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(54) **SNAP-FITTING STRUCTURE OF PAPER AND PLASTIC CONTAINER**

(57) Disclosed is a snap-fitting structure of a paper and plastic container, the paper and plastic container comprising a container (10) and a cover body (20), the container (10) comprising a body (11) and a clamping portion (12), the clamping portion (12) comprising a connecting portion (121) and a clamp ring (122), wherein in a cross section along a central axis of the body (11), the included angle between the contour line of the connecting portion (121) and the central axis of the body (11) is an acute angle, the contour line of the clamp ring (122) is parallel to the central axis of the body (11), the cover body (20) comprises a cover bottom (21), a cover wall (22) and a flange (23), the outer diameter of the clamp

ring (122) is equivalent to the inner diameter of the cover wall (22), the flange (23) and the cover bottom (21) are arranged at an interval, and the clamp ring (122) is clamped between the flange (23) and the cover bottom (21) when the cover body (20) covers the container (10). According to the snap-fitting structure of the paper and plastic container, when the clamp ring (122) is beyond the flange (23), the clamp ring (122) restores to the original state or is still in a deformed state to abut against the cover wall (22), and is clamped between the cover bottom (21) and the flange (23), such that the container (10) and the cover body (20) are fitted in a covering manner and are not disengaged without an external force.

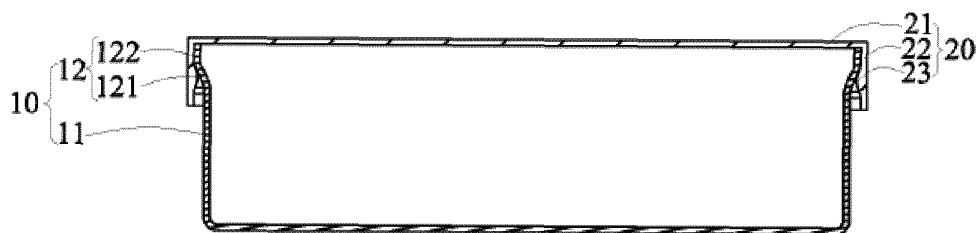


FIG. 2

Description

TECHNICAL FIELD

[0001] The present utility model pertains to the technical field of packaging, and particularly relates to a snap-fitting structure of paper and plastic container.

BACKGROUND ART

[0002] Beverage cups generally use polyester (PET), polyethylene (PE) or polypropylene (PP) as a raw material, which is heated at a high temperature after the addition of an organic solvent and is then molded by method of blow molding, extrusion or injection molding in a mold of plastics. As plastics are hardly degradable and have a low recycling rate, they are very environmentally unfriendly. At present, many items have begun to use environmentally friendly paper material, such as hand bags and milk bags, but there is no precedent for using paper material to make beverage cups. Judging from hardness and moldability, paper material can absolutely be used to make beverage cups. Therefore, using paper material as the main material to produce beverage cups not only is environmentally friendly and safe but also forms a more beautiful appearance than that of plastic bottles and will be favored by more people. However, the covers of all beverage cups used at present directly cover the containers and are not tight, so the beverage or suspension is liable to spillover and meanwhile the covers are easily disengaged with an external force.

SUMMARY OF THE UTILITY MODEL

[0003] In light of the above, the present utility model provides a novel snap-fitting structure of paper and plastic container of which cover body is not easily disengaged, to solve the foregoing problems.

[0004] A snap-fitting structure of paper and plastic container is provided. The paper and plastic container comprises a container, and a cover body covering the container. The container comprises a body, and a clamping portion extending out of the edge of the body. The clamping portion comprises a connecting portion connected to the body, and a clamp ring extending out of the connecting portion. In a cross section along the central axis of the body, the included angle between the contour line of the connecting portion and the central axis of the body is an acute angle, and the contour line of the clamp ring is parallel to the central axis of the body. The cover body comprises a cover bottom, a cover wall extending out of the edge of the cover bottom, and a flange arranged on the inner side wall of the cover wall. The outer diameter of the clamp ring is equivalent to the inner diameter of the cover wall. The flange and the cover bottom are arranged at an interval, and the clamp ring is clamped between the flange and the cover bottom when the cover body covers the container.

[0005] Further, the flange and a free end of the cover wall are arranged at an interval.

[0006] Further, in a cross section along the central axis of the body, the contour line of the flange is arc-shaped.

[0007] Further, the distance from the side wall of the body to the clamp ring is equal to the height of the arc of the flange.

[0008] Further, in the direction along the central axis of the body, the height of the clamp ring is equal to the minimum distance from the flange to the cover bottom.

[0009] Compared with the prior art, the container and the cover body of the snap-fitting structure of paper and plastic container provided by the present utility model have the clamping portion and the flange, respectively. When the cover body covers the container, as the outer diameter of the clamp ring is equivalent to the inner diameter of the cover wall, the clamp ring deforms under the pressing of the flange. When the clamp ring is beyond the flange, the clamp ring restores to the original state or is still in a deformed state to abut against the cover wall, and is clamped between the cover bottom and the flange, such that the container and the cover body are fitted in a covering manner and are not disengaged without an external force.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010]

FIG. 1 is a structural schematic view of a snap-fitting structure of paper and plastic container provided by the present utility model.

FIG. 2 is a sectional structural schematic view of the snap-fitting structure of paper and plastic container in FIG. 1.

DETAILED DESCRIPTION

[0011] Below a specific embodiment of the present utility model is further described in detail. It should be understood that the description of the embodiment of the present utility model is not intended to limit the protection scope of the present utility model.

[0012] FIG. 1 and FIG. 2 are structural schematic views of a snap-fitting structure of paper and plastic container provided by the present utility model. The paper cup in the snap-fitting structure of paper and plastic container comprises a container 10, and a cover body 20 covering the container 10. It can be understood that the container 10 and the cover body 20 both can be pressed from paper pulp or paper and plastic material.

[0013] The container 10 comprises a body 11, and a clamping portion 12 extending out of the edge of the body 11. It is conceivable that the container 10 may further comprise some other functional structures, such as a cup handle part and an ornamental part, which are technologies known to those skilled in the art, and will not be

described in detail here. The body 11 is used to hold various items, such as liquid and suspension, which is an existing technology and will not be described in detail here. The clamping portion 12 comprises a connecting portion 121 connected to the body 11, and a clamp ring 122 extending out of the connecting portion 121. In a cross section along the central axis of the body 121, the included angle between the contour line of the connecting portion 121 and the central axis of the body 11 is an acute angle, and the contour line of the clamping ring 122 is parallel to the central axis of the body 11.

[0014] The cover body 20 comprises a cover body 21, a cover wall 22 extending out of the edge of the cover body 21, and a flange 23 arranged on the inner side wall of the cover wall 22. It is conceivable that the cover body 20 may further comprise some other functional structures, such as a lifting handle and a jack. The cover body 21 is a technology known to those skilled in the art, and will not be described in detail here. The flange 23 and the cover bottom 21 are arranged at an interval. In the direction along the central axis of the body 11, the height of the clamp ring 122 is smaller than or equal to the minimum distance from the flange 23 to the cover body 21. When the cover body 20 covers the container 10, the clamp ring 122 is clamped between the flange 23 and the cover bottom 21. In order to make the clamp ring 122 contact a surface of the cover wall 22, in a cross section along the central axis of the body 11, the contour line of the clamp ring 122 is parallel to the central axis of the body 11. Further, in order to provide a greater error-tolerant rate, the flange 23 and a free end of the cover wall 22 are arranged at an interval. In a cross section along the central axis of the body 11, the contour line of the flange 23 can be arc-shaped. Of course, it is conceivable that the contour line of the flange 23 can be in other shapes, too, such as wave and teeth, which can be selected according to the actual need. For a better snapping effect, the distance from the side wall of the body 11 to the clamp ring 122 is equal to the height of the arc of the flange 23.

[0015] Compared with the prior art, the container 10 and the cover body 20 of the snap-fitting structure of paper and plastic container provided by the present utility model have the clamping portion 12 and the flange 23 respectively. When the cover body 20 covers the container 10, as the outer diameter of the clamp ring 122 is equivalent to the inner diameter of the cover wall 22, the clamp ring 122 deforms under the pressing of the flange 23. When the clamp ring 122 is beyond the flange 23, the clamp ring 122 restores to the original state or is still in a deformed state to abut against the cover wall 22, and is clamped between the cover bottom 21 and the flange 23, such that the container 10 and the cover body 20 are fitted in a covering manner and are not disengaged without an external force.

[0016] The above embodiment is only a preferred embodiment of the present utility model and is not intended to limit the protection scope of the present utility model.

All modifications, identical replacements and improvements made without departing from the spirit of the present utility model shall be within the protection scope of the present utility model.

Claims

1. A snap-fitting structure of paper and plastic container, the paper and plastic container comprising a container, and a cover body covering the container, wherein the container comprises a body, and a clamping portion extending out of the edge of the body, the clamping portion comprises a connecting portion connected to the body, and a clamp ring extending out of the connecting portion, in a cross section along the central axis of the body the included angle between the contour line of the connecting portion and the central axis of the body is an acute angle, and the contour line of the clamp ring is parallel to the central axis of the body, the cover body comprises a cover bottom, a cover wall extending out of the edge of the cover bottom, and a flange arranged on the inner side wall of the cover wall, the flange and the cover bottom are arranged at an interval, the outer diameter of the clamp ring is equivalent to the inner diameter of the cover wall, and the clamp ring is clamped between the flange and the cover bottom when the cover body covers the container.
2. The snap-fitting structure of paper and plastic container according to claim 1, wherein the flange and a free end of the cover wall are arranged at an interval.
3. The snap-fitting structure of paper and plastic container according to claim 1, wherein in a cross section along the central axis of the body, the contour line of the flange is arc-shaped.
4. The snap-fitting structure of paper and plastic container according to claim 3, wherein the distance from the side wall of the body to the clamp ring is equal to the height of the arc of the flange.
5. The snap-fitting structure of paper and plastic container according to claim 1, wherein in the direction along the central axis of the body, the height of the clamp ring is equal to the minimum distance from the flange to the cover bottom.

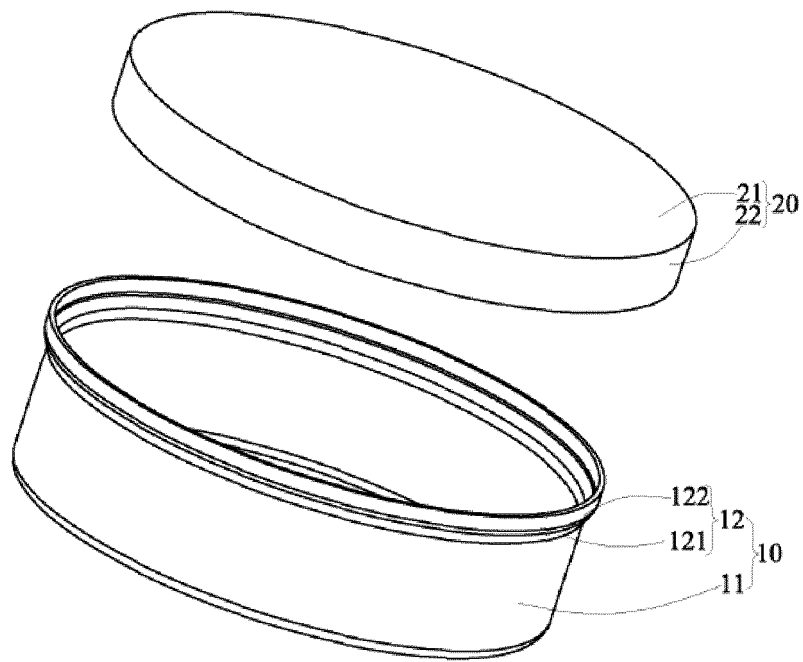


FIG. 1

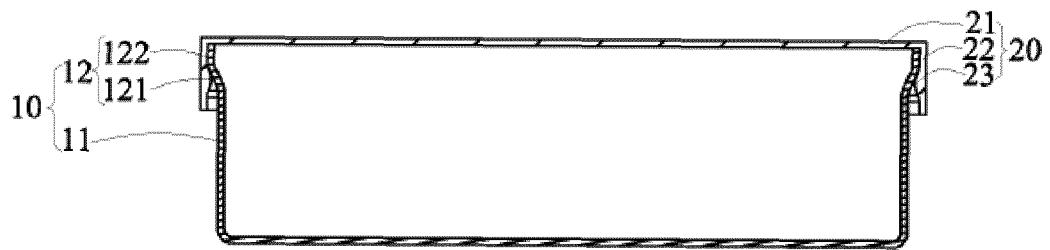


FIG. 2

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2019/113704

A. CLASSIFICATION OF SUBJECT MATTER B65D 43/02(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) VEN, CNABS, CNKI: 杯, 盒, 容器, 盖, 扣, 卡, 凸缘; cup, bowl, case, box, container, cap, lid, cover, lock, flange, rim;																
C. DOCUMENTS CONSIDERED TO BE RELEVANT																
<table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>PX</td> <td>CN 209427328 U (JIANGSU BE GREEN PACKAGING CO., LTD.) 24 September 2019 (2019-09-24) claims 1-5</td> <td>1-5</td> </tr> <tr> <td>X</td> <td>US 4298133 A (SWEETHEART PLASTICS, INC.) 03 November 1981 (1981-11-03) description, columns 1-3, and figures 1-3</td> <td>1-5</td> </tr> <tr> <td>A</td> <td>KR 20160033086 A (3WAYTECHNOLOGY CO., LTD. et al.) 25 March 2016 (2016-03-25) entire document</td> <td>1-5</td> </tr> <tr> <td>A</td> <td>US 3904074 A (SCOTT PAPER COMPANY) 09 September 1975 (1975-09-09) entire document</td> <td>1-5</td> </tr> </tbody> </table>	Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	PX	CN 209427328 U (JIANGSU BE GREEN PACKAGING CO., LTD.) 24 September 2019 (2019-09-24) claims 1-5	1-5	X	US 4298133 A (SWEETHEART PLASTICS, INC.) 03 November 1981 (1981-11-03) description, columns 1-3, and figures 1-3	1-5	A	KR 20160033086 A (3WAYTECHNOLOGY CO., LTD. et al.) 25 March 2016 (2016-03-25) entire document	1-5	A	US 3904074 A (SCOTT PAPER COMPANY) 09 September 1975 (1975-09-09) entire document	1-5	
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☐ 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 02 January 2020	Date of mailing of the international search report 22 January 2020															
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2019/113704

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
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