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(54) REPLACEABLE LIP COSMETIC CONTAINER AND REPLACEMENT DEVICE

(57) A replaceable lip cosmetic container includes a top cover (1), a tube body (2), a guide member (3) and a rotating seat (4), and further includes a push-out member (5); an inner wall of the tube body (2) is provided with a spiral groove (21); the guide member (3) is provided with a guide groove (31) in an axial direction; an outer wall of the push-out member (5) is provided with a spiral rod (51), the push-out member (5) is sleeved in the guide member (3), and the spiral rod (51) penetrates through the guide groove (31) and cooperates with the spiral groove (21) to form a spiral pair; the push-out member (5) moves along the guide groove (31) to be located at a storage position, a use position and a replacement position; the guide groove (31) is provided with a storage groove (32), a limit groove (33) and a stop groove (34) corresponding to the above positions, respectively; and a thread lead angle of the spiral groove (21) is greater than or equal to an equivalent friction angle of the spiral pair.

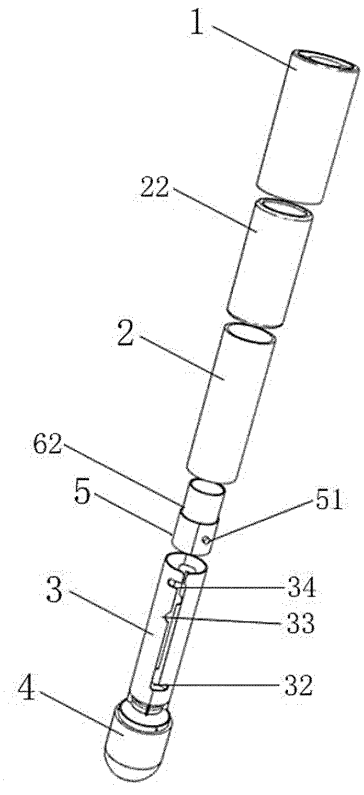

FIG. 1

EP 4 520 220 A1

Description

TECHNICAL FIELD

[0001] The present invention relates to the field of cosmetics, and particularly to a cosmetic container and a replacement device.

BACKGROUND TECHNOLOGY

[0002] Most lipsticks are disposable. Specifically, the packaging materials with the remaining lipstick core are usually completely discarded after use and cannot be reused; this will cause extreme waste of packaging materials. In addition, the packaging materials are usually non-degradable, and a large amount of waste packaging materials seriously pollute the environment.

[0003] In order to solve this problem, the Chinese patent (CN113367465A) discloses a container structure capable of replacing lipstick paste. In this structure, the combining member is detachably connected to the lipstick assembly. The lipstick assembly can be completely replaced and recycled after use, and the base, combining member and upper cover can be reused repeatedly. Additionally, since the lipstick assembly is made of polyethylene terephthalate (PET), which is an environmentally friendly and recyclable material, it has the effect of reducing environmental pollution.

[0004] Existing replaceable lipsticks need to replace the lipstick assembly as a whole, and the replaced assembly contains structural parts that fit in motion, so it is necessary to use materials with high hardness, rigidity and durability such as PET. Therefore, they can only be recycled. However, when the recycling system is not fully covered and efficient, the lipstick assembly that is directly discarded will also cause environmental pollution.

SUMMARY OF THE INVENTION

Technical problems

[0005] The technical problem to be solved by the present invention is to provide a replaceable lip cosmetic container and a replacement device. In the cosmetic container, by the cooperation between a guide member and a push-out member, the push-out member has a replacement position that is convenient to assemble and disassemble the replacement device, thereby realizing repeated recycling of the cosmetic container. The replacement device only replaces the paste and necessary connection seat, and the replacement position can provide the reverse locking force required for installation. The operation is simple and the waste of materials is small. The replacement device is made of a degradable material, which will not pollute the environment even if it is directly discarded without being recycled, further meeting environmental protection requirements.

Technical solutions

[0006] The present invention is realized as follows: A replaceable lip cosmetic container includes a top cover, a tube body, a guide member and a rotating seat. Two ends of the tube body are open; the top cover is covered at a top opening of the tube body; the rotating seat is hinged to a bottom opening of the tube body and forms a rotating pair with the tube body; the guide member is sleeved in the tube body. The replaceable lip cosmetic container further includes a push-out member; an inner wall of the tube body is provided with a spiral groove; the guide member is provided with a guide groove in an axial direction; an outer wall of the push-out member is provided with a spiral rod, the push-out member is sleeved in the guide member, and the spiral rod penetrates through the guide groove and cooperates with the spiral groove to form a spiral pair; the push-out member moves along the guide groove to be located at a storage position, a use position and a replacement position; the guide groove is provided with a storage groove, a limit groove and a stop groove corresponding to the storage position, the use position and the replacement position, respectively; and a thread lead angle of the spiral groove is greater than or equal to an equivalent friction angle of the spiral pair.

[0007] The push-out member is a cylindrical cavity with one side open; and a connection boss is arranged at a center of a bottom of the cavity of the push-out member, and an outer wall of the connection boss is provided with a rib.

[0008] The connection boss is cylindrical, and the rib is trapezoidal in cross section.

[0009] There is a pair of guide grooves, which are centrally symmetrically arranged on the guide member; and there are two spiral rods, each of which is matched with one guide groove.

[0010] The storage groove and the stop groove are elongated grooves extending radially along the guide member.

[0011] A direction in which the push-out member moves from the storage position to the replacement position is taken as a positive direction, the limit groove includes an entry section and an exit section, and an inclination angle of the entry section is smaller than an equivalent friction angle between the spiral rod and the entry section.

[0012] The limit groove is shaped as a circular arc or a triangle.

[0013] The limit groove is an elongated groove extending radially along the guide member.

[0014] An outer sleeve is further sleeved outside the tube body, and the outer sleeve is fixedly connected to the tube body.

[0015] A replacement device is provided. The replacement device cooperates with the replaceable lip cosmetic container, and the replacement device is made of a degradable material.

Beneficial effects

[0016] In the replaceable lip cosmetic container provided by the present invention, by the cooperation between the guide member and the push-out member, the push-out member has a replacement position that is convenient to assemble and disassemble the replacement device, thereby realizing repeated recycling of the cosmetic container. The replacement device only replaces the paste and necessary connection seat, and the replacement position can provide the reverse locking force required for installation. The operation is simple and the waste of materials is small. Additionally, in the use position, the guide groove is further provided with corresponding limit groove to facilitate normal use by users, so that the present invention not only meets environmental protection requirements, but also has wide promotion and application value.

DESCRIPTION OF THE DRAWINGS

[0017]

FIG. 1 is an exploded view showing components of a replaceable lip cosmetic container of the present invention;
FIG. 2 is a schematic diagram showing a structure of a tube body in the present invention;
FIG. 3 is a schematic diagram showing a structure of a guide member in the present invention;
FIG. 4 is a schematic diagram showing a structure of a rotating seat in the present invention;
FIG. 5 is a schematic diagram showing a structure of a push-out member in the present invention;
FIG. 6 is a schematic diagram showing a structure of a limit groove in an embodiment of the present invention;
FIG. 7 is a schematic diagram showing a structure of a limit groove in another embodiment of the present invention;
FIG. 8 is a schematic diagram showing a structure of a replacement device in the first embodiment of the present invention;
FIG. 9 is a schematic diagram showing a structure of a replacement device in the second embodiment of the present invention;
FIG. 10 is a schematic diagram showing a structure of a replacement device in the third embodiment of the present invention; and
FIG. 11 is a schematic diagram showing a structure of a replacement device in the fourth embodiment of the present invention.

[0018] In the figures: 1 top cover, 2 tube body, 3 guide member, 4 rotating seat, 5 push-out member, 6 replacement device, 21 spiral groove, 22 outer sleeve, 31 guide groove, 32 storage groove, 33 limit groove, 34 stop groove, 51 spiral rod, 52 connection boss, 53 rib, 61 housing, 62 connection seat, 63 paste, 64 connection hole, 331 entry section, 332 exit section, 611 upper housing, 612 lower housing, 613 support hole, 614 base, 615 sealing cover, 616 tearing portion, 617 cutting line, 621 foundation cavity, and 622 transition cavity.

THE OPTIMAL IMPLEMENTATIONS OF THE PRESENT INVENTION

[0019] The present invention will be further explained below in conjunction with specific embodiments. It should be understood that these embodiments are only used to illustrate the present invention without limiting the scope of the present invention. In addition, it should be understood that after reading the content of the present invention, those skilled in the art may make various changes or modifications to the present invention, and these equivalent forms also fall within the scope that is defined in the claims appended to this application.

Embodiments

[0020] As shown in FIGS. 1, 2, 3 and 4, a replaceable lip cosmetic container includes the top cover 1, the tube body 2, the guide member 3 and the rotating seat 4. Two ends of the tube body 2 are open. The top cover 1 is covered at the top opening of the tube body 2. The rotating seat 4 is hinged to the bottom opening of the tube body 2 and forms a rotating pair with the tube body 2. The guide member 3 is sleeved in the tube body 2. The replaceable lip cosmetic container further includes the push-out member 5. The inner wall of the tube body 2 is provided with the spiral groove 21. The guide member 3 is provided with the guide groove 31 in the axial direction. The outer wall of the push-out member 5 is provided with the spiral rod 51, the push-out member 5 is sleeved in the guide member 3, and the spiral rod 51 penetrates through the guide groove 31 and cooperates with the spiral groove 21 to form a spiral pair. The push-out member 5 moves along the guide groove 31 to be located at a storage position, a use position and a replacement position. The guide groove 31 is provided with the storage groove 32, the limit groove 33 and the stop groove 34 corresponding to the storage position, the use position and the replacement position, respectively;

[0021] In the present invention, in order to ensure operating comfort during use and allow the user to easily screw out the cosmetics installed on the push-out member 5, the thread lead angle of the spiral groove 21 is greater than or equal to the equivalent friction angle of the spiral pair. At this time, the spiral pair does not have a self-locking function. Therefore, it is necessary to provide the limit groove 33 at the use position of the cosmetics to limit the retreat of the push-out member 5 at this position.

[0022] As shown in FIG. 8, a replacement device for a replaceable lip cosmetic container is provided. The replacement device cooperates with the replaceable lip cosmetic container and includes the housing 61, the

connection seat 62 and the paste 63. The housing 61 covers the paste 63. The connection seat 62 is provided with the foundation cavity 621. The bottom of the paste 63 is fixedly connected in the foundation cavity 621. The use section of the paste 63 extends out of the connection seat 62. The connection hole 64 is formed at the bottom of the connection seat 62, and the connection hole 64 is communicated with the foundation cavity 621 through the transition cavity 622. The transition cavity 622 is allowed to provide an installation space that cooperates with the push-out member 5 and reduce the volume of the unusable part of the paste 63, so as to reduce waste of the paste 63;

[0023] In this embodiment, preferably, the base 614 is further provided outside the lower housing 612, and the lower housing 612 is provided inside the base 614 to facilitate transportation and placement of the replacement device.

[0024] In the present invention, the replacement device is made of a degradable material; The degradable material is, for example, prepared by papermaking using bamboo fiber, wood fiber and other degradable fiber, and is required to meet the disposable needs; the part after use and replacement can be directly discarded and allowed to degrade naturally. It will not cause pollution to the environment like conventional plastics, and can meet environmental protection requirements even if it is not recycled.

[0025] Further, in the present invention, the foundation cavity 621 and the transition cavity 622 are cylindrical cavities, the connection hole 64 is a round hole, and the foundation cavity 621, the transition cavity 622 and the connection hole 64 are coaxially arranged.

[0026] As shown in FIG. 9, in this embodiment, the diameter of the cross-section circle of the transition cavity 622 is smaller than the diameter of the cross-section circle of the foundation cavity 621; the smaller transition cavity 622 is retracted inwards to form a step to support the paste 63; the diameter of the connection hole 64 is smaller than the diameter of the cross-section circle of the transition cavity 622.

[0027] The present invention can be further described as that the housing 61 includes the upper housing 611 and the lower housing 612. The lower housing 612 is provided with the support hole 613 that matches the outer shape of the connection seat 62. The upper housing 611 covers the top of the lower housing 612. The connection seat 62 is detachably installed in the support hole 613 to facilitate the cooperation and stress requirements between the support hole 613 and the connection seat 62.

[0028] In the Embodiments 3 and 4 of the replacement device of the present invention, the present invention can be further described as that the housing 61 includes the upper housing 611 and the sealing cover 615. The upper housing 611 covers the top of the connection seat 62 and covers the paste 63, and the sealing cover 615 covers the connection hole 64.

[0029] As shown in FIG. 10, the sealing cover 615 is a protective film, and the edge of the protective film is provided with the tearing portion 616.

[0030] As shown in FIG. 11, the sealing cover 615 is a sealing cover sheet arranged on the connection hole 64 and integrally formed with the connection seat 62. The edge of the sealing cover sheet is the cutting line 617, and the sealing cover sheet is separated from the connection seat 62 along the cutting line 617 under the action of external force.

[0031] As shown in FIG. 5, in the present invention, the replaceable lip cosmetic container cooperates with the replacement device 6. In this embodiment, in order to facilitate the detachable connection of the replacement device 6 and the replaceable lip cosmetic container, the push-out member 5 is a cylindrical cavity with one side open. The connection boss 52 is arranged at the center of the bottom of the cavity 51 of the push-out member 5, and the outer wall of the connection boss 52 is provided with the rib 53; the connection boss 52 and the connection hole 64 are in interference fit, so that the connection seat 62 is detachably installed in the cavity 51.

[0032] When the replacement device 6 is replaced, firstly, the rotating seat 4 is rotated to lift the push-out member 5 to the replacement position; next the housing 61 is opened to take out the connection seat 62 and the paste 63; and then the connection seat 62 is installed on the push-out member 5 to achieve detachable installation. During installation, the connection seat 62 is pressed down to be tightly connected to the push-out member 5; due to the existence of the storage groove 32, the pressing action will not cause the push-out member 5 to descend, so as to ensure that the installation action can be completed smoothly.

[0033] In the present invention, preferably, the connection boss 52 is cylindrical, and the rib 53 is trapezoidal in cross section, so as to provide great interference fit pressure and ensure the installation stability of the connection seat 62.

[0034] Taking into account the stress stability when the push-out member 5 is rotated and jacked, there is a pair of guide grooves 31, which are centrally symmetrically arranged on the guide member 3; and there are two spiral rods 51, each of which is matched with one guide groove 31.

[0035] In the present invention, the storage groove 32 and the stop groove 34 are elongated grooves extending radially along the guide member 3; the storage groove 32 prevents cosmetics from naturally extending out due to inverted placement when the present device is not in use, and the stop groove 34 provides the stopping force required when the replacement device is installed.

[0036] In the present invention, the direction in which the push-out member 5 moves from the storage position to the replacement position is taken as the positive direction, the limit groove 33 includes the entry section 331 and the exit section 332, and the inclination angle of the entry section 331 is smaller than the equivalent friction angle between the spiral rod 51 and the entry section 331.

When the spiral rod 51 enters the limit groove 33, the entry section 331 is allowed to provide a locking force that prevents the spiral rod 51 from moving in the negative direction. At this time, when the rotating seat is not rotated, the push-out member 5 will not be pushed by the force in the negative direction force to meet the pressure requirements of the device during normal use.

[0037] In this embodiment, preferably, the limit groove 33 is shaped as a circular arc or a triangle as shown in FIG. 6.

[0038] As shown in FIG. 7, in another embodiment, the limit groove 33 is an elongated groove extending radially along the guide member 3.

[0039] Further, considering the overall aesthetics and durability of the product, the outer sleeve 22 is further sleeved outside the tube body 2, and the outer sleeve 22 is fixedly connected to the tube body 2.

Claims

1. A replaceable lip cosmetic container, comprising a top cover (1), a tube body (2), a guide member (3) and a rotating seat (4), wherein two ends of the tube body (2) are open; the top cover (1) is covered at a top opening of the tube body (2); the rotating seat (4) is hinged to a bottom opening of the tube body (2) and forms a rotating pair with the tube body (2); the guide member (3) is sleeved in the tube body (2); wherein the replaceable lip cosmetic container further comprises a push-out member (5); an inner wall of the tube body (2) is provided with a spiral groove (21); the guide member (3) is provided with a guide groove (31) in an axial direction; an outer wall of the push-out member (5) is provided with a spiral rod (51), the push-out member (5) is sleeved in the guide member (3), and the spiral rod (51) penetrates through the guide groove (31) and cooperates with the spiral groove (21) to form a spiral pair; the push-out member (5) moves along the guide groove (31) to be located at a storage position, a use position and a replacement position; the guide groove (31) is provided with a storage groove (32), a limit groove (33) and a stop groove (34) corresponding to the storage position, the use position and the replacement position, respectively; and a thread lead angle of the spiral groove (21) is greater than or equal to an equivalent friction angle of the spiral pair.

2. The replaceable lip cosmetic container according to claim 1, wherein the push-out member (5) is a cylindrical cavity with one side open; and a connection boss (52) is arranged at a center of a bottom of the cavity (51) of the push-out member (5), and an outer wall of the connection boss (52) is provided with a rib (53).

3. The replaceable lip cosmetic container according to claim 2, wherein the connection boss (52) is cylindrical, and the rib (53) is trapezoidal in cross section.

4. The replaceable lip cosmetic container according to any one of claims 1 to 3, wherein there is a pair of guide grooves (31), which are centrally symmetrically arranged on the guide member (3); and there are two spiral rods (51), each of which is matched with one guide groove (31).

5. The replaceable lip cosmetic container according to claim 4, wherein the storage groove (32) and the stop groove (34) are elongated grooves extending radially along the guide member (3).

6. The replaceable lip cosmetic container according to claim 4, wherein a direction in which the push-out member (5) moves from the storage position to the replacement position is taken as a positive direction, the limit groove (33) comprises an entry section (331) and an exit section (332), and an inclination angle of the entry section (331) is smaller than an equivalent friction angle between the spiral rod (51) and the entry section (331).

7. The replaceable lip cosmetic container according to claim 6, wherein the limit groove (33) is shaped as a circular arc or a triangle.

8. The replaceable lip cosmetic container according to claim 6, wherein the limit groove (33) is an elongated groove extending radially along the guide member (3).

9. The replaceable lip cosmetic container according to claim 4, wherein an outer sleeve (22) is further sleeved outside the tube body (2), and the outer sleeve (22) is fixedly connected to the tube body (2).

10. A replacement device, wherein the replacement device cooperates with the replaceable lip cosmetic container according to any one of claims 1 to 9, and the replacement device is made of a degradable material.

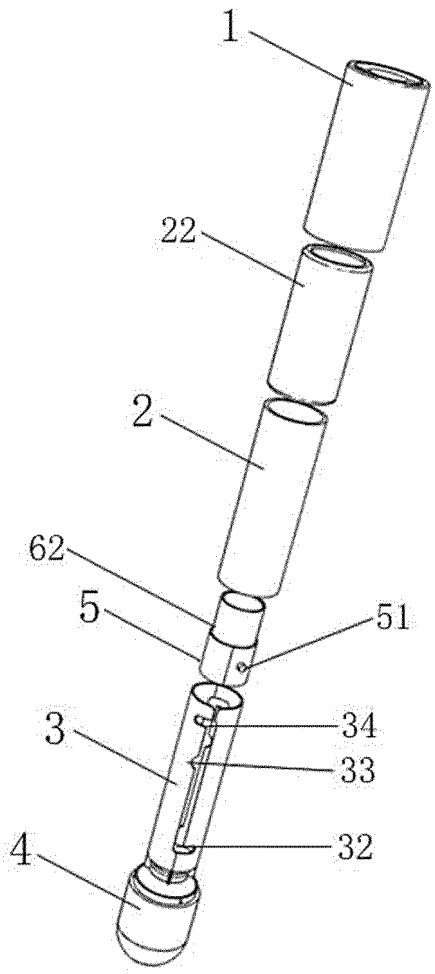

FIG. 1

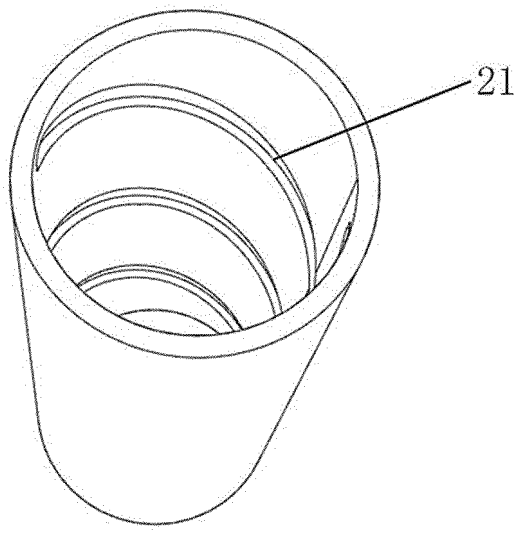

FIG. 2

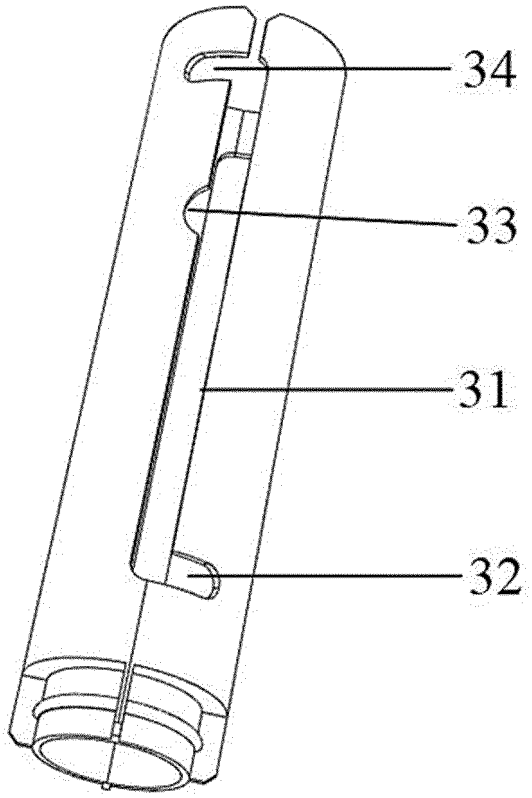

FIG. 3

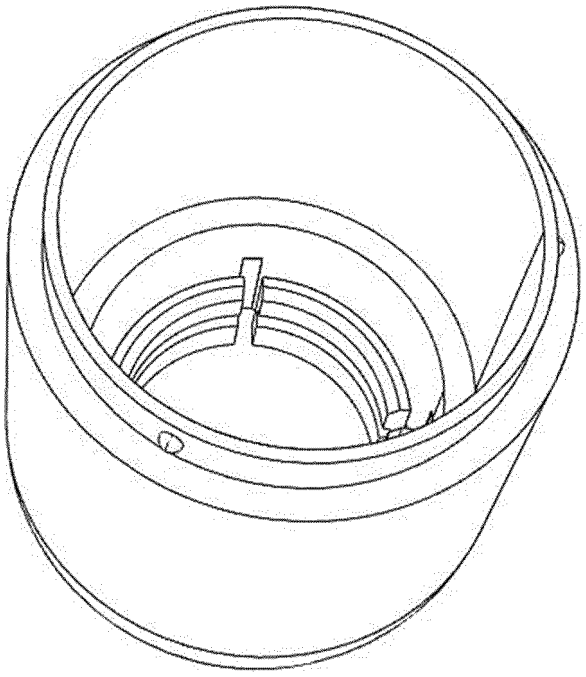

FIG. 4

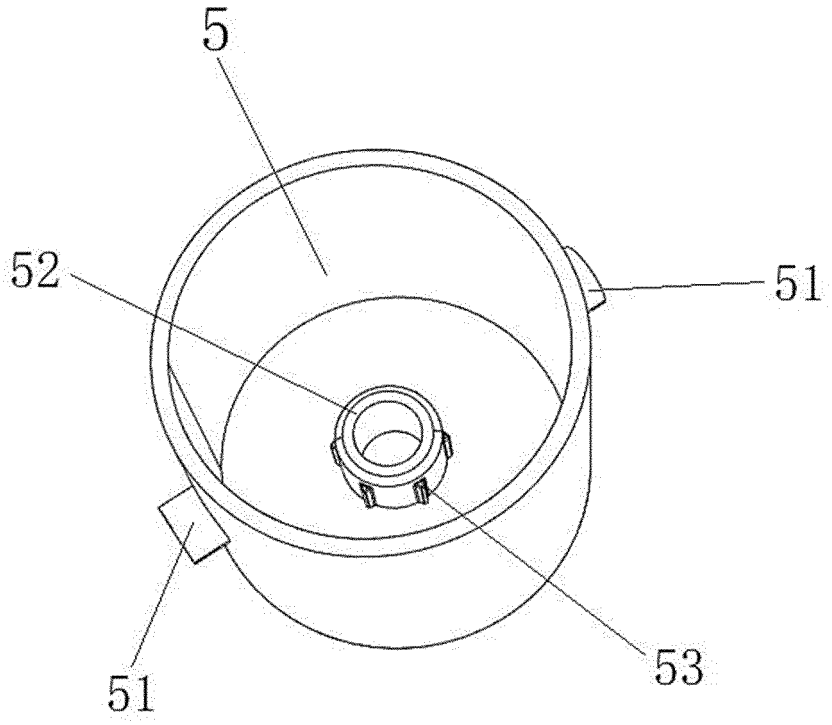

FIG. 5

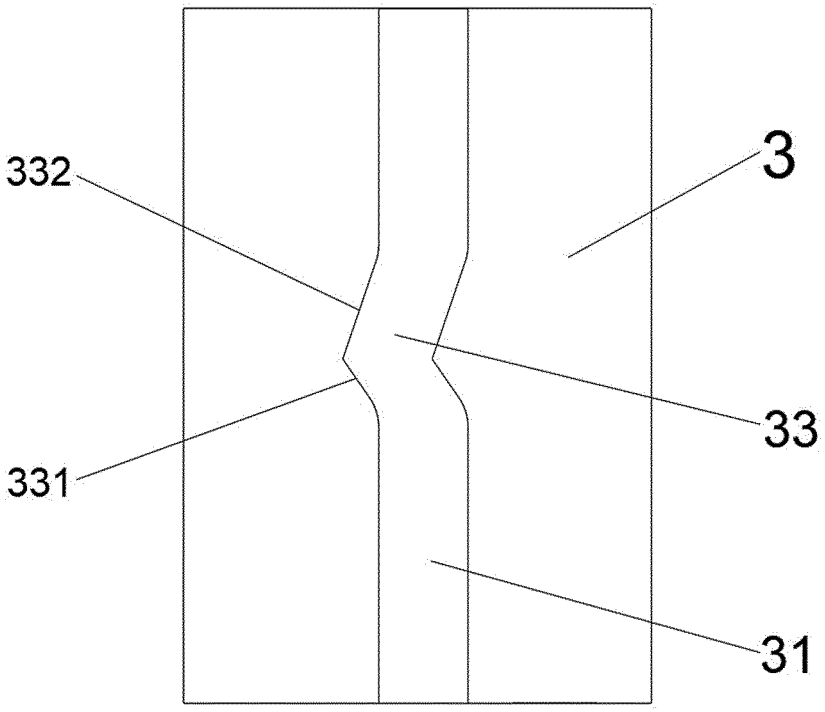

FIG. 6

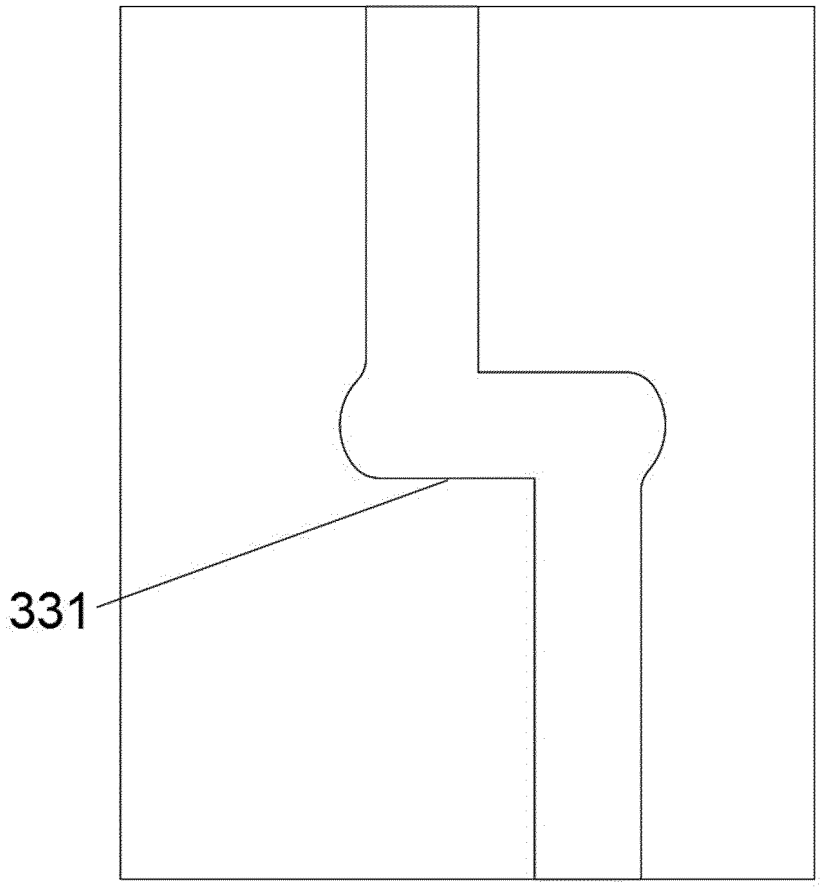

FIG. 7

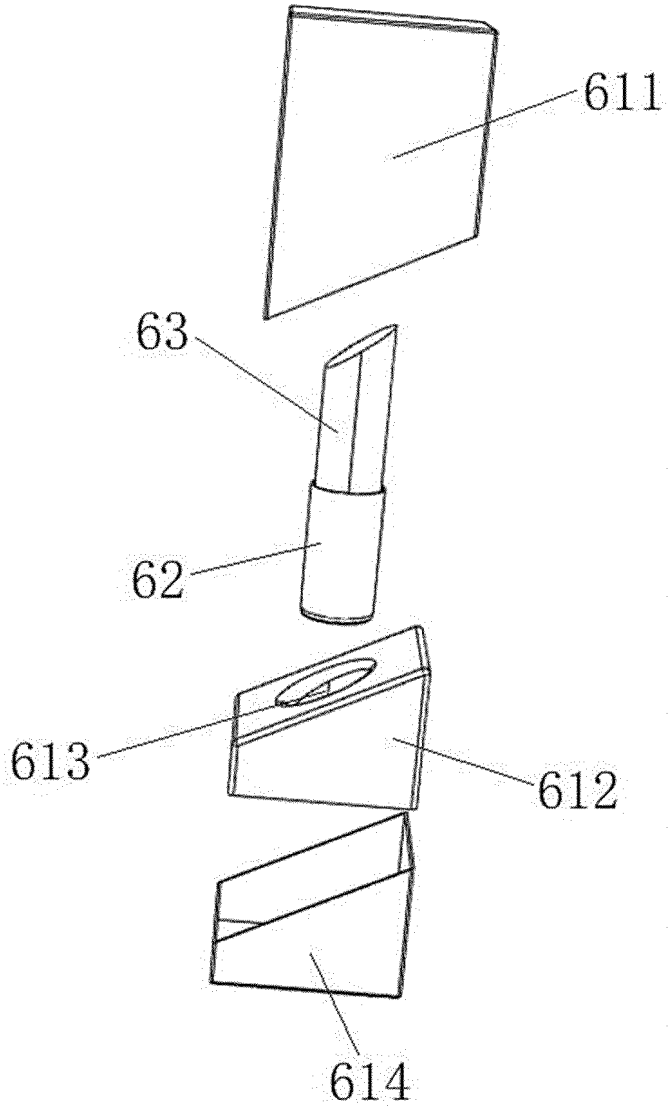

FIG. 8

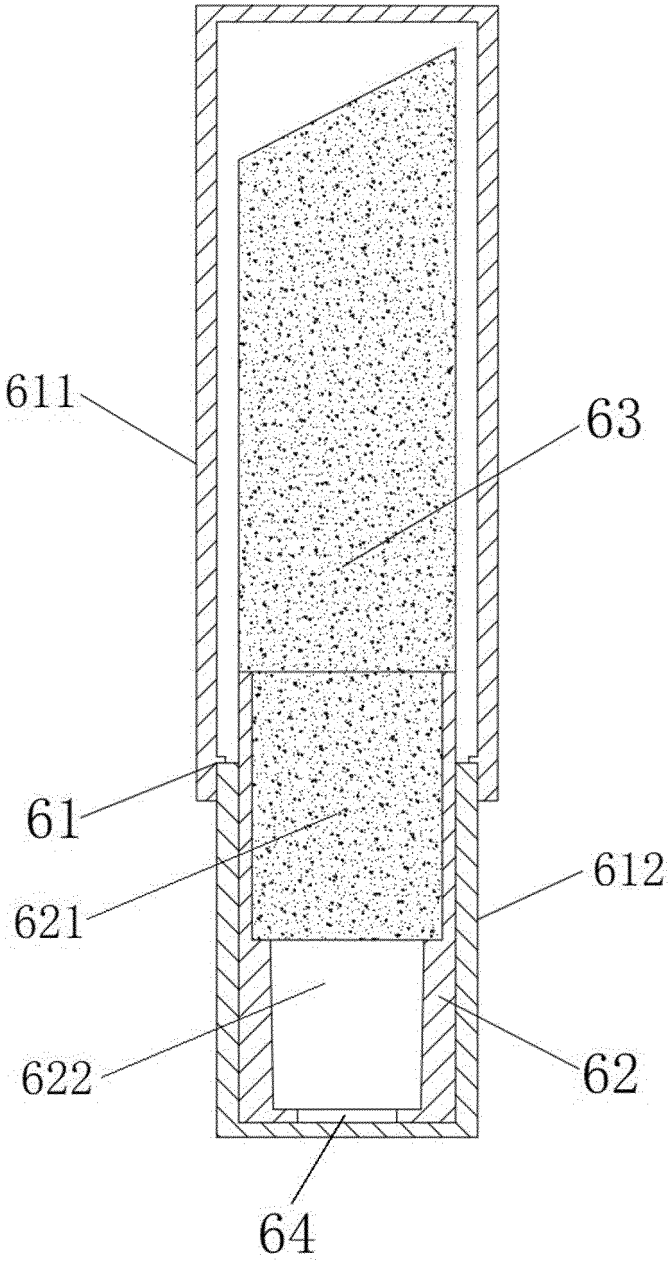

FIG. 9

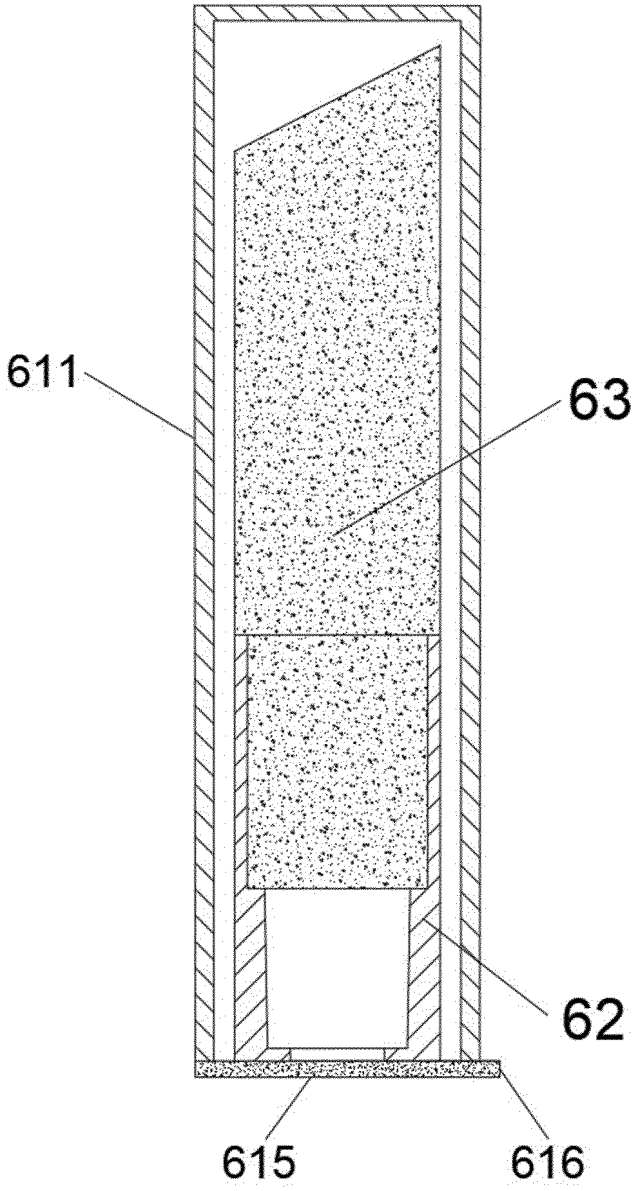

FIG. 10

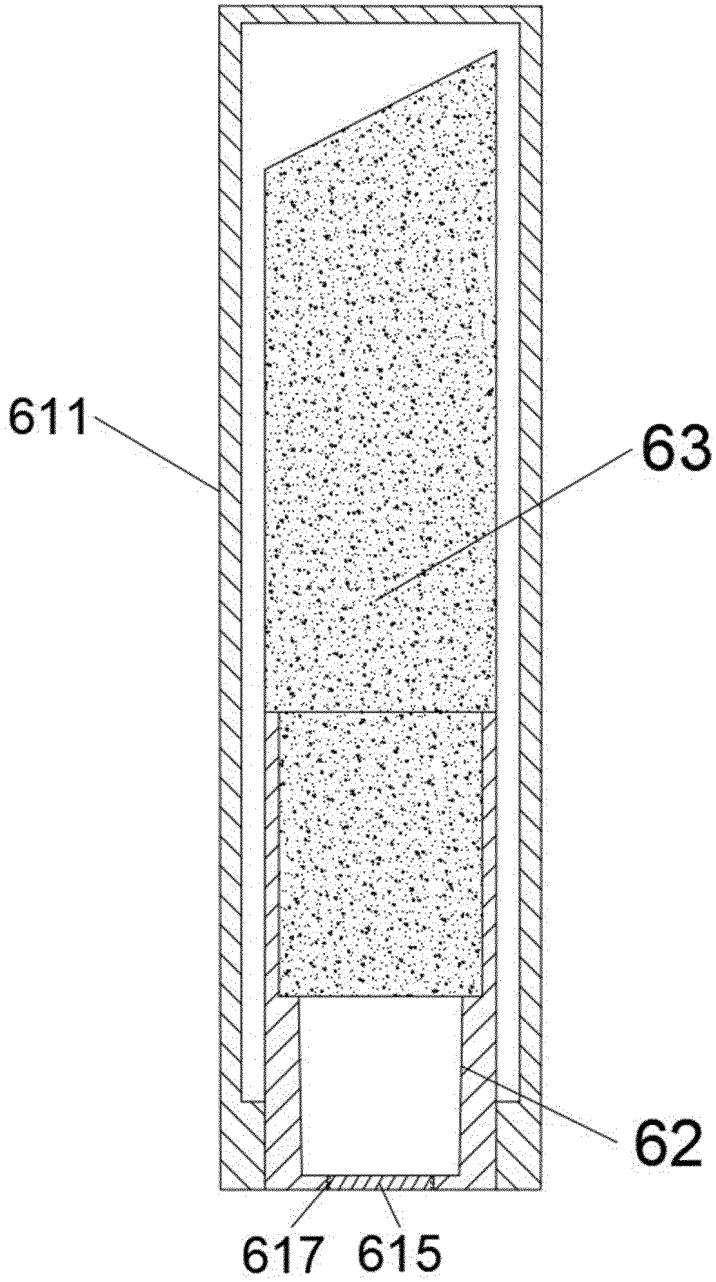

FIG. 11

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2023/084563

A. CLASSIFICATION OF SUBJECT MATTER

A45D40/06(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)

IPC: A45D

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)

CNABS; WPABS; VEN; CNTXT; USTXT; EPTXT; WOTXT; CNKI: 口红, 唇膏, 可替换, 可更换, 可再填, 槽, 限位, 止挡, 止档, 螺旋, 纸, 降解, 可分解, lipstick, substitut+, exchang+, groove, trough, slot, spiral, helix, screw, degradation, degradable

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 115736473 A (SUMIN (SHANGHAI) PACKAGING NEW TECHNOLOGY CO., LTD.) 07 March 2023 (2023-03-07) description, paragraphs [0005]-[0037], and figures 1-11	1-10
X	CN 206909979 U (CHOEBE (DONGGUAN) PACKAGING CO., LTD.) 23 January 2018 (2018-01-23) description, paragraphs [0028]-[0038], and figures 1-11	1-9
X	CN 114828694 A (SHISEIDO CO., LTD.) 29 July 2022 (2022-07-29) description, paragraphs [0012]-[0127], and figures 1-13	1-10
A	CN 112062080 A (DAI YAN) 11 December 2020 (2020-12-11) entire document	1-10
A	CN 210672465 U (SHANTOU KINHWA PLASTIC INDUSTRY CO., LTD.) 05 June 2020 (2020-06-05) entire document	1-10
A	CN 213962206 U (YOUCHUN PACKAGE TECHNOLOGY (SHANGHAI) CO., LTD.) 17 August 2021 (2021-08-17) entire document	1-10

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

* Special categories of cited documents:
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"D" document cited by the applicant in the international application
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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
21 July 2023	**19 August 2023**
Name and mailing address of the ISA/CN **China National Intellectual Property Administration (ISA/CN)** **China No. 6, Xitucheng Road, Jimenqiao, Haidian District, Beijing 100088**	Authorized officer Telephone No.

Form PCT/ISA/210 (second sheet) (July 2022)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2023/084563

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 214085709 U (ZHEJIANG RUICHANG INDUSTRIAL CO., LTD.) 31 August 2021 (2021-08-31) entire document	1-10

Form PCT/ISA/210 (second sheet) (July 2022)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2023/084563

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 115736473 A	07 March 2023	None	
CN 206909979 U	23 January 2018	None	
CN 114828694 A	29 July 2022	None	
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CN 213962206 U	17 August 2021	None	
CN 214085709 U	31 August 2021	None	

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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- CN 113367465 A **[0003]**