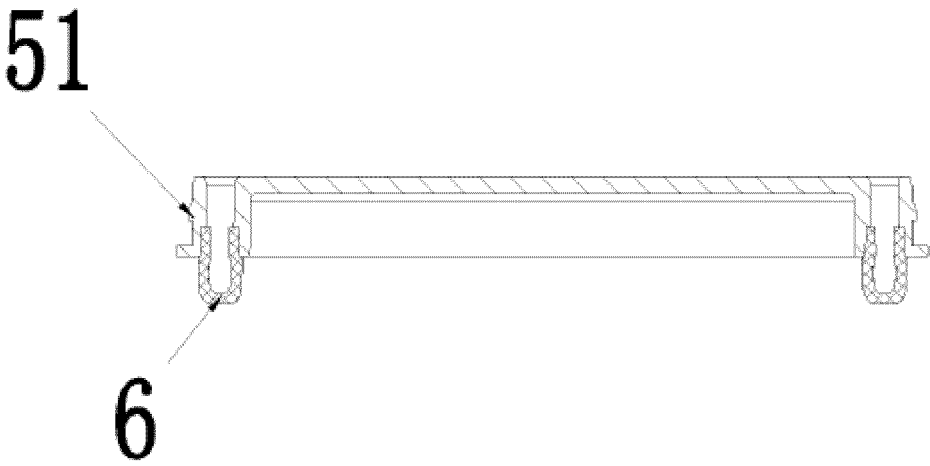


FIG. 4

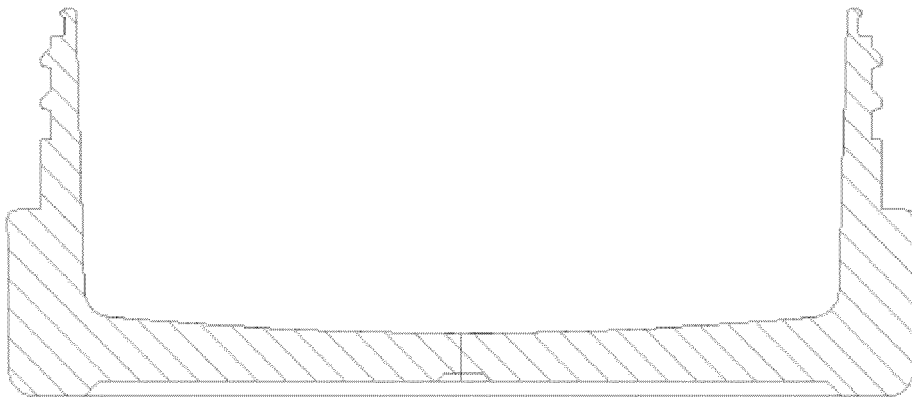


FIG. 5

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2022/115320

A. CLASSIFICATION OF SUBJECT MATTER

A45D 33/22(2006.01)i; A45D 33/34(2006.01)i; A45D 33/24(2006.01)i; A45D 33/00(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)

A45D33/-

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

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

WPABSC; CNTXT; CNABS; ENTXTC; ENTXT; DWPI; WPABS; CNKI; 百度, BAIDU; 智慧芽, PatSnap; 洽兴包装工业, 杨海英, 粉盒, 化妆盒, 气垫盒, 内盖, 底盖, 下盖, 垫盖, 粉扑盖, 软垫, 胶垫, 密封圈, 胶圈, 垫圈, 弹性垫, 弹性体, 压圈, 螺旋, 螺旋, 螺旋, 旋合, puff, borla, box+, compact+, inner, internal, inside?, lid?, cap, cover+, puff, borla, seal+, rotat+, rotary

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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PX	CN 216316159 U (SHYAH SIN PACKAGING (CHINA) CO., LTD.) 19 April 2022 (2022-04-19) claims 1-5	1-5
A	CN 213524222 U (KUNSHAN YUANRUI PLASTIC TECHNOLOGY CO. LTD.) 25 June 2021 (2021-06-25) entire document	1-5
A	CN 211559073 U (SHYAH SIN PACKAGING (CHINA) CO., LTD.) 25 September 2020 (2020-09-25) entire document	1-5
A	CN 208354875 U (NINGBO HONGTAI PACKAGE PRODUCT CO. LTD.) 11 January 2019 (2019-01-11) entire document	1-5

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

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Date of the actual completion of the international search

11 October 2022

Date of mailing of the international search report

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Name and mailing address of the ISA/CN

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Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

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Information on patent family members

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