(54) Title: BEVERAGE CONTAINER INSULATOR

(57) Abstract: An insulator (10, 110) for a beverage container (12) includes an insulating shell (16, 116) including a closed base (38, 138) and a body (40) extending from the base and terminating in an open end (42, 142), and a seal (18) or glass bead (118) that may be in complete circumferentially continuous contact with the shell and the container.

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The present disclosure is directed to a device to help maintain a cool temperature in a beverage container after the container has been removed from a chilling environment.

**Background and Summary of the Disclosure**

A general object of the present disclosure is to provide an insulator to carry a beverage container and a seal between the container and the insulator to establish a sealed insulating air pocket therebetween, so as to maintain a desired temperature of a beverage in the container.

The present disclosure embodies a number of aspects that can be implemented separately from or in combination with each other.

A glass insulator for a beverage container in accordance with one aspect of the present disclosure includes an insulating shell including a closed base and a body extending from the base and terminating in an open end, and a seal coupled to the shell. The seal includes an axial rim, a radially outer flange extending from the rim in contact with an external portion of the open end, a radially inner flange spaced radially inwardly of the outer flange and extending from the rim in contact with an internal portion of the open end, and a lip extending radially and axially inwardly from the rim.

In accordance with another aspect of the present disclosure, a package includes a bottle having a body, a shell having an open end and a sidewall, and an annular fitment having a slot secured by snap fit to the open end of the shell, and a radially inwardly extending flexible resilient lip sized to permit insertion of the bottle body through the fitment into the shell with the lip in engagement with an exterior surface of the body.
In accordance with a further aspect of the present disclosure, a beverage server includes a glass bottle having a base, a body extending from the base, a shoulder extending from the body, and a neck extending from the shoulder. The server also includes an insulator including a glass shell having a closed base and a body extending from the base and terminating in an open end, and carrying the glass bottle therein such that the base of the insulator carries the base of the bottle. The server further includes a glass bead in complete circumferentially continuous contact with the open end of the glass shell and at least one of the bottle shoulder or the bottle body to establish a sealed insulating air-pocket between the insulator and the bottle.

**Brief Description of the Drawings**

The disclosure, together with additional objects, features, advantages and aspects thereof, will best be understood from the following description, the appended claims and the accompanying drawings, in which:

FIG. 1 is an elevational view of a beverage server including a container and an insulator in accordance with an illustrative embodiment of the present disclosure;

FIG. 2 is an elevational view similar to that of FIG. 1 but showing the server in section;

FIG. 3 is a fragmentary exploded perspective view of the server of FIGS. 1-2, taken from circle 3 of FIG. 2; and

FIG. 4 is a cross-sectional elevational view of a beverage server including a container and an insulator in accordance with another illustrative embodiment of the present disclosure.
Detailed Description of Preferred Embodiments

FIG. 1 illustrates a beverage server 10 in accordance with an illustrative embodiment of the present disclosure as including an assembly of a container 12 and an insulator 14 coupled to the container 12. The insulator 14 includes an insulator shell 16 carrying the container 12, and an annular fitment 18 coupled to the shell 16. The fitment 18 may be a seal for sealing between the shell 16 and the container 12 to establish a sealed insulating air pocket 13 (FIG. 2) therebetween, so as to maintain a desired temperature of a beverage in the container 12.

With reference to FIG. 2, the container 12 may be a bottle that may be composed of glass, and that may have a base 20, a sidewall or body 22 extending from the base 20 in a direction along a longitudinal axis A of the container 12, a shoulder 24 extending from the body 22, a neck 26 extending from the shoulder 24, and a neck finish 28. The base 20 may be circular and may include a push-up 34. Likewise, the body 22 may be circular in transverse cross section, and may include a recessed label surface or panel 36. The body 22 may include exterior surfaces 35, 37 on either axial side of the label panel 36. The shoulder 24 may include an incurvate portion 24a adjacent the body 22 and an incurvate portion 24b between the incurvate portion 24a and the neck 26. The neck finish 28 may include a capping flange 30 and/or any suitable closure engagement feature(s) 32. As such, the container 12 may be part of a package that may include a beverage (not shown) carried in the container 12, and a cap or other closure (not shown) that may be coupled to the closure engagement feature(s) 32. The particular geometry of the container 12 illustrated in the Figures is illustrative only.

The insulator shell 16 may be composed of glass, for example, a soda lime silica glass or a borosilicate glass. The shell 16 includes a base 38, a hollow body 40 extending from the base 38
and terminating in an open end 42. The base 38 may correspond to the base 20 of the container 12, and for example, may include a push-up 44 that may correspond to the container push-up 34. The open end 42 may include a bead 46 for coupling to the fitment 18. Although only one external bead is illustrated, the shell 16 may include any suitable quantity of such beads, which may project radially outwardly (as shown) and/or radially inwardly.

The fitment 18 may include an axial rim 48, a radially outer flange 50 extending from a lower portion of the rim 48, and a radially inner flange 52 spaced radially inwardly from the outer flange 50 and extending from the lower portion of the rim 48. The rim 48 may be configured and sized for firm coupling over the open end 42 of the shell 16 and, for instance, may include a slot established by the flanges 50, 52 and that may be secured by snap-fit to the open end 42 of the shell 16. For example, the radial space between the flanges 50, 52 may be less than the wall thickness of the shell 16. Also, in the illustrated embodiment, the outer flange 50 may include a radially inwardly extending internal bead 56 for snap-fit engagement over the external bead 46 of the shell 16. In other embodiments, the inner flange 52 may include a radially outwardly extending bead (not shown) for snap-fit engagement within a radially inwardly extending bead (not shown) of the shell 16. Any other suitable arrangement of interengaging beads or the like may be used for snap-fit engagement of the fitment 18 to the shell 16.

The fitment 18 also may include a lip 54 extending radially and axially inwardly from the rim 48. The lip 54 may extend, for instance, from an upper portion of the rim 48 distal with respect to the flanges 50, 52, or from any other suitable portion of the rim 48. In one implementation, the lip 54 may be completely circumferentially continuous so as to provide a particularly good seal with the container 12. In another implementation, the lip 54 may include a
plurality of circumferentially spaced slits extending radially inwardly from a radially innermost edge of the lip 54, for example, to facilitate flexibility of the lip 54. The slits may not extend completely radially through the lip 54, such that the lip 54 may be circumferentially continuous between ends of the slits and the rim 48 so that the lip 54 may provide a complete annular seal with the container 12.

Therefore, the lip 54 may be flexible and resilient, and sized to permit insertion of the container 12 through the fitment into the shell 16 with the lip 54 in engagement with an exterior surface of the container 12. For example, the lip 54 may be in direct contact with the exterior surface of the excurvate portion 24a of the shoulder 24. Accordingly, the lip 54 need not interfere with the label panel 36 of the body 22. In other embodiments, the lip 54 may be in contact with the body 22.

Finally, the fitment 18 may be composed of a polymeric material, for instance, a thermoplastic, thermoset, or elastomeric material, for example, rubber or silicone, or of any other suitable material. Accordingly, the fitment 18 may be composed of a glass-recycling-friendly material, so as to enable complete glass recyclability of the entire server.

In an embodiment where the shell 16 is glass, the shell 16 may be desirable for use as a drinking glass into which contents from the container 12 may be poured. Accordingly, the shell 16 facilitates ready consumption of the contained beverage via a glass drinking glass.

FIG. 4 shows another illustrative embodiment of a beverage server 110. This embodiment is similar in many respects to the embodiment of FIGS. 1-3 and like numerals among the embodiments generally designate like or corresponding elements throughout the several views of the drawing figures. Accordingly, the descriptions of the embodiments are incorporated into one another, and description of subject matter common to the embodiments generally may not be repeated here.
The server 110 includes the container 12, and an insulator 114 coupled to the container 12 and including a glass shell 116 carrying the container 12, an annular glass bead 118 between the shell 116 and the container 12, and a cushion 160 separate from the container 12 and insulator 114 and positioned between the container 12 and the shell 116.

The shell 116 includes a closed base 138 and an open end 142, and carries the container 12 therein such that the base 138 of the insulator 114 carries the base 20 of the container 12.

The cushion 160 may be assembled into the insulator shell 116 and carried by an interior surface of a base 138 of the shell 116. The cushion 160 may be a ring shaped component with an inner void 161 to accommodate and encircle a push up 144 of the insulator shell 116. In other embodiments, the cushion 160 may be a radially continuous disc that conforms to the base 138 of the shell 116. The cushion 160 may be composed of any suitable material, including any suitable polymeric material, for instance, a thermoplastic, thermoset, or elastomer, for example, silicone. The cushion 160 may be produced by injection molding, casting, or in any other suitable manner.

The glass bead 118 may couple the shell 116 to the container 12 in any suitable manner. The glass bead 118 may be in complete circumferentially continuous contact with the open end 142 of the glass shell 116 and the container 12. For example, the bead 118 may be an integral portion of the container 12 and the shell 116. More specifically, the bead 118 may be a glass weld bead integrally fused to corresponding portions of the container 12 and the shell 116. For instance, the bead 118 may be integrally fused to the open end 142 of the shell 116 and to the shoulder 24 of the container 12. The open end 142 of the shell 116 may be tapered from the straight wall of the shell 116, for example at a forty-five degree angle. In any case, the bead 118 may provide a seal
between the seal 116 and the container 12 to establish a sealed insulating air pocket 113 there between, so as to maintain a desired temperature in the container 12.

After the individual components are manufactured, the container 12 may be assembled inside the shell 116, the container 12 may be assembled into the shell 116 in contact with the cushion 160, and the bead 115 may be applied to the container 12 in the shell 116 by any suitable glass welding technique, or in any other suitable manner.

There is has been disclosed an insulator and server that fully satisfies one or more of the objectives and aims previously set forth. The disclosure has been presented in conjunction with several exemplary embodiments, and modifications and variations have been suggested. Modifications and variations readily will suggest themselves to persons of ordinary skill in the art in view of the foregoing description.
 Claims

1.

An insulator (14) for a beverage container (12), that is:

an insulating shell (IS) including a closed base (38) and a body (40) extending from the base and terminating in an open end (42); and

a seal (IS) covered the shell and including an axial rim (48¾ a radially outer flange (50) extending from the rim in contact with an external portion of the open end, a radially inner flange (52) spaced radially inwardly of the outer flange and extending from the rim in contact with an internal portion of the open end, and a Hp (54) extending radially and axially inwardly from the rim.

2.

The insulator of claim 1 wherein the lip is completely circumferential and continuous for sealing against the container.

3.

The insulator of claim 1 wherein the insulating shell is glass.

4.

The insulator of claim 1 wherein the seal is composed of a polymeric material.
5.

The insulator of claim 1 wherein the flanges extend from a lower portion of the rim, and the lip extends from an upper portion of the rim.

6.

The insulator of claim 1 wherein the open end of the shell has at least one fitment coupling head (46), and at least one of the flanges has at least one corresponding bead (56) for coupling with the fitment coupling bead of the shell.

7.

The insulator of claim 1 wherein the open end of the shell has an external bead (46), and the outer flange of the seal has an internal bead (56) for snap-fit engagement with the external bead of the shell.

8.

A beverage server (10), that includes:

a bottle (12) having a base (20), a body (22) extending from the base, a shoulder (24) extending from the body, and a neck (26) extending from the shoulder; and

the insulator of claim 1 carrying the bottle therein such that the base of the bottle rests on the base of the insulator and the seal lip is in complete circumferential contact with at least one of the bottle shoulder or the bottle body to establish a sealed insulating air-pocket (13) between the insulator and the bottle.
9,

The server of claim 8 that includes a cushion element (160) separate from the insulator and carried by the insulator between the base of the bottle and the base of the insulator.
10.

A beverage server (10, 110), that includes:

- a glass bottle (12) having a base (20), a body (22) extending from the base, a shoulder (24) extending from the body, and a neck (26) extending from the shoulder;
- an insulator (14, 114) including a glass shell (16, 116) having a closed base (38, 138) and a body (40) extending from the base and terminating in an open end (42, 142), and carrying the glass bottle therein such that the base of the insulator carries the base of the bottle; and
- a glass bead (118) in complete circumferentially continuous contact with the open end of the glass shell and at least one of the bottle shoulder or the bottle body to establish a sealed insulating air-pocket (13, 113) between the insulator and the bottle.

11.

The server of claim 10 wherein the open end of the insulator is tapered from the insulator body.

12.

The server of claim 10 wherein the glass bead is a weld bead integrally fused to the bottle and the insulator.

13.

The server of claim 11 wherein the insulator includes a cushion (160) separate from the glass shell, and carried by the shell between the base of the bottle and the base of the shell.
**INTERNATIONAL SEARCH REPORT**

**International application No**

PCT/US2014/033444

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**A. CLASSIFICATION OF SUBJECT MATTER**

INV. B65D81/38

ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

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**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

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**Electronic data base consulted during the international search (name of data base and, where practical, search terms used)**

EPO-Internal , WPI Data

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**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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**Further documents are listed in the continuation of Box C.**

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**See patent family annex.**

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**Date of the actual completion of the international search**

6 August 2014

**Date of mailing of the international search report**

20/08/2014

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**Name and mailing address of the ISA/Office**

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**Authorized officer**

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