INSULATING SLEEVE FOR CONTAINERS

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Abstract

A container having a sidewall, a folding closure, and a sleeve each formed from a one-piece blank. Also disclosed is a sleeve configuration having a plurality of vents and spacers for locating the vents in a spaced apart orientation relative to a container sidewall.
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CROSS-REFERENCE-TO-RELATED-APPLICATION

[0001] This is a continuation-in-part of co-pending U.S. application Ser. No. 12/105,725 filed Apr. 18, 2008, and entitled CONTAINER WITH FOLDING LID, incorporated herein by reference in its entirety.

FIELD

[0002] This disclosure relates to the field of containers. More particularly, this disclosure relates to sleeve structures for containers which enhance user comfort.

BACKGROUND

[0003] Disposable cups of the type used for the sale of coffee and the like typically have three components: a cup, a lid, and an insulating sleeve. The use of three separate components for a cup has logistic problems and other disadvantages. For example, an inventory of each component in identical amounts must be maintained. Also, the lids often fall off or leak and have various problems. Also, the sleeves desire improvement, as they typically are of corrugated paperboard construction and attempt to insulate by providing dead air space. Such sleeves can become hot to the touch and have other disadvantages.

[0004] In this regard, improvement is desired not only in the construction of sleeves, but in the provision of a substantially unitary cup that includes the cup, the lid, and the sleeve integral to one another.

SUMMARY

[0005] The above and other needs are met in one aspect by a container which includes a sidewall, a folding closure, and a sleeve each formed from a one-piece blank. The folding closure is located adjacent an upper edge of the blank adjacent the sidewall and is configured to provide a substantially open passage in an unfolded orientation and to provide a substantially closed structure in a folded orientation. The sleeve extends from the blank and is configured for wrapping about an exterior portion of the sidewall.

[0006] In another aspect of the disclosure, a sleeve is provided that is made of a sheet material having a plurality of vents extending between opposite interior and exterior surfaces. A plurality of spacers extend from the interior surface of the sleeve and space the interior surface of the sleeve a desired distance from the exterior surface of the container. This advantageously provides a gripping surface that is thermally isolated form the sidewall and promotes air circulation to maintain the sleeve at a comfortable temperature for the user.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] Further advantages of the disclosure are apparent by reference to the detailed description when considered in conjunction with the figures, which are not to scale so as to more clearly show the details, wherein like reference numbers indicate like elements throughout the several views, and wherein:

[0008] FIG. 1 is a perspective view of a container according to a preferred embodiment of the disclosure shown in a closed condition.

[0009] FIG. 2 is a blank for providing the sidewall and lid of the container of FIG. 1.

[0010] FIG. 3 is a blank for providing the bottom of the container of FIG. 1.

[0011] FIG. 4 shows the container as initially formed with an open-top.

[0012] FIGS. 5-8 show steps in folding the lid of the container of FIG. 1 to provide the closed top condition.

[0013] FIGS. 9 and 10 are opposite side views of the lid of the container of FIG. 1 in the closed condition.

[0014] FIG. 11 is a perspective view of the cup of FIG. 1 having an outer sleeve according to another embodiment of the disclosure.

[0015] FIG. 12 is a perspective view of a preferred sleeve configuration.

[0016] FIG. 13 shows a blank for providing a cup having a desired folding closure and a sleeve according to the disclosure.

DETAILED DESCRIPTION

[0017] With initial reference to FIGS. 1-10, in one aspect the disclosure relates to a container 10 having a sidewall 12 and a folding closure or lid 14 both formed from a one-piece blank 16 (FIG. 2). Another aspect of the disclosure relating to a sleeve structure is described in connection with FIGS. 11-13.

FIGS. 1-10

[0018] The sidewall 12 may also be used to provide a bottom or other enclosing surface needed for the lid 14. However, to provide a bottom 18 to the container 10 that supports the container 10 in an upright orientation, it is preferred to use a separate blank 20 to provide the bottom 18. It will also be understood that the blank 20 or other structure for forming the bottom 18 may be included with the blank 16 so as to have a container made of a single blank. Likewise multiple blank sections may be used and joined. Additionally, while described in connection with the preferred embodiment of providing a disposable container, it will be understood that the containers may alternatively be reusable.

[0019] With reference to FIG. 2, the blank 16 is a one-piece blank made of a foldable sheet material, such as paperboard material of the type conventionally used in the manufacture of paper cups. The blank 16 may be made of other sheet materials, including plastics of the type used to make plastic cups. The blank 16 described herein is configured for making the container 10 in the shape of a drinking cup. However, it will be understood that the container 10 (and hence the blank 16) may be otherwise shaped, yet still provide the desired configuration of the folding closure 14. For example, the container 10 may be configured such that the sidewalls provide a generally square or rectangular configuration. The containers may be suitable for a variety of uses, such as serving and storing consumables and non-consumables.

[0020] To render the container 10 such that the sidewall 12 provides a generally tapered cylindrical structure, the blank 16 is shaped to have a bottom edge 22, an upper edge 24, and a pair of opposite side edges 26 and 28. The bottom edge 22 and the upper edge 24 are preferably upwardly bowed, that is the bottom edge 22 bowing toward the upper edge 24 and the upper edge 24 is similarly bowed away from the bottom edge 22 and parallel thereto. The side edges 26 and 28 are linear and extend from each end of the bottom edge 24 to the upper edge 24. However, the length of the bottom edge 22 is less than the length of the upper edge 24, such that the side edges
26 and 28 are not parallel. Thus, when the side edges 26 and 28 are overlapped when forming the blank 16 into the container 10, the sidewall 12 will resemble a tapered cylinder in shape. Dashed line 30 on the blank 16 indicates an area that is overlapped by the opposite side as the blank is wrapped into a cone shape. The area defined between the edge 26 and the line 30 may also include a glue or adhesive to seal the overlapped portions together if desired. In this regard, however, it will be understood that the edges 26 and 28 may be joined and sealed using conventional cup making techniques and equipment.

[0021] To provide the desired folding closure or lid 14, portions of the blank 16 adjacent the upper edge 24 are configured to include generally longitudinal fold segments 32a-32f, generally lateral fold segments 34a-34f, and angled fold segments 36a-36h. The fold segments described herein are desirably formed using automated machinery of the type commonly used for making paperboard or other sheet material blanks, and the container 16 thereafter formed using automated machinery of the type commonly used for converting blanks into containers.

[0022] The fold segments 32a-32f, 34a-34f, and 36a-36h cooperate to enable formation of the lid 14 into the closed orientation as seen in FIGS. 1 and 7-9 to define opposed and substantially lateral lid sections 38a-38b and opposed and substantially gabled lid sections 40a-40b located between the lateral lid sections 38a and 38b. The gabled lid sections 40a and 40b of the closed lid are linearly aligned and abut one another in an end-to-end relationship, with the lateral lid sections 38a and 38b linearly aligned with one another and abutting opposite sides of the gabled lid sections 40a and 40b. As will be noted, the lateral lid section 38a abuts both of the gabled lid sections 40a and 40b on one side thereof, and the lateral lid section 38b abuts both of the gabled lid sections 40a and 40b on the opposite side. Thus, the integrity of the closed orientation is maintained by the cooperating orientations of the gabled sections and the lateral sections.

[0023] As used herein, the term “substantially lateral” will be understood to mean that the lid sections 38a and 38b are positioned generally laterally relative to the sidewall 12. Thus, while the lid sections 38a and 38b may have a somewhat curved surface or a planar surface, each lies generally laterally relative to the sidewall 12 when the lid 14 is assembled to substantially enclose the container 10. The term “substantially gabled” will be understood to mean that the lid sections 40a and 40b include a generally triangular raised portion.

[0024] Fold segments 32a-32f are oriented to be substantially parallel to the length of the blank 16 and the side edges 26 and 28 of the blank 16. Each fold segment 32a-32f extends to the upper edge 24 to an intersection with one of the lateral fold segments 34a-34f. The fold segments 32a-32f are preferably substantially linear folds or creases formed on the blank 16 with the made so that the fold segment is oriented to be outward of the adjacent material portions of the blank 16.

[0025] Fold segments 34a-34f are oriented to be substantially parallel to the width of the blank 16 and the bottom edge 22 and the upper edge 24 of the blank 16. The fold segments 34a-34f are formed such that the segments of the upper edge 24 of the blank 16 extend generally toward the center of the container 10. As shown, the segments 34a-34f are generally scalloped or arcuate folds, however, it will be understood that they may also be linear folds. The use of arcuate folds is preferred for the segments 34a-34f to provide additional aesthetic appearance features to the lid 14 and also to provide generally curved surfaces 42 and 44 on the lid 14 which have been observed to offer surfaces comfortable to the mouth of a user when the container 10 serves as a drinking cup. In this regard, it is desirable to provide a perforated location that may be removed to define a slot or aperture 46 on one or both of the surfaces 42 or 44, for facilitating drinking of a beverage from the container 10. In addition, a perforated location may be provided to define an aperture 48 configured for accepting a straw or the like.

[0026] The fold segments 36a-36h are each preferably linear folds oriented to extend diagonally from the upper edge 24 to the intersection of two of the lateral fold segments 34a-34f and one of the longitudinal fold segments 32a-32f. For example, the segment 36a extends diagonally at an angle of approximately 45 degrees to the intersection of the lateral segments 34a and 34b and the longitudinal segment 32a. As will be noted (FIG. 2), the closure 14 is void of any of the fold segments 36a-36h intermediate at least one pair of adjacent and spaced apart ones of the fold segments 32a-32f. For example, no diagonal fold segments are located between the pair of adjacent and spaced apart fold segments 32c and 32d, which enables forming of the lateral lid section 38b.

[0027] With reference to FIG. 3, the blank 20 is a one-piece blank made of a foldable sheet material in the manner of the blank 16. The blank 20 includes a substantially circular portion 50 having a plurality of tabs 52 extending outwardly therefrom. In the manufacture of the container 10, the blank 20 is married with the blank 16 to form the container 10 as provided in an open top configuration, such as shown in FIG. 4, which provides a substantially open passage to the interior of the container 10 that facilitates loading of contents into the container. Also, the container 10 in the open top configuration of FIG. 4 may be readily stacked with a plurality of like containers for shipping, storage, and dispensing, for example, in a retail store or fast food setting.

[0028] To use the container 10, a user will obtain the container in the open configuration of FIG. 4 and fill the container through the open passage with a desired material, such as a beverage. In this regard, the container 10 may desirably include indicia, such as a fill line indicated by dashed line 54 to indicate a desired full level of the container 10 that cooperates with the lid 14. Next, the container 10 is configured as shown in FIGS. 5-8 to fold the segments 32a-32f, 34a-34f, and 36a-36h to form the lid 14 into the closed orientation as seen in FIGS. 1 and 7-9 and form the lid sections 38a-38b and 40a-40b.

[0029] With reference now to FIGS. 5-8, steps are shown in forming the lid 14. Beginning with FIG. 5, the sheet material is initially creased or folded about the fold lines 32b and 32e to define triangular portions 54 and 56 formed by the abutting triangular sections of the sheet material on opposite sides of the fold lines 32b and 32e, respectively.

[0030] Next, as shown in FIG. 6, the sides of each triangular portion 54 and 56 are urged together and pressure applied to fold the triangular portions 54 and 56 toward one another in directions toward the center of the container 10. As the triangular portions 54 and 56 are urged toward one another, folding occurs along the remaining fold segments to the point as shown in FIG. 7 that a lower corner of each of the triangular portions 54 and 56 abut one another.

[0031] Next, as seen in FIG. 8, the triangular portions 54 and 56 are urged further until innermost edges 54a and 56a,
respectively, bear against one another and are substantially aligned with longitudinal axis L of the container 10 (FIG. 9) to form the gabled lid sections 40a and 40b, with the lateral lid sections 38a and 38b being simultaneously formed to render the lid 14 in the closed condition (FIG. 10). Thus, the gabled lid sections 40a and 40b of the closed lid are linearly aligned and abut one another in an end-to-end relationship, with the lateral lid sections 38a and 38b linearly aligned with one another and abutting opposite sides of the gabled lid sections 40a and 40b.

[0032] It has been observed that the frictional end-to-end interface of the edges 54a and 56a reinforced by the abutting lateral lid sections 38a and 38b serves to maintain the lid 14 in the closed condition even when the container 10 is squeezed, tipped over, or dropped, with vastly improved resistance to leakage or spilling as compared to conventional container lids under similar conditions. For example, if the container 10 is dropped and lands on its side, then some minor spillage may occur if the container is substantially full through joints of the lid 14. However, it has been observed that the lid 14 typically remains substantially intact and that in less than full conditions very little spillage occurs since the joints are located proximate the center of the lid 14. Conversely, as will be appreciated, conventional lids seat around the perimeter of the container and upon the container being squeezed, dropped or tipped. Thus, when the seating of the lid is disrupted at any point around the perimeter, leakage readily occurs at such location and the lid typically becomes completely unseated and falls off, leaving no blockage to spilling.

FIGS. 11-13

[0033] With reference to FIGS. 11-13, there is shown a container 60 having a sidewall 62, a folding closure or lid 64, and a comfort sleeve 66. The sidewall 62 and the lid 64 are substantially identical to the sidewall 12 and lid 14 described in connection with the container 10. The sleeve 66 may be wholly independent and slipped around the sidewall 62, such as shown in FIG. 12. However, in a preferred embodiment, the sidewall 62, lid 64 and sleeve 66 are each formed from a one-piece blank 68 (FIG. 13). The container 60 is shown configured as a cup, but, as described in connection with the container 10, the container 60 may likewise have different configurations.

[0034] With reference to FIG. 12, the sleeve 66 is made of the same material as the sidewall 62 and lid 64, which as described in connection with the container 10, is a foldable sheet material, such as paperboard material of the type conventionally used in the manufacture of paper cups, plastics of the type used to make plastic cups, and the like. This sleeve 66 advantageously provides a gripping surface that is thermally isolated from the sidewall 62 and which promotes air circulation to maintain the exterior surface of the sleeve 66 at a comfortable temperature for the user.

[0035] The sleeve 66 is configured to substantially surround a portion of the sidewall 62. The sleeve 66 preferably completely encircles the sidewall 62, but may also only partly encircle the sidewall 62. In this regard the sleeve 66 is dimensioned so as to provide coverage of the sidewall 62 sufficient so that when a palm of the hand of a user grasps the container 60, the sleeve 66 is grasped for enhanced comfort to the user as compared to that experienced by grasping the sidewall 62. For example, the container 60 is configured as a cup that may contain hot or cold beverages and if the user grasped the sidewall 62, the heat or coldness of the beverage would be readily experienced by the palm of the user which may bring discomfort.

[0036] To provide the desired comfort attributes to a user, the sleeve 66 is structured to be spaced apart from the sidewall 62 when installed on the container 60 and to promote air flow in the space between the sidewall 62 and the sleeve 66. In this regard, the sleeve 66 is configured to include a plurality of vent apertures 70 each having an associated standoff or spacer 72 so that each of the vent apertures 70 is spaced a desired distance from the sidewall 62 to provide sufficient clearance for cooperating with the vent apertures 70 to provide desired venting characteristics.

[0037] The vent apertures 70 may be of a unitary shape or may be of different shapes, it being preferred that each of the vent apertures is dimensioned sufficiently small so that skin of the user does not pass through the apertures and possibly contact the sidewall 62. It is also desirable to configure and arrange the vent apertures 70 to provide an aesthetically pleasing appearance, such as shown. For the purpose of example, the vent apertures 70 may be configured as triangles, crescents, squares, stars, and the like. In this regard, the apertures 70 are preferably formed as by punching out the desired aperture shape, with a portion of the punched out shape remaining attached to provide the spacer 72. This preferred construction reduces waste and economically provides the desired structure.

[0038] For example, the vent apertures 70 as shown in FIG. 12 are provided by punching the apertures 70 as D-shaped apertures and folding the punched material to provide the spacers 72. The D-shaped apertures have a greatest dimension of from about $\frac{1}{4}$ to about $\frac{1}{2}$ inch, and the spacers 72 provided by the punched material spaces the exterior surface of the sleeve 66 from about $\frac{1}{16}$ to about $\frac{1}{8}$ inch from the sidewall 62 of the container 60. This arrangement of utilizing the punched material as the spacers 72 is also advantageous in that each of the vent apertures 70 is provided with one of the spacers 72 such that the sleeve 66 is uniformly spaced from the sidewall 62. This arrangement is also advantageous so that the sidewall 62, lid 64, and sleeve 66 may be provided together in the single blank 68.

[0039] With reference to FIG. 13, the blank 68 is substantially similar to the blank 16 described previously, except that the blank 68 further includes an extension 74 configured to provide the sleeve 66. To provide the container 60, the blank 68 may be manipulated in the same manner as previously described for the blank 16 in connection with providing the container 10, and married with the bottom blank 20. However, additionally, the extension 74 is wrapped about the assembled sidewall 62 and secured to itself or to a portion of the sidewall 62 by use of an adhesive. The blank 68 may likewise be assembled into the container 60 as by use of automatic container making machinery.

[0040] As will be appreciated, the sleeve 66 offers improved construction and avoids hot or cold spots that can be uncomfortable to a user. In addition, having a blank that includes a cup sidewall, a folding closure, and a sleeve avoids the need for maintaining separate inventories, simplifies storage and shipping, and provides a unitary configuration that may be manufactured of a single recyclable material, such as paperboard or recyclable plastic.

[0041] The foregoing description of preferred embodiments for this disclosure has been presented for purposes of illustration and description. It is not intended to be exhaustive
or to limit the disclosure to the precise form disclosed. Obvious modifications or variations are possible in light of the above teachings. The embodiments are chosen and described in an effort to provide the best illustrations of the principles of the disclosure and its practical application, and to thereby enable one of ordinary skill in the art to utilize the disclosure in various embodiments and with various modifications as are suited to the particular use contemplated. All such modifications and variations are within the scope of the disclosure as determined by the appended claims when interpreted in accordance with the breadth to which they are fairly, legally, and equitably entitled.

1. A container, comprising a sidewall, a folding closure, and a sleeve each formed from a one-piece blank, the folding closure being located adjacent an upper edge of the blank adjacent the sidewall and being configured to provide a substantially open passage in an unfolded orientation and to provide a substantially closed structure in a folded orientation, the sleeve having an edge extending from the blank and configured for wrapping about an exterior portion of the sidewall, the sleeve comprising a sheet material having a plurality of vents extending between opposite interior and exterior surfaces, and a plurality of spacers which extend from the interior surface of the sleeve and include a free portion folded toward the interior surface of the sleeve for spacing the interior surface of the sleeve a desired distance from the exterior sidewall of the container.

2. The container of claim 1, wherein the blank comprises a cardboard blank.

3. The container of claim 1, wherein the blank comprises a plastic blank.

4. The container of claim 1, wherein the container comprises a cup and further includes a bottom opposite the folding closure.

5. (canceled)

6. (canceled)

7. A one-piece container blank, comprising a foldable sheet material having a foldable closure portion, a sidewall portion, and a sleeve portion positionable adjacent an exterior surface of the sidewall portion when the blank is formed into a container, the sleeve portion extending from the sidewall portion and having a plurality of vents extending between opposite interior and exterior surfaces, and a plurality of spacers which extend from the interior surface of the sleeve and include a free portion which is folded toward the interior surface of the sleeve for spacing the interior surface of the sleeve a desired distance from the exterior sidewall of the container.

8. (canceled)

9. (canceled)

10. A sleeve for positioning adjacent an exterior sidewall of a container, the sleeve comprising a sheet material having a plurality of vents extending between opposite interior and exterior surfaces, and a plurality of spacers extending from the interior surface of the sleeve and configured for spacing the interior surface of the sleeve a desired distance from the exterior sidewall of the container, wherein the sleeve is independent of the sidewall of the container and is installed by slipping around the sidewall.

11. The sleeve of claim 10, wherein the vents comprise open areas defined by portions of the sleeve that are punched out of the sheet material and the spacers comprise the portions of the sleeve that are punched out and which have been folded towards the interior surface of the sleeve.

12. A container, comprising a sidewall, a folding closure, and a sleeve each formed from a one-piece blank, the folding closure being located adjacent an upper edge of the blank adjacent the sidewall and being configured to provide a substantially open passage in an unfolded orientation and to provide a substantially closed structure in a folded orientation, the substantially closed structure including a pair of gabled lid sections and a pair of lateral lid sections oriented to be linearly aligned with one another and each abutting opposite sides of the gabled lid sections, wherein an edge of the sleeve extends from the blank and the sleeve is configured for wrapping about an exterior portion of the sidewall.

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