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

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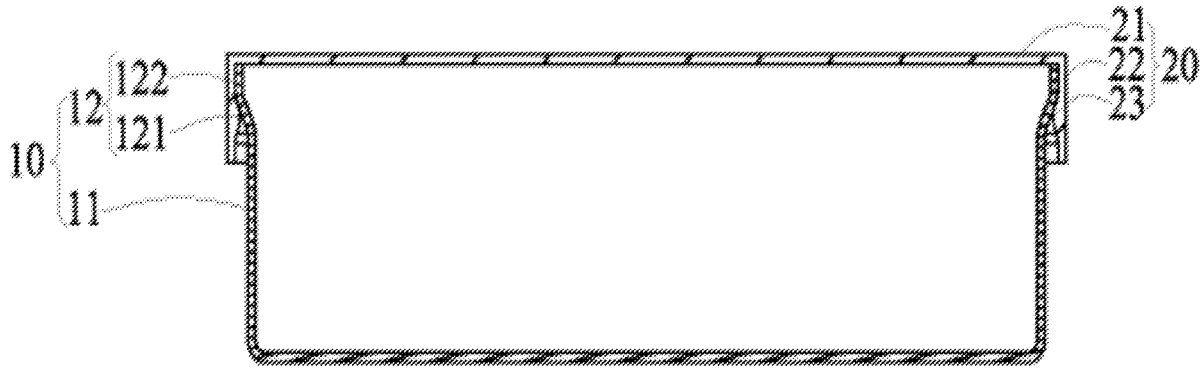
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(57) **ABSTRACT**

A snap-fitting structure comprising a container and cover each made of paper, plastic, or a combination of both. In one embodiment, the cover includes a cover bottom and a cover wall extending out of an edge of the cover bottom, wherein a flange is disposed on an inner side wall of the cover wall, and the flange and the cover bottom are arranged at an interval. In this embodiment, the container may include a container body and a clamping portion extending out of an edge of the container body, the clamping portion comprising a connecting portion connected to the container body and a clamp ring extending out of the connecting portion. In a cross section along a central axis of the container body, the angle between a contour line of the connecting portion and the central axis of the container body is an acute angle and a contour line of the clamp ring is parallel to the central axis of the container body. Further, an outer diameter of the clamp ring is equivalent to an inner diameter of the cover wall, and the clamp ring is capable of being flexibly positioned between the flange and the cover bottom when the cover is disposed over and fitted to the container.



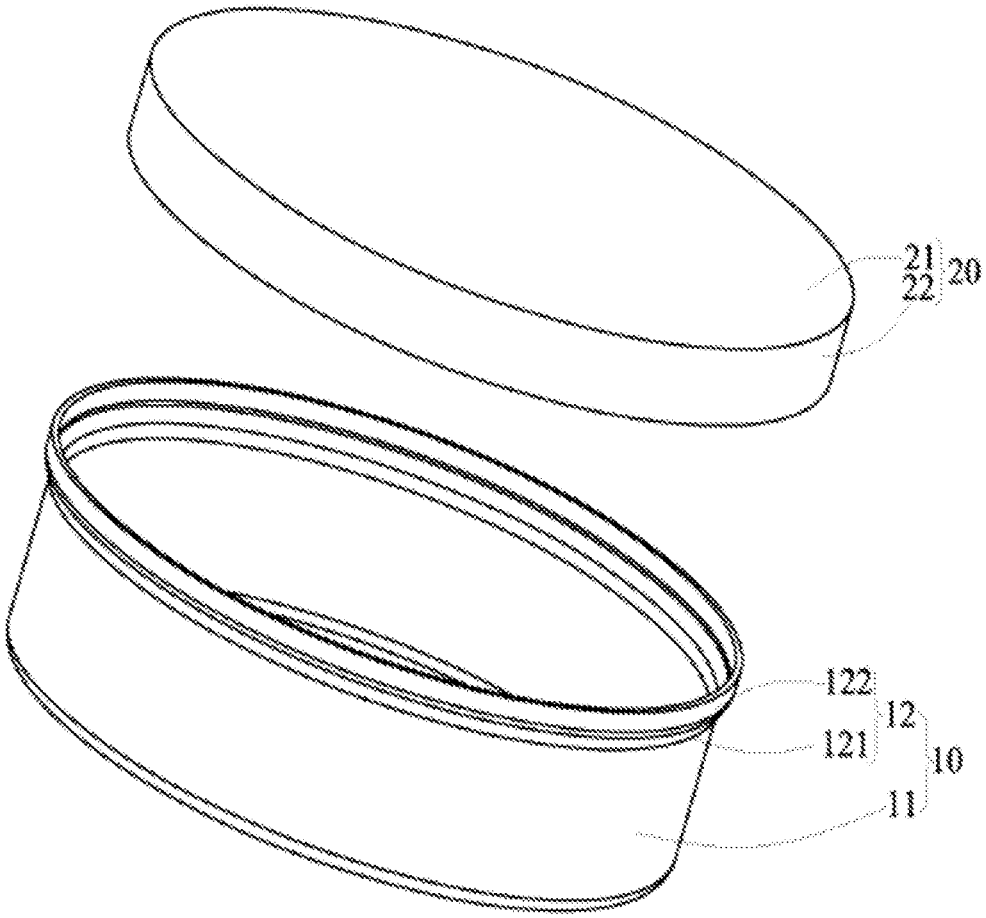


FIG. 1

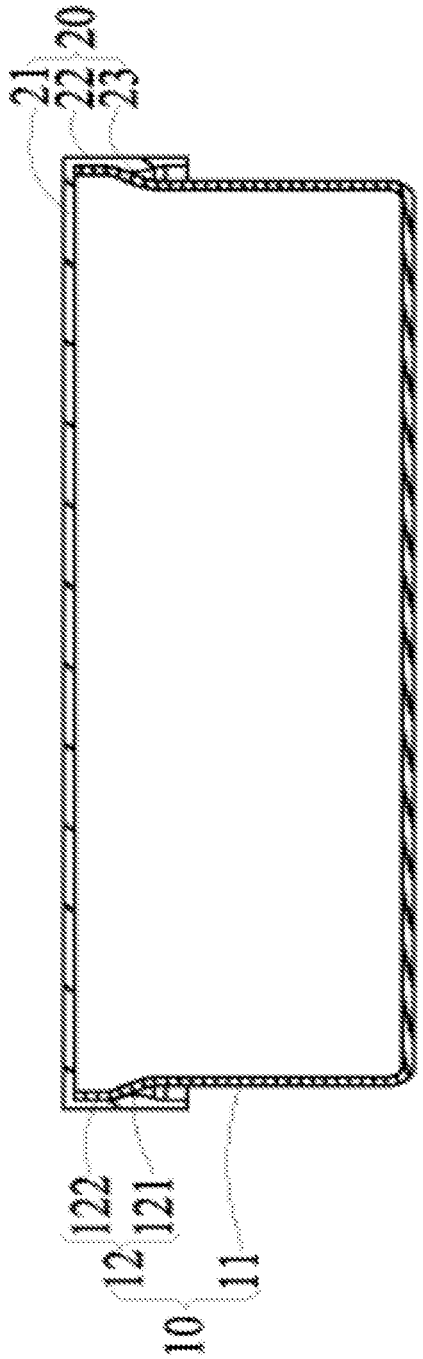


FIG. 2

SNAP-FITTING STRUCTURE OF PAPER AND PLASTIC CONTAINER

RELATED APPLICATIONS

[0001] This application claims priority to PCT International Application No. PCT/CN2019/113704, filed on Oct. 28, 2019, and Chinese Patent Application No. 201821765785.1, filed on Oct. 29, 2018, both of which are incorporated herein by reference in their entirety.

TECHNICAL FIELD

[0002] The description pertains to the technical field of packaging, and particularly relates to a snap-fitting structure of paper and plastic container.

BACKGROUND ART

[0003] 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.

[0004] At present, many items have begun to use environmentally friendly paper material, such as hand bags and milk bags. Judging from hardness and moldability, paper material can 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

[0005] A snap-fitting structure includes a container and a cover each made of paper, plastic, or a combination thereof. The cover is configured to be disposed over and snap-fitted to the container. The container comprises a container body and a clamping portion extending out of the edge of the container body. The clamping portion comprises a connecting portion connected to the container body, and a clamp ring extending out of the connecting portion. In a cross section along a central axis of the container 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.

[0006] The cover comprises a cover bottom and a cover wall extending out of the edge of the cover bottom. A flange is disposed on the inner side wall of the cover wall. In one embodiment, the outer diameter of the clamp ring on the container body is equivalent to the inner diameter of the cover wall. And, the flange and the cover bottom are arranged at an interval, and the clamp ring on the container is positioned between the flange and the cover bottom when the cover is disposed over the container.

[0007] In another embodiment, the flange and a free end of the cover wall are arranged at an interval.

[0008] In yet another embodiment, in a cross section along a central axis of the body, the contour line of the flange is arc-shaped.

[0009] In another embodiment, the distance from the side wall of the container body to the clamp ring is equal to the height of the arc of the flange.

[0010] In another embodiment, 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.

[0011] In use, when the cover is disposed over the container, 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 moved beyond the flange, the clamp ring restores to its 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 are snap-fitted together and are not disengaged without an external force.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. **1** is a structural schematic view of a snap-fitting structure of paper and plastic container.

[0013] FIG. **2** is a cross-sectional structural schematic view of the snap-fitting structure of paper and plastic container in FIG. **1**.

DETAILED DESCRIPTION

[0014] Below a specific embodiment of the present utility model is further described in detail. It should be understood that the description of the embodiment is not intended to limit the protection scope of the present invention.

[0015] FIG. **1** and FIG. **2** are structural schematic views of a snap-fitting structure of paper and plastic container including a container or cup **10** and a cover **20** configured to be snap-fitted to the container **10**. It can be understood that the container **10** and the cover **20** both can be pressed from paper pulp or paper and plastic material.

[0016] The container **10** comprises a container body **11** and a clamping portion **12** extending out of the edge of the container 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 container 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.

[0017] The clamping portion **12** comprises a connecting portion **121** connected to the container body **11**, and a clamp ring **122** extending out of the connecting portion **121**. In a cross section along the central axis of the container body **11** (as shown in FIG. **2**), the included angle between the contour line of the connecting portion **121** and the central axis of the container body **11** is an acute angle, and the contour line of the clamp ring **122** is parallel to the central axis of the container body **11**.

[0018] In one embodiment, the cover **20** comprises a cover bottom **21**, a cover wall **22** extending out of the edge of the cover bottom **21**, and a flange **23** arranged on the inner side wall of the cover wall **22**. It is conceivable that the cover **20** may further comprise some other functional structures, such as a lifting handle and a jack. The cover bottom **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 container 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 bottom **21**. When the cover **20** is disposed over the container **10**, the clamp ring **122** is clamped between the flange **23** and the cover bottom **21**.

[0019] 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 container body **11**, the contour line of the clamp ring **122** is parallel to the central axis of the container 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 container 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 container body **11** to the clamp ring **122** is equal to the height of the arc of the flange **23**.

[0020] In use, the container **10** and the cover **20** have the clamping portion **12** and the flange **23** respectively. When the cover **20** is disposed over 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 **20** are fitted in a covering manner and are not disengaged without an external force.

[0021] 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.

1. A snap-fitting structure comprising a container and a cover, each of the container and cover made of paper, plastic, or a combination thereof;

wherein the cover comprises a cover bottom and a cover wall extending out of an edge of the cover bottom, wherein a flange is disposed on an inner side wall of the cover wall, and the flange and the cover bottom are arranged at an interval; and

the container comprises a container body and a clamping portion extending out of an edge of the container body, the clamping portion comprising a connecting portion connected to the container body and a clamp ring extending out of the connecting portion

wherein in a cross section along a central axis of the container body, the angle between a contour line of the connecting portion and the central axis of the container body is an acute angle, and

wherein a contour line of the clamp ring is parallel to the central axis of the container body; and

wherein an outer diameter of the clamp ring is equivalent to an inner diameter of the cover wall, and the clamp ring is capable of being flexibly disposed between the flange and the cover bottom when the cover is disposed over and fitted to the container.

2. The snap-fitting structure of claim **1**, wherein the flange and a free end of the cover wall are arranged at an interval.

3. The snap-fitting structure of 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 claim **3**, wherein the distance from the side wall of the container body to the clamp ring is equal to the height of the arc of the flange.

5. The snap-fitting structure of claim **1**, wherein in a direction along the central axis of the body, a height of the clamp ring is equal to the minimal distance from the flange to the cover bottom.

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