

FOOD AND BEVERAGE SERVER

This application is a continuation-in-part of application 13/325,923 filed December 14, 2011, the disclosure of which is incorporated herein by reference.

5 The present disclosure is directed to a device to help maintain a cool temperature in a food or beverage product such as beer, wine or soda or a warm temperature in coffee, for example, after the food or beverage has been removed from a chilling or heating environment.

Background and Summary of the Disclosure

10 A general object of the present disclosure is to provide a device for securement to the bottom of a food or beverage container, such as a glass bottle, which can be readily chilled to a low temperature such as in a cooler or freezer, or heated to elevated temperature such as in a microwave, which can be readily assembled to a container, and which will draw heat from or add heat to the container for an extended period of time so as to maintain a desired temperature of a food or beverage in the container.

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

20 A food and beverage server in accordance with one aspect of the present disclosure attaches to the lower portion of a food or beverage container and provides a source of low or elevated temperature surfaces to chill or maintain the chill of a food or beverage within the container, or to heat or maintain elevated temperature of the food or beverage in the container. The attachment means between the server and the container base or sidewall may be fitment: (1) to an existing bead on the container incorporated for some other purpose where the server snaps over that existing bead,

(2) a specific bead incorporated only for the snap fitment of the server, (3) threads where the container and the server have mating threads in traditional helical style, or (4) bayonet engagement whereby less than one complete rotation of the server onto the container engages one or more tabs on the server with one or more mating ramps so that the tab(s) provides a friction fit during rotation in opposing directions. The server contains a medium that can be cooled or heated to provide a source to chill or heat at the surfaces of the server. The medium within the server is contained in the bottom or base of the server, within the sidewalls of the server, or both. The low or high temperature surfaces of the server may be concave, convex or flat as needed for facing surface engagement with opposing surfaces of the container.

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 food and beverage server in accordance with an exemplary 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;

FIG. 4 is a perspective view of the server of FIGS. 1-3;

FIG. 5 is an elevational view of a server in accordance with a second exemplary embodiment of the disclosure;

FIG. 6 is an exploded fragmentary perspective view of the server in FIG. 5;

FIG. 7 is an exploded elevational view of a server in accordance with a further exemplary embodiment of the disclosure;

FIG. 8 is a fragmentary exploded perspective view of a server in accordance with yet another exemplary embodiment of the disclosure;

5 FIG. 9. is a partially sectioned elevational view of a server in accordance with a further exemplary embodiment of the disclosure;

FIG. 10 is an enlarged view of the sectioned portion of FIG. 9;

FIG. 11 is a fragmentary view of the portion of FIG. 10 within the circle 11;

FIG. 12 is a fragmentary exploded view of the server in FIGS. 9-11;

10 FIG. 13 is a top plan view of the server in the embodiment of FIGS. 9-12;

FIG. 14 is a sectional view taken substantially along the line 14-14 in FIG. 13;

FIG. 15 is a partially sectioned elevational view of a server in accordance with yet another exemplary embodiment of the disclosure; and

FIG. 16 is an enlarged view of a sectioned portion of FIG. 15.

15 **Detailed Description of Preferred Embodiments**

FIGS. 1-4 illustrate a server 10 in accordance with an exemplary embodiment of the disclosure as including an assembly of a container 12 and a thermal core 14 secured to the base of the container. (The term “thermal core” refers to a device that is cooled to chill a food or beverage in the container, or is heated to heat the food or beverage in the container.) Container 12 can be a bottle of
20 glass, plastic or metal construction for example, and includes a body having a sidewall 16, a base 18 and a push-up 20. Base 18 preferably is substantially cylindrical. An external engagement element in the form of a radially outwardly extending shoulder 22 extends around base 18 beneath sidewall

16. The geometry of body 16 as well as the shoulder, neck and neck finish in FIGS. 1-2 are exemplary only.

Thermal core 14 includes a hollow body 24, preferably of plastic construction. Body 24 includes an axially extending annular peripheral wall 26 having an internal bead 28 positioned
5 and sized for snap-receipt over shoulder 22 of container 12. There preferably are a plurality of angularly spaced longitudinal slots 30 in peripheral wall 26 segmenting bead 28 and facilitating radial expansion of wall 26 as bead 28 is snapped over shoulder 22. A central dome 32 of body 24 preferably is sized for heat-transfer facing-contact engagement with the external surface of container push-up 20. Push-up 20 can be somewhat deeper than usual to enhance such heat transfer. Body 24
10 also has a bottom wall 34 that can be flat or of other suitable geometry such as slightly domed.

A thermal medium 36, such as a fluid medium, is contained within hollow body 24. Medium 36 can be a chillable medium such as a freezable saline solution. A chillable medium alternatively could be a suitable refrigerant, water or another suitable substance. Medium 36 alternatively can be a heatable medium such as sand, oil or a saline solution.

15 In use, thermal core 14 can be stored in a suitable environment to maintain desired temperature. For example, core 14 can be stored in a freezer or ice chest so that medium 26 is cooled and preferably frozen solid. For use, the thermal core is removed from the freezer or ice chest and assembled over the base of a beer, wine cooler or soda container, for example. As another example, thermal core can be stored in a heated and/or insulated environment. Heat transfer between medium
20 26 and the contents of the container, through dome 32 and push-up 20, helps maintain a desired temperature of the liquid within the container. The medium-filled cavity of body 24 preferably extends around at least a portion of the base chime area, as best sen in FIG. 2, further to enhance

such heat transfer. In addition, bottom wall 34 of thermal core 14 acts as a coaster to help prevent flow of condensate, for example, from the external surface of the container onto a table or the like.

FIGS. 5 and 6 illustrate a server 10a comprising a thermal core 14a assembled to the base of a container 12a. In this embodiment, container 12a has a cylindrical base 18a recessed radially inwardly from the container sidewall 16a. There is a push-up 20 in container 12a, and a circumferential array of thread segments 22a on a radially outwardly facing portion of base 18a beneath sidewall 16a. Thermal core 14a includes a hollow plastic body 24a having an annular peripheral wall 26a with at least one internal thread segment 28a for engagement with external thread segments 22a to retain core 14a on container 12a. A suitable medium 36 is contained within hollow body 14a. Thus, in this embodiment, after chilling or heating, thermal core 14a can be threaded onto base 18a of container 12a.

FIG. 7 illustrates a server 14b that is similar in many respects to server 14 in FIGS. 1-4 except that the central portion of the plastic body 24b is concave at 40 for heat-exchange facing engagement with an outwardly extending dome 42 on the base of container 12b.

FIG. 8 illustrates a server 14c that has a cylindrical pocket 44 with opposed radially inwardly extending bayonet tabs 46, 48. Pocket 44 of server 14c provides a flat surface for opposed heat-transfer facing contact with a flat surface 54 on base 18c of container 12c. Base 18c of container 12c has a pair of helical thread-like engagement elements 50, 52. Thus, server 14c is adapted to be secured to base 18c of container 12c by a bayonet lock arrangement wherein tabs 44, 48 are fitted over and locked to thread elements 50, 52 so that the thermal medium within core 14c can chill or heat the contents of container 12c.

FIGS. 9-14 illustrate a server 60 as including a container 62 having a base 64 and an external shoulder 66 adjacent to base 64. A thermal core 68 includes a shell 70 that preferably is of plastic construction. Shell 70 has a circumferential wall 72 with an internal bead 74 adapted for receipt by snap fit over shoulder 66 on container 62. A lateral wall 76 of shell 70 is in engagement with or closely spaced from base 64 of container 62. Shell 70 has a hollow cavity 80 in which thermal material 36 is disposed. Wall 72 of shell 70 can have angularly spaced internal strengthening ribs 86. Bead 74 on shell 70 can be circumferentially continuous, or can be circumferentially segmented as illustrated in FIG. 13.

FIGS. 15 and 16 illustrate a server 60a that is similar to server 60 in FIGS. 9-15 except that base 64a of container 62a has a deep push-up or punt as compared with the relatively shallow dome or push-up base 64. Shell 70a has a correspondingly contoured wall 76a for either face-to-face or closely spaced heat-transfer positioning relative to base 64a.

There thus has been disclosed a food or beverage server that fully satisfies all of the objects and aims previously set forth. The disclosure has been presented in conjunction with several exemplary embodiments, and modifications and variations have been suggested. Other modifications and variations readily will suggest themselves to persons of ordinary skill in the art in view of the foregoing description. The disclosure is intended to embrace all such modifications and variations as fall within the spirit and broad scope of the appended claims.

Claims

1.

A food or beverage server that includes:

a container having a body with a sidewall, a base and at least one external engagement
5 element on said sidewall or said base, and

a thermal core that includes a hollow body with at least one internal engagement
element for engaging said at least one external engagement element on said container to retain said
thermal core on said container, a central portion for heat-transfer with said base, and a thermal
medium within said hollow body.

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2.

The server set forth in claim 1 wherein said at least one external engagement element
comprises a radially outwardly extending shoulder on said base, and

wherein said at least one internal engagement element comprises an internal bead on
15 said peripheral wall for snap receipt over said shoulder.

3.

The server set forth in claim 2 including angularly spaced longitudinal slots in said
peripheral wall segmenting said internal bead and facilitating expansion of said wall over said
20 shoulder.

4.

The server set forth in claim 1 wherein said at least one external engagement element comprises at least one external thread segment on a radially outwardly facing portion of said base beneath said sidewall, and

5 wherein said at least one internal engagement element comprises at least one internal thread segment on said peripheral wall of said ice core.

5.

10 The server set forth in claim 1 wherein said at least one external engagement element comprises at least one thread-like rib on a radially outwardly facing portion of said base beneath said sidewall, and

wherein said at least one internal engagement element comprises a pocket on said thermal core adapted to be received over said base and at least one internal tab within said pocket for bayonet-locking engagement with said at least one external rib on said base.

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6.

The server set forth in claim 5 comprising a pair of said external rib-like elements on said base and a pair of said tabs within said pocket of said thermal core.

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7.

The server set forth in claim 1 wherein said container is of glass, plastic or metal construction.

8.

The server set forth in claim 1 wherein said hollow body is of plastic construction.

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9.

The server set forth in claim 1 wherein said thermal medium comprises a saline solution, a refrigerant, water, oil or sand.

10.

10

A server that includes:

a container having a body with a sidewall, a cylindrical base, a radially outwardly extending shoulder on said base, and

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a thermal core that includes a hollow plastic body having an annular peripheral wall with an internal bead for snap receipt over said radially extending shoulder on said base, angularly spaced longitudinal slots in said peripheral wall to facilitate expansion of said wall and said bead over said shoulder, a central portion for heat-transfer with said base, and a thermal medium within said hollow body.

11.

20

The server set forth in claim 10 wherein said container is of glass, plastic or metal construction.

12.

The server set forth in claim 10 wherein said thermal medium comprises a saline solution, refrigerant, water, oil or sand.

13.

A food or beverage server that includes:

a container having a body with a sidewall, a cylindrical base recessed radially inwardly from said sidewall, and at least one thread segment on a radially outwardly facing portion of said base beneath said sidewall, and

a thermal core that includes a hollow plastic body having an annular peripheral wall with at least one internal thread segment for threaded receipt over said radially outwardly facing portion of said base, a central portion for heat-transfer with said base, and a thermal medium within said hollow body.

14.

The server set forth in claim 13 wherein said container is of glass, plastic or metal construction.

15.

The server set forth in claim 13 wherein said thermal medium comprises a saline solution, refrigerant, water, oil or sand.

16.

A server that includes:

a container having a body with a sidewall, a cylindrical base, a radially outwardly extending shoulder on said base and an outwardly extending dome on said base, and

5 a thermal core that includes a hollow plastic body having an annular peripheral wall with an internal bead for snap receipt over said radially extending shoulder on said base, angularly spaced longitudinal slots in said peripheral wall to facilitate expansion of said wall and said bead over said shoulder, a central recess for heat-transfer with said dome, and a thermal medium within said hollow body.

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17.

The server set forth in claim 16 wherein said container is of glass, plastic or metal construction.

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18.

The server set forth in claim 16 wherein said thermal medium comprises a saline solution, refrigerant, water, oil or sand.

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19.

A food or beverage server that includes:

a container having a body with a sidewall, a cylindrical base recessed radially inwardly from said sidewall, and at least one thread-like rib on a radially outwardly facing portion of said base beneath said sidewall, and

a thermal core that includes a hollow plastic body with a cylindrical pocket, at least one tab extending radially inwardly into said pocket for bayonet locking engagement with said at least one rib on said base, a central portion within said pocket for heat-transfer with said base, and a thermal medium within said hollow body.

20.

The server set forth in claim 19 wherein said container is of glass, plastic or metal construction.

21.

The server set forth in claim 19 wherein said thermal medium comprises a saline solution, refrigerant, water, oil or sand.