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(54) SAFETY LOCK STRUCTURE FOR PACKAGING BOX

(57) The present application discloses a container for preventing children from opening, including a cover body and a container body having a neck finish. The neck finish is provided with external threads, and the cover body is provided with internal threads. The side wall of the cover body is provided with at least two pressing portions, and the inner wall of each pressing portion is provided with a flexible snap. The upper end surface of the container body is provided with a blocking portion corresponding to each flexible snap. When the cover body and the container body are screwed tightly, the flexible snap and the blocking portion are engaged with each other. The advantages are that when the cover body needs to be opened, it requires the container body to be held by one hand, and the pressing portions are pressed by the other hand, so that the flexible snaps and the blocking portions are separated from each other, and the cover body is rotated, so that cover body can be opened. Due to the limitations of the size of children's hands, children cannot press the two pressing portions with one hand, thus cannot open the cover body, this can prevent children from eating the contents of the container body. During the process of tightening the cover body and the container body, the blocking portion slides into and is engaged with the notch snap groove, and the cover body and the container body are stably closed.

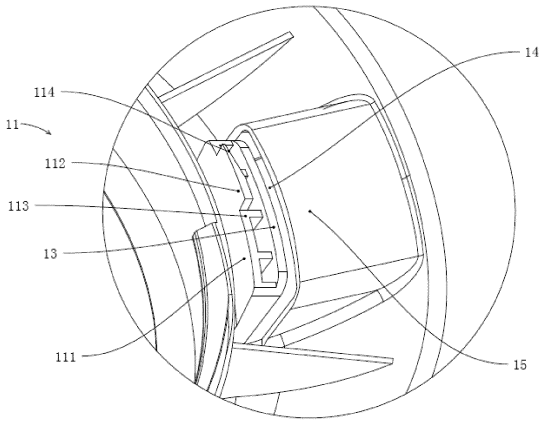

FIG. 5

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Description

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application is based on the Chinese Patent Application No. 201822071631.9 filed on December 10, 2018, and claims its priority. The contents of the application are incorporated herein by reference in their entireties.

TECHNICAL FIELD

[0002] The present application relates to the field of container technology, and more particularly to a safety-lock structure for a packaging box.

BACKGROUND

[0003] The existing containers generally comprise a container body and a cover body covering the container body. After opening the cover body, the liquid or some scattered particles filled in the container can be poured out; when the container is filled with small or corrosive particles, the container can be easily opened by children, hence causes ingestion by mistake.

SUMMARY OF THE APPLICATION

[0004] An object of the present application is to provide a safety-lock structure for a packaging box by solving the disadvantages of the prior art.

[0005] A technical solution of the present application is: A safety-lock structure for packaging box includes a cover body and a container body with a neck finish, the neck finish has an open mouth, an outer wall of the neck finish is provided with external threads, an inner wall of the cover body is provided with internal threads in thread connection with the external threads; a side wall of the cover body is provided with at least two pressing portions, an inner wall of each pressing portions is provided with a flexible snap, an upper end surface of the container body is provided with a blocking portion that corresponds to each flexible snap. The flexible snaps and the blocking portions are engaged with each other after the cover body and the container body are screwed tightly to each other.

[0006] In a preferred solution, the surface of the cover body is recessed inward and provided with recessed portions, and the inner side wall of the recessed portion forms the pressing portion, and the flexible snap is disposed on the inner side wall of the recessed portion and is close to the center of the cover body.

[0007] In a preferred solution, a slit groove is provided between the bottom part of the recessed portion and the pressing portion.

[0008] In a preferred solution, each flexible snap includes a base portion, and a flexible block disposed on a lower surface of the base portion and adjacent to a side of the base portion; a notch snap groove is formed between the flexible block and the other side of the base portion, the blocking portion and the notch snap groove are engaged with each other after the cover body and the container body are screwed tightly to each other.

[0009] In a preferred solution, each flexible block is provided with a guiding piece which is in the same direction as the rotating direction of the internal threads. When the cover body and the container body are being screwed tightly together, the blocking portion slides along the guiding piece and snaps into the notch snap groove.

[0010] In a preferred solution, the number of the flexible snaps is 2, and the 2 flexible snaps are disposed opposite to each other on the inner wall of the cover body.

[0011] In combination with the above technical solutions, the present application has the following beneficial effects: when the cover body needs to be opened, it requires to hold the container body by one hand, and press the pressing portions by the other hand, so that the flexible snaps and the blocking portions are separated from each other, then rotate the cover body at the same time to open the cover body. Due to the limitations of the size of children's hands, children are not able to press the two pressing portions with one hand, thus they cannot open the cover body, therefore, it can prevent children from eating the contents of the container body; during the process of tightening the cover body and the container body, the blocking portions slide into the notch snap grooves and are engaged with the notch snap grooves, so that the cover body stably covers the container body.

[0012] The above description is only an overview of the technical solutions of the present application, and the technical means of the present application can be more clearly understood, and can be implemented in accordance with the contents of the specification, and the above and other objects, features and advantages of the present application can be more clearly understood by the detailed preferred embodiments described hereinafter, with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013]

FIG. 1 is a perspective view of the present application when the cover body and the container body are opened;

FIG. 2 is a perspective view of the container body of the present application;

FIG. 3 is a first perspective view of the cover body of the present application;

FIG. 4 is a second perspective view of the cover body of the present application;

FIG. 5 is a partial enlarged view of part A in FIG. 4;

FIG. 6 is a cross-sectional view of the present application;

FIG. 7 is a partial enlarged view of part A in FIG. 6.

DETAILED DESCRIPTION OF THE SPECIFIC EMBODIMENTS

[0014] To clarify the idea and purpose of the present application, the present application will be further described with reference to the accompanying drawings and specific embodiments.

[0015] As shown in FIG. 1 to FIG. 7, a safety-lock structure for a packaging box includes a cover body 10 and a container body 20 with a neck finish 21, the neck finish 21 has an opening 22 , the outer wall of the neck finish 21 is provided with external threads; the inner wall of the cover body 10 is provided with internal threads which are in screw connection with the external threads, and the side wall is provided with at least two pressing portions 13; the inner wall of each pressing portion 13 is provided with a flexible snap 11. The upper end surface of the container body 20 is provided with a blocking portion 23 that corresponds to each flexible snap 11. When the cover body 10 and the container body 20 are screwed tightly to each other, the flexible snaps 11 are engaged with the blocking portions 23.

[0016] As shown in FIG. 1 to FIG. 7 , when the cover body 10 needs to be opened, it requires to press the pressing portions 13 , so that the flexible snaps 11 and the blocking portions 23 are separated from each other, and rotate the cover body 10 at the same time to open the cover body 10. Due to the limitations of children's strength and the size of their hands, children cannot open the cover body 10, hence children can be prevented from ingesting the food in the container body 20; during the tightening of the cover body 10 and the container body 20, the flexible snaps 11 and the blocking portions 23 are engaged with each other, so that the cover body 10 and the container body 20 are stably closed.

[0017] As shown in FIG. 1 to FIG. 7, the surface of the cover body 10 is recessed inward and provided with recessed portions 12, and the inner side wall of the recessed portion 12 forms the pressing portion 13, and the pressing portion 13 is adjacent to the center of the cover body 10, the recessed portions 12 are adjacent to the lower side of the cover body 10. The cover body 10, the pressing portions 13 and the flexible snaps 11 are integrally formed, and the blocking portions 23 are integrally formed with the container body 20.

[0018] As shown in FIG. 1 to FIG. 7, a slit groove 14 is provided between the bottom portion 15 of the recessed portion 12 and the pressing portion 13, so that the pressing portion 13 has certain elasticity, facilitating the flexible snap 11 and the blocking portion 23 to be engaged with or separated from each other.

[0019] As shown in FIG. 1 to FIG. 7, each flexible snap 11 includes a base portion 111, and a flexible block 112 disposed on a lower surface of the base portion 111 and adjacent to one side of the base portion 111. The base portion 111 is fixedly connected to the inner wall of the pressing portion 13; a notch snap groove 113 is formed between the flexible block 112 and the other side of the base portion 111. The notch snap groove 113 is in an L shape. When the cover body 10 and the container body 20 are screwed tightly to each other, the blocking portions 23 slide into the notch snap grooves 113, hence the blocking portions 23 are engaged with the notch snap grooves 113. Preferably, the flexible blocks 112 are provided with guiding pieces 114 which are in the same direction as the rotating direction of the internal threads. The guiding pieces 114 have an arc-shaped structure. When the cover body 10 and the container body 20 are being screwed tightly together, the blocking portions 23 slide along the guiding pieces 114 and snap into the notch snap grooves 113.

[0020] As shown in FIG. 1 to FIG. 7, the number of the pressing portions 13 is two, and the two pressing portions 13 are disposed opposite to each other on the side wall of the cover body 10; the number of the flexible snaps 11 is two, and the two flexible snaps 11 are disposed opposite to each other on the inner wall of the cover body 10. The number of the blocking portions 23 is two, and the two blocking portions 23 are disposed opposite to each other on the inner wall of the cover body 10. When the cover body 10 needs to be opened, the pressing portions 13 are simultaneously pressed by the thumb and the middle finger, so that the blocking portions 23 are separated from the notch snap grooves 113, and at the same time the cover body 10 is rotated, so that the cover body 10 can be opened. Due to the limitations of children's strength and the size of their hands, children cannot open the cover body 10, hence can be prevented from ingesting the food in the container body 20; during the tightening of the cover body 10 and the container body 20, the flexible snaps 11 and the blocking portions 23 are engaged with each other, so that the cover body 10 and the container body 20 are stably closed.

[0021] The above is a specific embodiment of the present application. It should be noted that those skilled in the art can also make improvements and refinements without departing from the principle of the present application. These improvements and refinements are also regarded as the scope of protection for the present application.

Claims

1. A safety-lock structure for a packaging box comprising:

   a cover body; and
   a container body having a neck finish, the neck finish having an opening, an outer wall of the neck finish being provided with external threads,

an inner wall of the cover body being provided with internal threads which are in thread connection with the threads, a side wall of the cover body being provided with at least two pressing portions, an inner wall of each pressing portion being provided with a flexible snap, an upper end surface of the container body being provided with a blocking portion that corresponds to each flexible snap, after the cover body and the container body are screwed tight to each other, the flexible snaps and the blocking portions are engaged with each other.

2. The safety-lock structure for a packaging box of claim 1, wherein a surface of the cover body is recessed inward and provided with recessed portions, inner side walls of the recessed portions forming the pressing portions, the flexible snaps being disposed on the inner side walls of the recessed portions and adjacent to a center of the cover body.

3. The safety-lock structure for a packaging box of claim 1, wherein a slit groove is provided between a bottom portion of the recessed portion and the pressing portion.

4. The safety-lock structure for a packaging box of any of claims 1 to 3, wherein each flexible snap comprises a base portion, a flexible block disposed on a lower surface of the base portion and adjacent to a one side of the base portion, and a notch snap groove being formed between the flexible block and another side of the base portion; after the cover body and the container body are screwed tight to each other, the blocking portions and the notch snap grooves are engaged with each other.

5. The safety-lock structure for a packaging box of claim 4, wherein each flexible block is provided with a guiding piece which is in a same direction as a rotating direction of the internal threads; when the cover body and the container body are being screwed tightly together, the blocking portions slide along the guiding pieces and snap into the notch snap grooves.

6. The safety-lock structure for a packaging box of claim 1, wherein the number of the flexible snaps is two, and the two flexible snaps are disposed opposite to each other on the inner wall of the cover body.

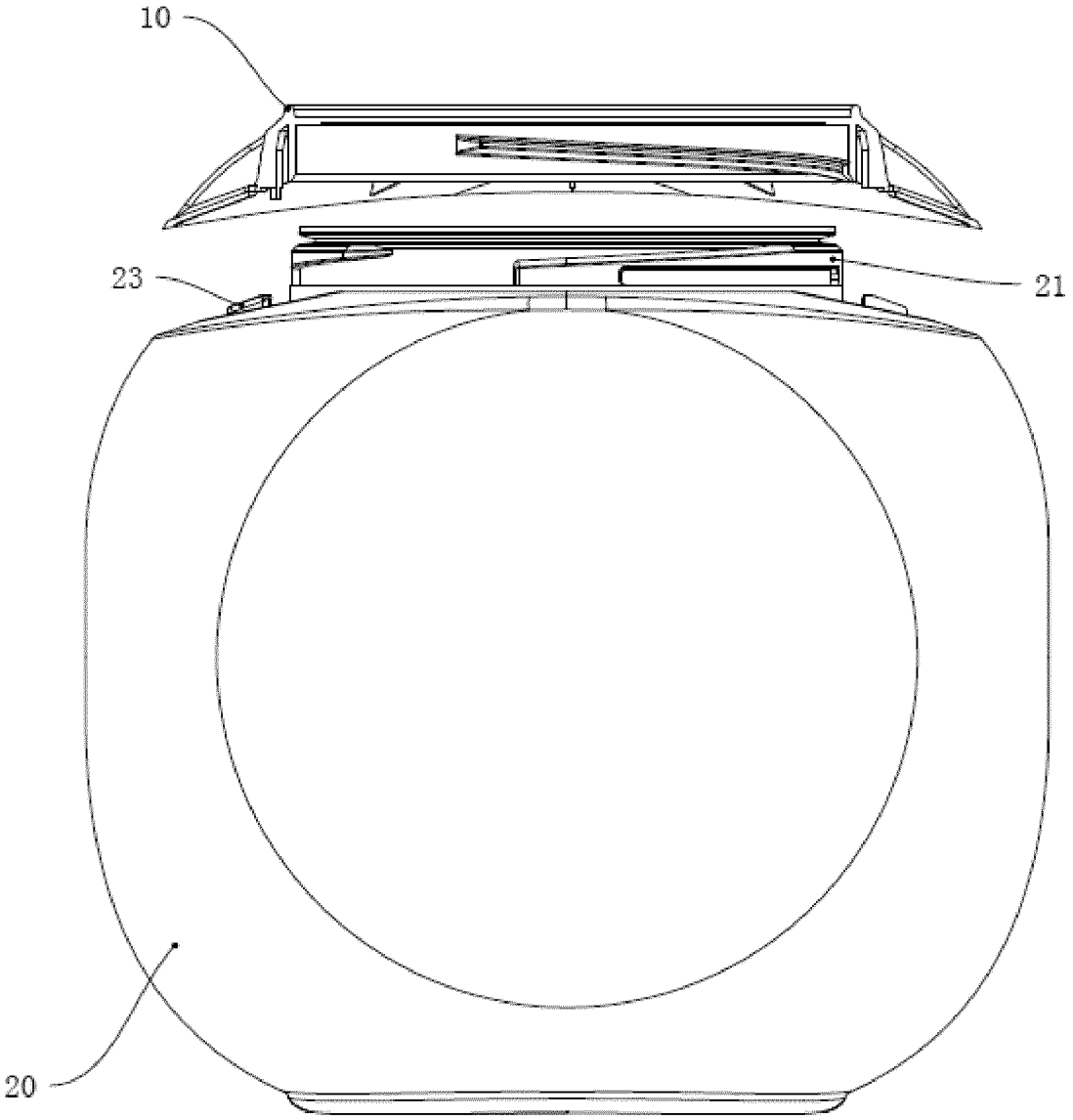

FIG. 1

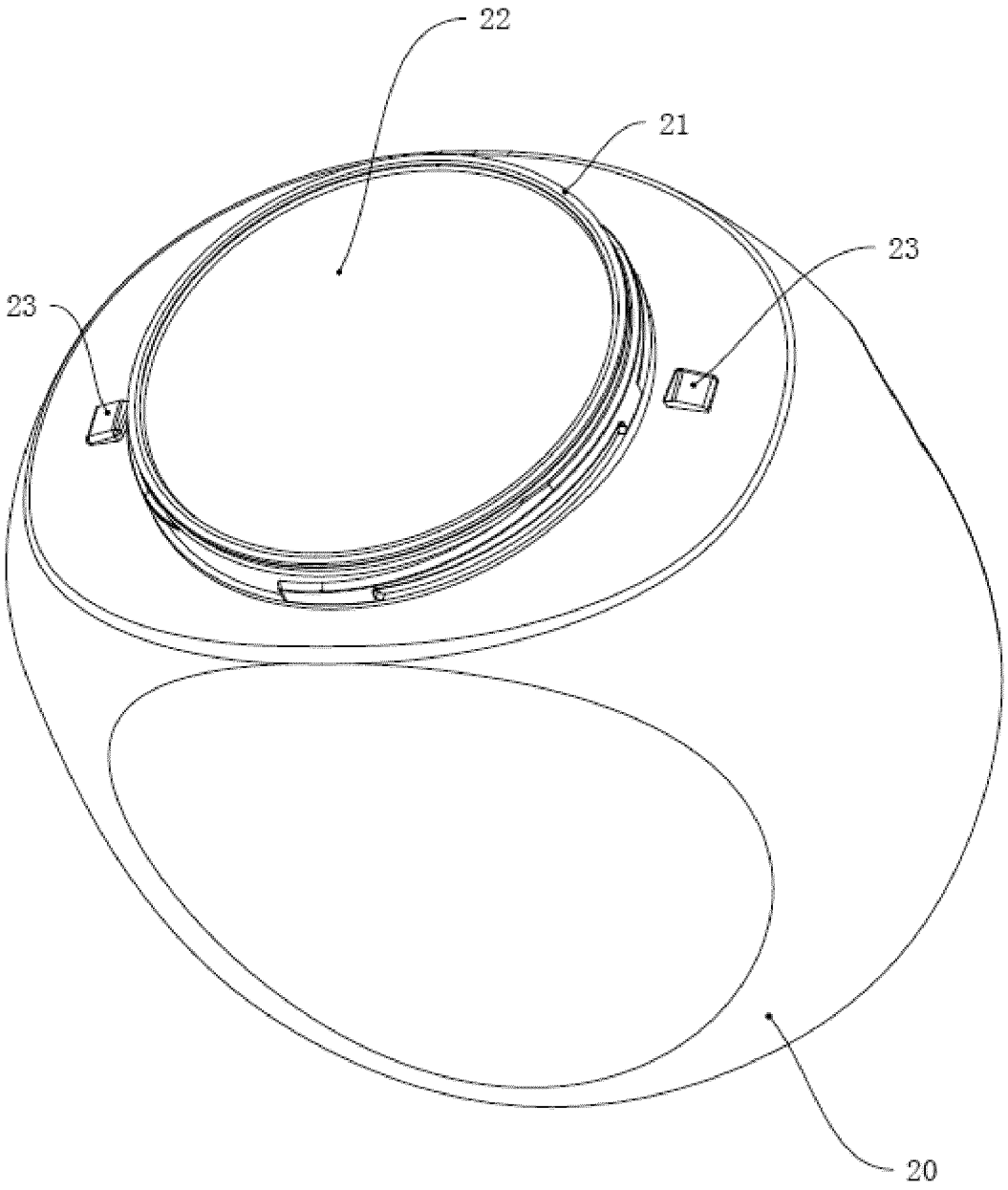

FIG. 2

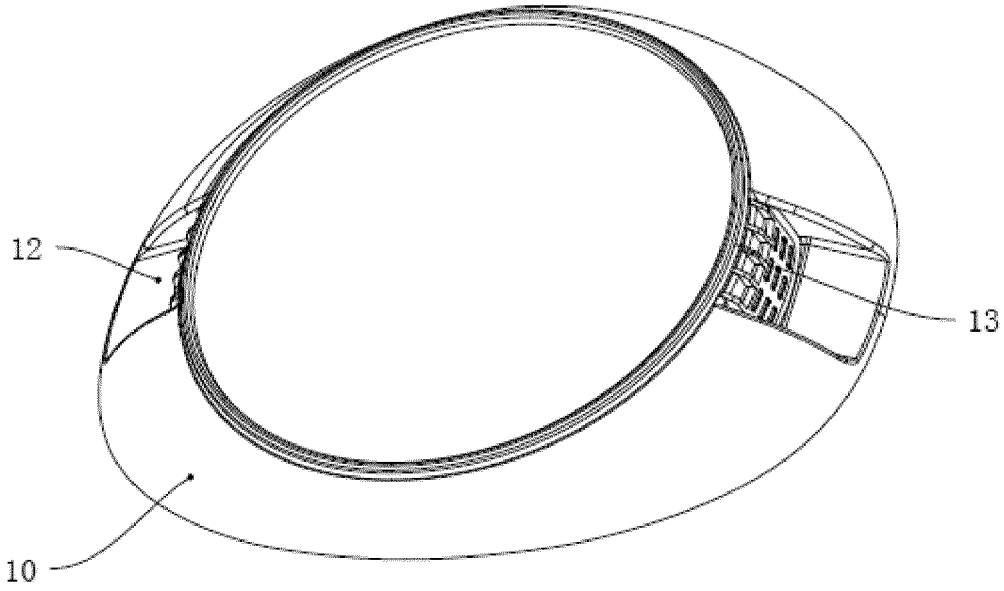

FIG. 3

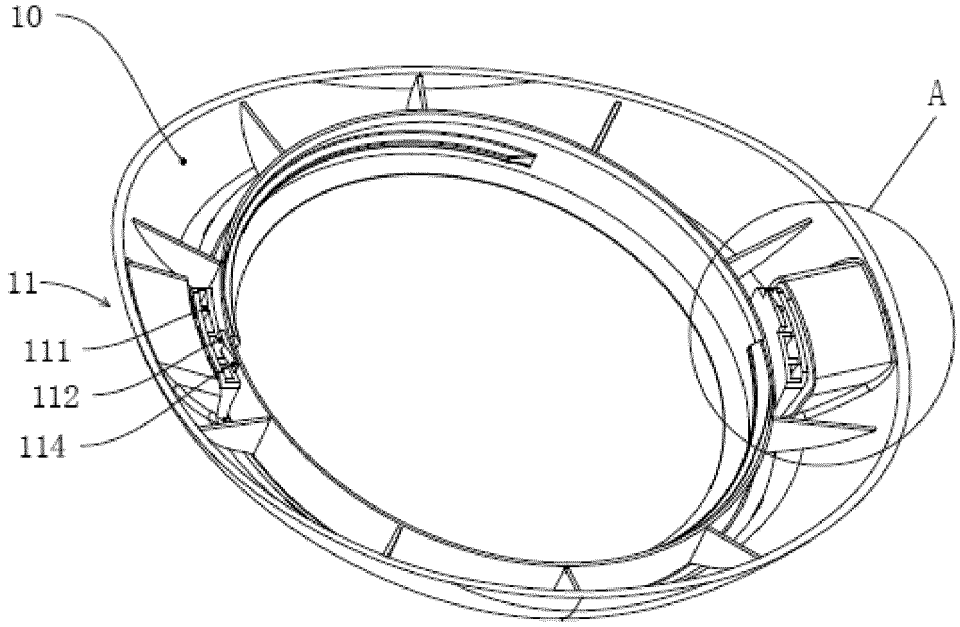

FIG. 4

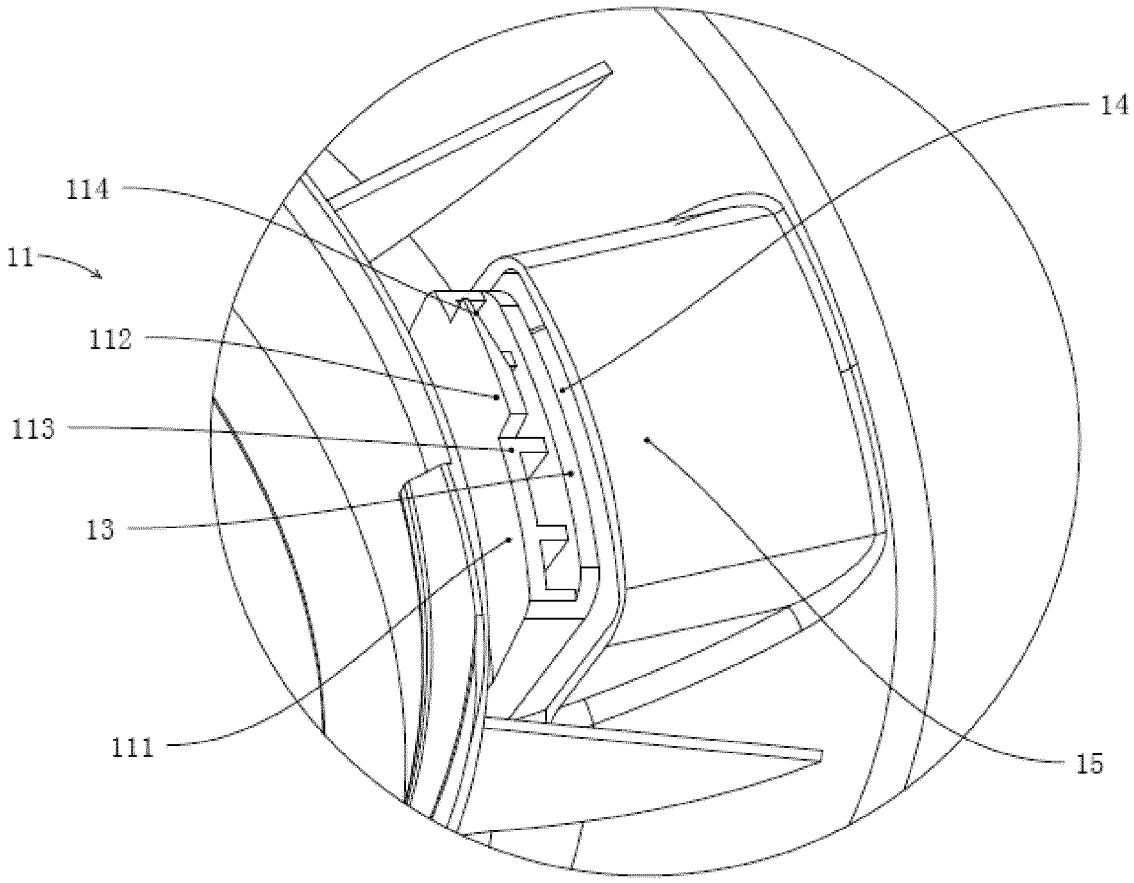

FIG. 5

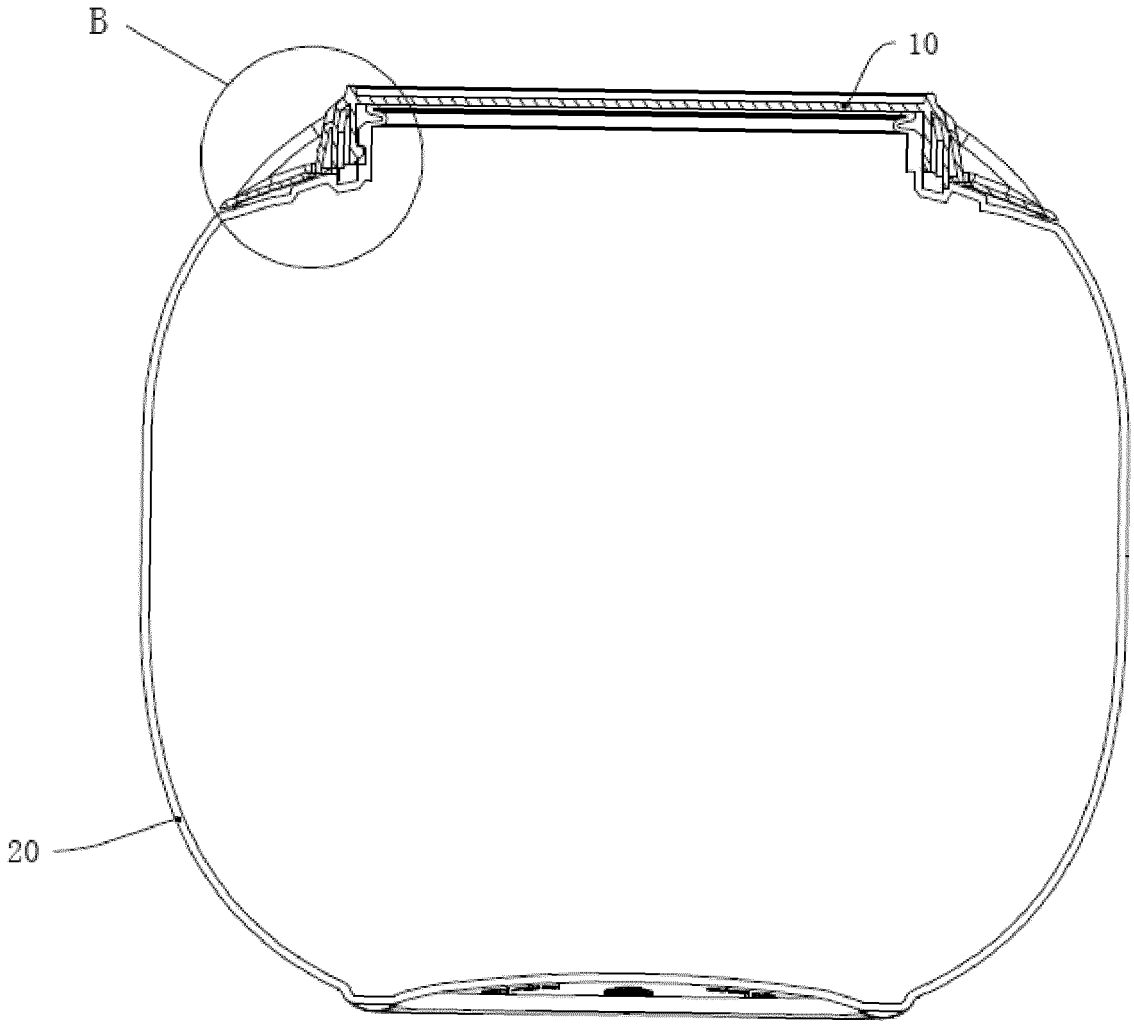

FIG. 6

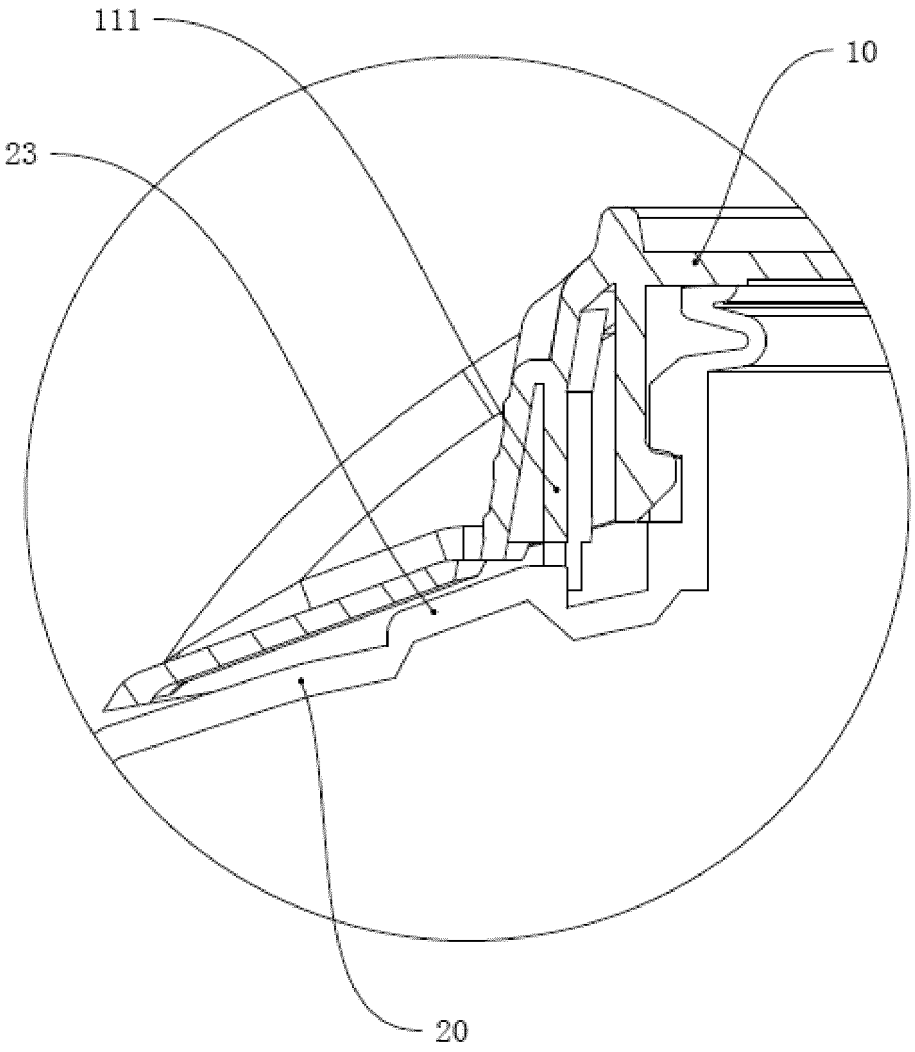

FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2019/092474

A. CLASSIFICATION OF SUBJECT MATTER

B65D 51/04(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)

B65D

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, DWPI, SIPOABS, CNKI: 盖, 按压, 挤压, 旋转, cap, lid, press+, squeez+, turn+, rotat+

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2016280429 A1 (PLASTEK INDUSTRIES, INC.) 29 September 2016 (2016-09-29) description, paragraphs 0021-0035, and figures 1-12	1, 4-6
Y	US 2016280429 A1 (PLASTEK INDUSTRIES, INC.) 29 September 2016 (2016-09-29) description, paragraphs 0021-0035, and figures 1-12	2, 3
Y	JP 2018034849 A (YOSHINO KOGYOSHO CO., LTD.) 08 March 2018 (2018-03-08) description, paragraphs 0013-0023, and figures 1-4	2, 3
X	US 2017349342 A1 (THE PROCTER & GAMBLE COMPANY) 07 December 2017 (2017-12-07) description, paragraphs 0024-0080, and figures 3-15	1, 4-6
X	CN 206590301 U (TIANJIN BOKELIN MEDICAL PACKAGING TECHNOLOGY CO., LTD.) 27 October 2017 (2017-10-27) description, paragraphs 0026-0033, and figures 1-7c	1, 4-6
X	CN 207658340 U (NANTONG JIYE PACKAGING CO., LTD.) 27 July 2018 (2018-07-27) description, paragraphs 0018-0019, and figures 1-6	1, 4-6
A	US 5918752 A (OWENS ILLINOIS CLOSURE INC.) 06 July 1999 (1999-07-06) entire document	1-6

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

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"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
29 August 2019	**26 September 2019**
Name and mailing address of the ISA/CN **China National Intellectual Property Administration** **No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088** **China** Facsimile No. **(86-10)62019451**	Authorized officer Telephone No.

Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2019/092474

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
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		EP 3464104 A1	10 April 2019
CN 206590301 U	27 October 2017	None	
CN 207658340 U	27 July 2018	None	
US 5918752 A	06 July 1999	None	

Form PCT/ISA/210 (patent family annex) (January 2015)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- CN 201822071631 **[0001]**