

DECORATIVE COVER AND BOTTLE COVER AND BOTTLE BODY

STRUCTURE COMPRISING THE DECORATIVE COVER

Related Application

- 5 **[0001]** The present application claims the priority of the Chinese utility model patent No. 201720443564.1 titled “DECORATIVE COVER AND BOTTLE COVER AND BOTTLE BODY STRUCTURE COMPRISING THE DECORATIVE COVER”.

Technical Field

- 10 **[0002]** The present invention relates to the technical field of food containers, and particularly, to a decorative cover and a bottle cover and a bottle body structure comprising the decorative cover.

Background Art

- 15 **[0003]** At present, there are a lot of bottled products in the market, especially those produced with standard bottle mouths. Due to the limitation of the production process, a bottle cover directly sealing a bottle is of little variability and cannot meet the diversified demands on the product appearance. Thus, a decorative cover appears in the commercially-available products, i.e., an external cover, which is also called as a
20 decorative cover, is added outside a sealing cover of the bottle. The main function of the decorative cover is to match the style design of the whole bottle and provide diversity for the product appearance.

- [0004]** In high speed production lines, usually, some water or liquid caused by the production process may remain on the bottle body or outside the sealing cover after the
25 bottle is sealed, and it cannot be completely removed even if a drying device is used in the production. If the decorative cover is added at that time, the water or liquid residue will be enclosed between the sealing cover and the decorative cover or remain between the bottle body and the decorative cover, so that during the shelf life of the product, the remaining moisture or liquid will produce an unpleasant odor, which directly affects the
30 product quality.

Summary of the Invention

- [0005]** A technical problem to be solved by the present invention is to provide a decorative cover having an air flow structure and capable of realizing an air circulation between the

decorative cover and a sealing cover or between the decorative cover and a bottle body to quickly dry the moisture, thereby solving the problem of the prior art that as an air circulation is absent due to the formation of a confined space between the decorative cover and the bottle body or the sealing cover, an undesirable odor is produced by the moisture or liquid residue.

[0006] Another technical problem to be solved by the present invention is to provide a bottle cover comprising the decorative cover.

[0007] Still another technical problem to be solved by the present invention is to provide a bottle body structure comprising the bottle cover.

[0008] In order to solve the above technical problems, the technical solutions of the present invention are as follows.

[0009] According to one aspect of the present invention, the present invention provides a decorative cover, comprising a cover body that comprises:

[0010] a top cover; and

[0011] an annular sidewall with waistlines shrinking inwards;

[0012] wherein the sidewall comprises:

[0013] an avoidance structure located on an inner surface of the sidewall for avoiding an edge of a support ring of a bottle body; and

[0014] grooves located at a bottom edge of the inner surface of the sidewall;

[0015] wherein a gap cavity is formed between the avoidance structure and a corresponding outer wall surface of the bottle body; and

[0016] wherein top portions of the grooves are in communication with the gap cavity, and bottom portions of the grooves are provided in communication with a bottom surface of the sidewall.

[0017] In addition, in a preferable solution, the cover body further comprises: an annular top buckle located at a top portion of the inner surface of the sidewall, the annular top buckle being provided on an inner surface thereof with a plurality of vertical stripe bulges along a circumferential direction of the annular top buckle.

[0018] In addition, in a preferable solution, an exhaust passage is formed between every two adjacent stripe bulges.

[0019] In addition, in a preferable solution, the cover body further comprises buckles which are provided on the inner surface of the sidewall along a circumferential direction of the sidewall and located between the annular top buckle and the avoidance structure.

[0020] In addition, in a preferable solution, the cover body further comprises top bridges

located at an edge of an inner surface of the top cover and uniformly arranged along a circumferential direction of the top cover.

[0021] In addition, in a preferable solution, the decorative cover is integrally injection-molded.

5 [0022] In addition, in a preferable solution, the avoidance structure is an annular concave portion recessed on the inner surface of the sidewall.

[0023] In addition, in a preferable solution, the avoidance structure is composed of a plurality of concave portions recessed on the inner surface of the sidewall and spaced apart in a circumferential direction.

10 [0024] In addition, in a preferable solution, the number of the concave portions is four.

[0025] In addition, in a preferable solution, the sidewall is provided on the inner surface thereof with a plurality of convex portions spaced apart in a circumferential direction, and the avoidance structure is formed between every two adjacent convex portions.

[0026] In addition, in a preferable solution, the number of the convex portions is four.

15 [0027] In addition, in a preferable solution, the avoidance structure is composed of a plurality of openings provided in the sidewall and spaced apart in a circumferential direction.

[0028] In addition, in a preferable solution, the number of the openings is four.

[0029] According to another aspect of the present invention, the present invention provides
20 a bottle cover, comprising a sealing cover, wherein the bottle cover further comprises a decorative cover according to any one of claims 1 to 13 covering outside the sealing cover; and the decorative cover is fixedly matched with the sealing cover.

[0030] According to still another aspect of the present invention, the present invention provides a bottle body structure comprising a bottle body with a bottle mouth, wherein
25 the bottle body structure further comprises the aforementioned bottle cover, and a sealing cover in the bottle cover is in a sealed connection with the bottle mouth of the bottle body.

[0031] The advantageous effects of the present invention are as follows.

[0032] As compared with the prior art, the decorative cover provided by the present
30 invention has the following advantages: through the above structure design of the decorative cover, an air circulation can be realized between the decorative cover and the sealing cover or the bottle body, so that the moisture or liquid remaining on the bottle body or the cover body of the sealing cover can be quickly dried; the decorative cover is integrated with the sealing cover, and consumers can open a product just by twisting the

decorative cover; even if the overall design of the decorative cover follows the shape of the bottle structure, the air circulation will not be blocked by the sealing between the decorative cover and the bottle mouth, and unpleasable odor will not be produced by the moisture or liquid remaining outside the bottle mouth of the product.

- 5 **[0033]** The outer cover and the bottle body structure comprising the outer cover provided by the present invention have the same advantages as the above decorative cover relative to the prior art, which are omitted herein.

Brief Description of the Drawings

- 10 **[0034]** Next, specific embodiments of the present invention will be further described in detail with reference to the accompanying drawings.

[0035] Fig. 1 illustrates a perspective view of a decorative cover according to a first embodiment of the present invention;

[0036] Fig. 2 illustrates a front view of the decorative cover according to the first
15 embodiment of the present invention;

[0037] Fig. 3 illustrates a bottom view of the decorative cover according to the present invention;

[0038] Fig. 4 illustrates an enlarged view of portion A in Fig. 2;

[0039] Fig. 5 illustrates a perspective view of a decorative cover according to a second
20 embodiment of the present invention;

[0040] Fig. 6 illustrates a cross-sectional view of a bottle body structure according to a second embodiment of the present invention;

[0041] Fig. 7 illustrates an enlarged view of portion B in Fig. 6;

[0042] Fig. 8 illustrates a perspective view of a decorative cover according to a third
25 embodiment of the present invention;

[0043] Fig. 9 illustrates a cross-sectional view of a bottle body structure according to a third embodiment of the present invention;

[0044] Fig. 10 illustrates an enlarged view of portion C in Fig. 9;

[0045] Fig. 11 illustrates a perspective view of a decorative cover according to a fourth
30 embodiment of the present invention;

[0046] Fig. 12 illustrates a cross-sectional view of a bottle body structure according to a fourth embodiment of the present invention;

[0047] Fig. 13 illustrates an enlarged view of portion D in Fig. 12;

Detailed Description of the Preferred Embodiments

[0048] In order to more clearly describe the present invention, further description of the present invention will be given as follows in conjunction with the preferred embodiments and the accompanying drawings. Similar parts in the accompanying drawings are denoted
5 with the same reference numerals. It should be understood by those skilled in the art that the following detailed description is illustrative rather than restrictive, and the protection scope of the present invention should not be limited thereby.

[0049] One aspect of the present invention is proposed to solve the problem in the prior art that as an air circulation is absent due to the formation of a confined space between the
10 decorative cover and the bottle body or a sealing cover, an undesirable odor is produced by the moisture or liquid residue. Referring to Figs. 1 to 4, the present invention provides a decorative cover, comprising a cover body 1; the cover body 1 comprises a top cover 11 and an annular sidewall 12 with waistlines shrinking inwards.

[0050] The sidewall 12 comprises an avoidance structure 121 located on an inner surface
15 of the sidewall 12 for avoiding an edge of a support ring of a bottle body and grooves 122 located at a bottom edge of the inner surface of the sidewall 12.

[0051] A gap cavity is formed between the avoidance structure 121 and a corresponding outer wall surface of the bottle body.

[0052] Top portions of the grooves 122 are in communication with the gap cavity, and a
20 bottom of the groove 122 is provided in communication with a bottom surface of the sidewall 12. Preferably, the decorative cover is integrally injection-molded.

[0053] In the present invention, when the decorative cover is provided over a sealing cover of the bottle body, a gap is left between the avoidance structure 121 on the sidewall 12 of the cover body 1 and a support ring inherent to a bottle mouth, and a gap cavity is formed
25 between the avoidance structure 121 and a corresponding outer wall surface of the bottle body, which avoids the formation of a confined space between the sidewall 12 of the cover body 1 and the bottle body, thereby realizing an air circulation between the decorative cover and the sealing cover or between the decorative cover and the bottle body, so that the remaining moisture is quickly dried. Further referring to Fig. 2, in this
30 embodiment, the avoidance structure is located below an end of an inwardly shrinking surface of the inner surface of the sidewall 12, so that a gap cavity for air circulation is formed between the inner surface of the sidewall 12 and the corresponding outer wall surface of the bottle body. Those skilled in the art can understand that on the basis of one of the invention objectives, i.e., an air circulation is possible between the decorative cover

and the bottle body, he may select and modify the structure of the cover body of the decorative cover, the shape and position of the avoidance structure on the cover body of the decorative cover, and the bottle body structure corresponding to the cover body of the decorative cover, based on the practical application needs, as long as the above objective is realized.

[0054] In addition, the design of the groove 122 also provides a passage for the air in the gap cavity to be exchanged with the outside air.

[0055] In addition, the cover body 1 further comprises an annular top buckle 2 located at a top portion of the inner surface of the sidewall 12, the annular top buckle 2 being provided on an inner surface thereof with a plurality of vertical stripe bulges 21 along a circumferential direction of the annular top buckle 2. The annular top buckle 2 functions to clamp an outer side of the sealing cover of the product when the cover body 1 is set over a sealed bottled product; and the stripe bulges 21 are employed to match the outer surface of the product, so as to open the product together with the annular top buckle 2 by twisting the decorative cover.

[0056] Further preferably, an exhaust passage 3 is formed between every two adjacent stripe bulges 21. Those skilled in the art can understand that a gap is left between an inner bottom surface of the exhaust passage 3 and an outer wall surface of the cover body of the sealing cover, so that the exhaust passage 3 exerts an exhaust function during the covering process of the cover body, and it also facilitates the air circulation between the cover body of the decorative cover and the sealing cover.

[0057] In order that the cover body of the decorative cover will not be easily pulled out in the vertical direction when it covers the sealed bottled product, the cover body 1 further comprises buckles 4 which are provided on the inner surface of the sidewall 12 along a circumferential direction of the sidewall 12 and located between the annular top buckle 2 and the avoidance structure 121; and when the sealed bottled product is covered by the cover body of the decorative cover, the buckles annularly clamps the outer wall surface of the sealing cover.

[0058] In addition, the cover body 1 provided by the present invention further comprises top bridges 5 located at an edge of an inner surface of the top cover 11 and uniformly arranged along a circumferential direction of the top cover 11. The top bridges 5 functions to form a cavity between the top of the sealing cover and the inner surface of the top cover 11 during the covering process of the cover body, which can buffer a convex creep of the sealing cover for any reason, and effectively buffer the air resistance

to the cover body during the covering process.

[0059] As a further improved embodiment, the bottom edge 123 of the sidewall 12 of the cover body 1 can be sized during practical applications. When the bottle is covered by the cover body, a gap is reserved between the bottom edge 123 and the bottle body to facilitate the air flow in the cover body in cooperation with the avoidance structure 121 and the groove 122.

[0060] In the first embodiment, as illustrated in Figs. 1 and 2, the avoidance structure 121 is an annular concave portion recessed on the inner surface of the sidewall 12. The annular concave portion can avoid the support ring of the bottle body, so that a gap cavity is formed between the annular concave portion and the corresponding outer wall surface of the bottle body to realize an air circulation. Preferably, as illustrated in Fig. 4, the annular concave portion presents a ramp in the axial direction.

[0061] In the second embodiment, as illustrated in Figs. 5 to 7, the avoidance structure 121 is composed of a plurality of concave portions 1211 recessed on the inner surface of the sidewall 12 and spaced apart in a circumferential direction. Specifically, the plurality of concave portions 1211 are equally spaced apart in the circumferential direction and recessed in the inner surface of the sidewall 12, and they can avoid the support ring of the bottle body so that a gap cavity is formed between each of the concave portions 1211 and a corresponding outer wall surface of the bottle body to realize an air circulation. When the number of the concave portions 1211 is equal to or less than the number of the grooves 122, each of the concave portions 1211 is axially opposite to one of the grooves 122 to facilitate the air circulation. Preferably, the number of the concave portions 1211 is four, and of course, any other suitable number may be set based on the practical needs.

[0062] In the third embodiment, as illustrated in Figs. 8 to 10, the sidewall 12 is provided on the inner surface thereof with a plurality of convex portions 1212 protruding and spaced apart in a circumferential direction, and the avoidance structure 121 is formed between every two adjacent convex portions 1212. Specifically, the convex portions 1212 are salient point or bumps; the plurality of convex portions 1212 protrude on the inner surface of the sidewall 12 and are equally spaced apart in the circumferential direction; and the avoidance structure between every two adjacent convex portions 1212 can avoid the support ring of the bottle body, so that a gap cavity is formed between the avoidance structure and the corresponding outer wall surface of the bottle body to realize an air circulation. Preferably, the convex portions 1212 and the grooves 122 are arranged unaligned with each other to facilitate the air circulation. Preferably, the number of

convex portions 1212 is four, and of course, any other suitable number may be set based on the practical needs.

[0063] In the fourth embodiment, as illustrated in Figs. 11 to 13, the avoidance structure 121 is composed of a plurality of openings 1213 provided in the sidewall 12 and spaced apart in a circumferential direction. Specifically, the plurality of openings are provided in the sidewall 12 and are equally spaced apart in the circumferential direction, and they can avoid the support ring of the bottle body, so that a gap cavity is formed between each of the openings 1213 and a corresponding outer wall surface of the bottle body to realize an air circulation. Preferably, each of the openings 1213 is axially aligned with one of the grooves 122 to facilitate the air circulation. Preferably, the number of the openings 1213 is four, and of course, any other suitable number may be set based on the practical needs.

[0064] According to another aspect of the present invention, the present invention further provides a bottle cover comprising a sealing cover; the bottle cover further comprises a decorative cover provided by the above embodiment covering outside the sealing cover, and the decorative cover is fixedly matched with the seaming cover. Those skilled in the art can understand that the matching relationship between the decorative cover and the sealing cover has been described in the implementations of the decorative cover and will not be repeated herein. However, it should be noted that the connection relationship and the matching relationship therebetween may be selected or modified by those skilled in the art based on practical needs.

[0065] According to still another aspect of the present invention, the present invention further provides a bottle body structure comprising a bottle body with a bottle mouth; the bottle body structure further comprises a bottle cover provided by the above embodiment, and a sealing cover in the bottle cover is in a sealed connection with a bottle mouth of the bottle body. In the structure design of the above decorative cover, the air circulation between the decorative cover and the bottle body is realized through the matching therebetween, so that the moisture or liquid remaining on the bottle body or the cover body of the sealing cover can be quickly dried. Those skilled in the art can understand that other structures of the bottle body of the present invention should be known to those of ordinary skill in the art and will not be further described herein.

[0066] Obviously, the above descriptions of the present invention are merely examples for clearly describing the present invention, rather than limitations to the embodiments of the present invention. For those of ordinary skill in the art, other variations or changes of different forms may be made on the basis of the above description. It is impossible to

exhaustively describe all the embodiments herein, and any obvious variations or changes brought about by the technical solutions of the present invention still fall within the protection scope of the present invention.

CLAIMS

1. A decorative cover, comprising a cover body that comprises:

a top cover; and

5 an annular sidewall with waistlines shrinking inwards;

wherein the sidewall comprises:

an avoidance structure located on an inner surface of the sidewall for avoiding an edge of a support ring of a bottle body; and

grooves located at a bottom edge of the inner surface of the sidewall;

10 wherein a gap cavity is formed between the avoidance structure and a corresponding outer wall surface of the bottle body; and

wherein top portions of the grooves are in communication with the gap cavity, and bottom portions of the grooves are provided in communication with a bottom surface of the sidewall.

2. The decorative cover according to claim 1, wherein the cover body further comprises:

15 an annular top buckle located at a top portion of the inner surface of the sidewall, the annular top buckle being provided on an inner surface thereof with a plurality of vertical stripe bulges along a circumferential direction of the annular top buckle.

3. The decorative cover according to claim 2, wherein an exhaust passage is formed between every two adjacent stripe bulges.

20 4. The decorative cover according to claim 2, wherein the cover body further comprises buckles which are provided on the inner surface of the sidewall along a circumferential direction of the sidewall and located between the annular top buckle and the avoidance structure.

25 5. The decorative cover according to claim 1, wherein the cover body further comprises top bridges located at an edge of an inner surface of the top cover and uniformly arranged along a circumferential direction of the top cover.

6. The decorative cover according to claim 1, wherein the decorative cover is integrally injection-molded.

7. The decorative cover according to claim 1, wherein the avoidance structure is an annular concave portion recessed on the inner surface of the sidewall.

30 8. The decorative cover according to claim 1, wherein the avoidance structure is composed of a plurality of concave portions recessed on the inner surface of the sidewall and spaced apart in a circumferential direction.

9. The decorative cover according to claim 8, wherein the number of the concave portions is four.

10. The decorative cover according to claim 1, wherein the sidewall is provided on the inner surface thereof with a plurality of convex portions protruding and spaced apart in a circumferential direction, and the avoidance structure is formed between every two adjacent convex portions.

5 11. The decorative cover according to claim 10, wherein the number of the convex portions is four.

12. The decorative cover according to claim 1, wherein the avoidance structure is composed of a plurality of openings provided in the sidewall and spaced apart in a circumferential direction.

10 13. The decorative cover according to claim 12, wherein the number of the openings is four.

14. A bottle cover comprising a sealing cover, wherein the bottle cover further comprises a decorative cover according to any one of claims 1 to 13 covering outside the sealing cover, and the decorative cover is fixedly matched with the sealing cover.

15 15. A bottle body structure comprising a bottle body with a bottle mouth, wherein the bottle body structure further comprises a bottle cover according to claim 14, and a sealing cover in the bottle cover is in a sealed connection with the bottle mouth of the bottle body.