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(54) **SUPPORT OR CONTAINER FOR FOOD  
AND/OR BEVERAGES**

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(57) **ABSTRACT**

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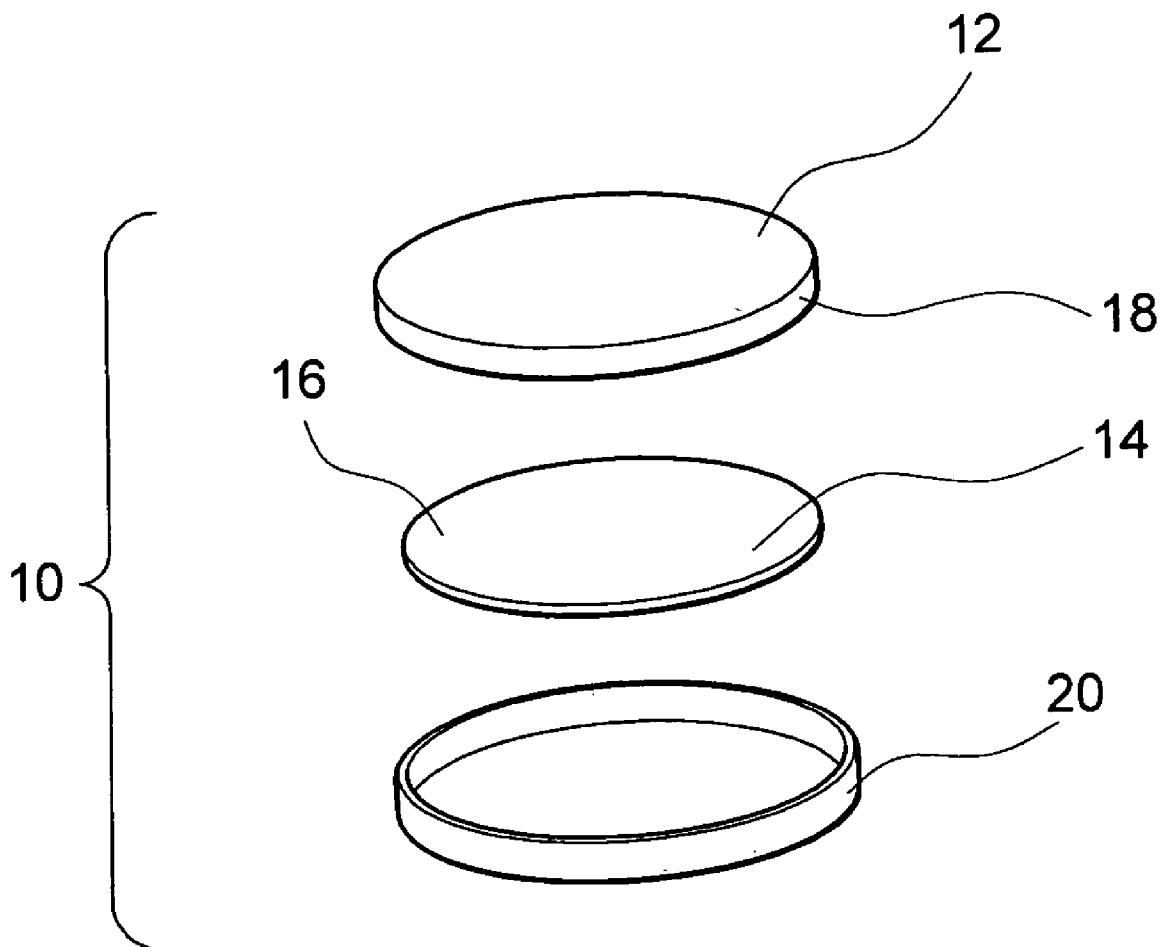
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A coaster **10** is disclosed as including a volume of water contained in a space between an upper part **12** and a plate **14** which are fixedly secured with each other. A method of providing such a coaster **10** is also disclosed as including steps of (a) providing an upper part **12**; (b) providing a plate **14**; (c) fixedly securing the upper part **12** and the plate **14** with each other by sonic welding to form a space therebetween; and (d) introducing a volume of water into the space. After filling of water into the space, the sonic-welded upper part **12** and plate **14** are then placed into a mould for injection moulding with a synthetic polymer, to further fixedly secure a heat insulating, non-slipping and impact resistant material.



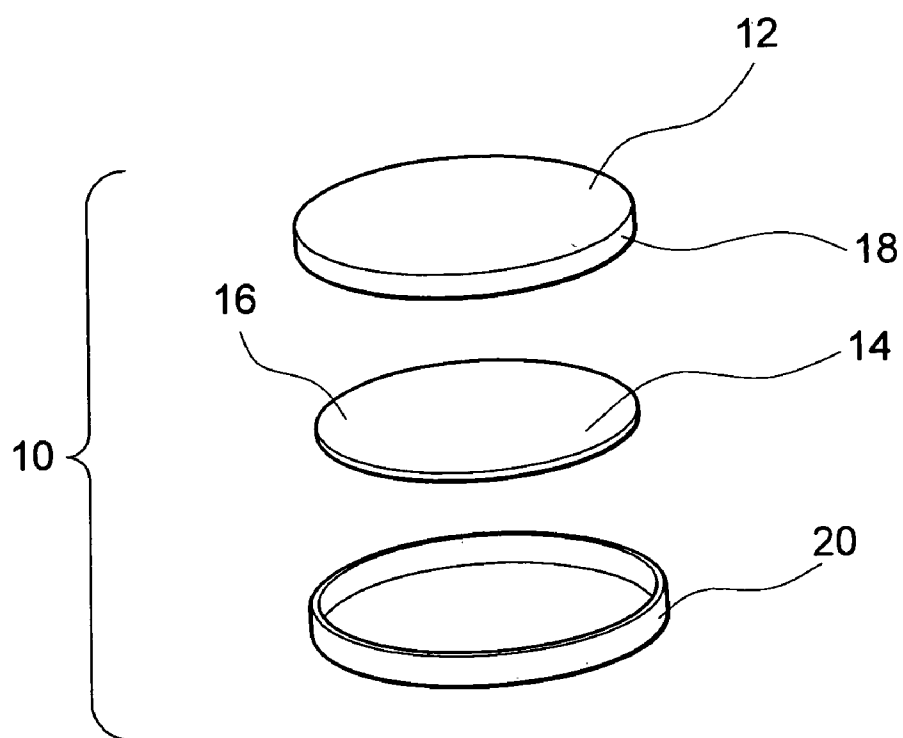


Fig 1

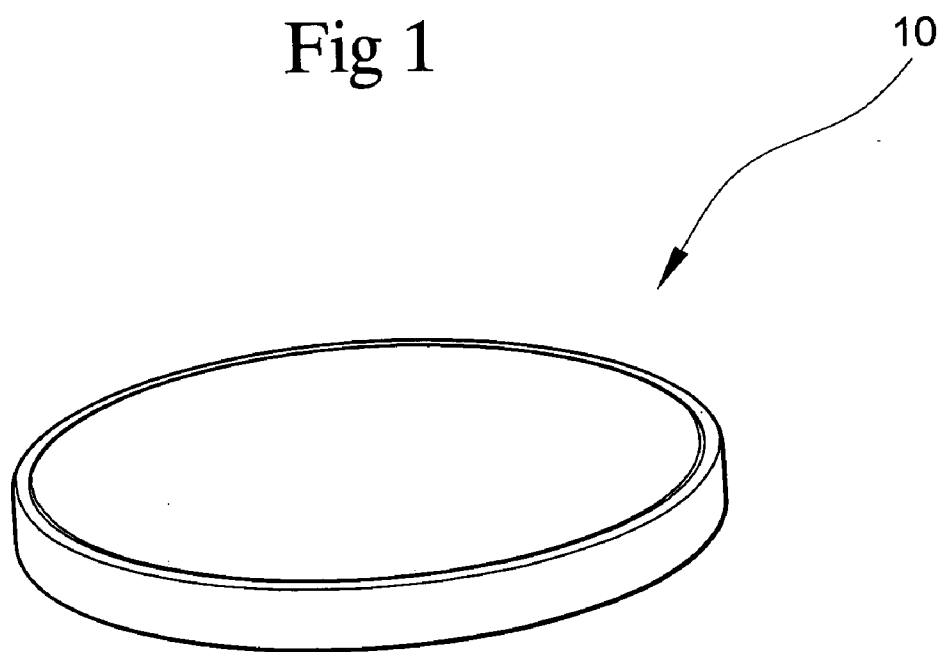


Fig 2

## SUPPORT OR CONTAINER FOR FOOD AND/OR BEVERAGES

[0001] This invention relates to a support or a container for food and/or beverages, e.g. a coaster, for a beverage container, a food container, or food, or a beer mug, in particular such a support for maintaining the temperature of the article on the support above or below the ambient temperature, or a container for maintaining the temperature of the content above or below the ambient temperature.

[0002] There are various occasions in which it would be desirable to keep food and/or beverages served with a guest at a temperature lower than the ambient temperature, e.g. where the food is raw seafood or shashimi, or where the beverage is beer; and there are occasions where it would be desirable to keep the food and/or beverages served with a guest at a temperature higher than the ambient temperature, e.g. where beverage is sake, i.e. Japanese rice wine.

[0003] Most hot plates for keeping food warm are electrically operated, and are thus cumbersome to use, and cannot be used where there is no supply of electricity. For holding beverages, there are existing mugs which may be brought to a low temperature in a refrigerator, and be retrieved from the refrigerator for use. However, such mugs occupy a rather large space and not many of them can be accommodated in a refrigerator. It is also not appropriate to use such mugs for keeping beverages at a temperature above the ambient temperature.

[0004] It is thus an object of the present invention to provide a support for an article, a container for food and/or beverages, and a method of providing same, in which the aforesaid shortcomings are mitigated, or at least to provide a useful alternative to the public.

[0005] According to a first aspect of the present invention, there is provided a support for an article, said support including a volume of a cooling and/or warming agent contained in a space between a first body member and a second body member which are fixedly secured with each other, wherein said support is further fixedly secured with a heat-insulating third body member, and wherein said first and second body members are co-injected with said third body member.

[0006] According to a second aspect of the present invention, there is provided a method of providing a support for an article, including (a) providing a first body member; (b) providing a second body member; (c) fixedly securing said first and second body members with each other to form a space therebetween; (d) introducing a volume of a cooling and/or warming agent into said space; and (e) fixedly securing said first and second body members with a heat-insulating third body member by co-injecting said first and second body members with said third body member.

[0007] According to a third aspect of the present invention, there is provided a container for food and/or beverages, said container including a volume of a cooling and/or warming agent contained in a space between a first body member and a second body member which are fixedly secured with each other, wherein said support is further fixedly secured with a heat-insulating third body member, and wherein said first and second body members are co-injected with said third body member.

[0008] According to a fourth aspect of the present invention, there is provided a method of providing a container for food and/or beverages, including (a) providing a first body member; (b) providing a second body member; (c) fixedly securing said first and second body members with each other to form a space therebetween; (d) introducing a volume of a cooling and/or warming agent into said space; and (e) fixedly securing said first and second body members with a heat-insulating third body member by co-injecting said first and second body members with said third body member.

[0009] An embodiment of the present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

[0010] **FIG. 1** is an exploded view of a support, in the form of a coaster, according to an embodiment of the present invention; and

[0011] **FIG. 2** is an assembled view of the coaster shown in **FIG. 1**.

[0012] As shown in **FIG. 1**, a coaster **10** according to the present invention includes a circular lid-shaped non-opaque upper part **12** having a recess (not shown), and a circular plate **14**. The upper part **12** is fixedly secured with the plate **14**, e.g. by sonic welding, such that the recess of the upper part **12** is enclosed by the plate **14** to form a space between the upper part **12** and the plate **14**. The upper part **12** and the plate **14** thus collectively form a container. Both the upper part **12** and the plate **14** are made of a plastic material, e.g. acrylic. An upper surface **16** of the plate **14** may be provided with a graphic pattern, e.g. by silkscreen printing, before sonic welding so that the graphic pattern can be perceived through the non-opaque upper part **12**, after the upper part **12** and the plate **14** are secured with each other. Additionally, or alternatively, small items of interest may be placed on the upper surface **16** of the plate **14** before sonic welding, so that such items will be enclosed in the space formed between the upper part **12** and the plate **14**.

[0013] An opening is provided on a side **18** of the upper part **12**, or on the plate **14**, through which a volume of a cooling and/or warming agent, e.g. water, is introduced into the space formed between the upper part **12** and the plate **14**. The opening is then sealed off in the conventional manner. The small items in the space will thus be seen floating in the water, therefore enhancing the interest of using the coaster **10**.

[0014] The sonic-welded upper part **12** and plate **14** are then placed in a mould (not shown) for injection moulding with a synthetic polymer, e.g. one sold under the trade mark KRATON®. The moulded member **20** is heat-insulating, non-slipping, and impact resistant, and serves as a base for the coaster **10**.

[0015] Before use, the coaster **10** may be placed in a freezer of a refrigerator so that the temperature of the water inside may be brought down to, say, below 0° C. When required, the coaster **10** is retrieved from the freezer of the refrigerator, and on which food or a beverage container (e.g. beer mug) may be placed, so that the temperature of the food or beverage may be kept at a temperature below the ambient temperature for a reasonable period of time.

[0016] Similarly, if the purpose of use of the coaster **10** is to keep the food and/or beverage warm or hot, the coaster **10**

may be placed in a microwave oven so as to raise the temperature of the water inside to above the ambient temperature. Food and/or a beverage container may be placed on the coaster **10** for such purpose.

[0017] Although the invention has so far been discussed by using an example of a coaster, it is apparent to a person skilled in the art that the invention may be realized in the form of a container for food and/or beverages, e.g. a beer mug, or a salad bowl.

[0018] It should be understood that the above only illustrates and describes an example whereby the present invention may be carried out, and that modifications and/or alterations may be made thereto without departing from the spirit of the invention. For example, it should be apparent to one skilled in the art that the shape and size of the support may vary, depending on the intended purpose of use of the support.

[0019] It should also be understood that various features of the invention which are, for brevity, described here in the context of a single embodiment, may be provided separately or in any suitable subcombination.

1. A support for an article, said support including a volume of a cooling and/or warming agent contained in a space between a first body member and a second body member which are fixedly secured with each other, wherein said support is further fixedly secured with a heat-insulating third body member, and wherein said first and second body members are co-injected with said third body member.

2. A support according to claim 1 wherein said first body member is a plastic lid member.

3. A support according to claim 2 wherein said plastic lid member is made at least principally of acrylic.

4. A support according to claim 1 wherein said second body member is a plastic plate member.

5. A support according to claim 4 wherein said plastic plate member is made at least principally of acrylic.

6. A support according to claim 1 wherein said cooling and/or warming agent is water.

7. A support according to claim 1 wherein said first and second body members are fixedly secured with each other by sonic welding.

8. A support according to claim 1 wherein said third body member is made of a synthetic polymer.

9. A method of providing a support for an article, including:

- a. providing a first body member;
- b. providing a second body member;
- c. fixedly securing said first and second body members with each other to form a space therebetween;
- d. introducing a volume of a cooling and/or warming agent into said space; and
- e. fixedly securing said first and second body members with a heat-insulating third body member by co-injecting said first and second body members with said third body member.

10. A method according to claim 9 wherein said first body member is made at least principally of acrylic.

11. A method according to claim 9 wherein said second body member is made at least principally of acrylic.

12. A method according to claim 9 wherein said cooling and/or warming agent is water.

13. A method according to claim 9 wherein said first and second body members are fixedly secured with each other by sonic welding.

14. A method according to claim 9 wherein said third body member is made of a synthetic polymer.

15. A container for food and/or beverages, said container including a volume of a cooling and/or warming agent contained in a space between a first body member and a second body member which are fixedly secured with each other, wherein said support is further fixedly secured with a heat-insulating third body member, and wherein said first and second body members are co-injected with said third body member.

16. A container according to claim 15 wherein said first body member is made at least principally of acrylic.

17. A container according to claim 15 wherein said plastic plate member is made at least principally of acrylic.

18. A container according to claim 15 wherein said cooling and/or warming agent is water.

19. A container according to claim 15 wherein said first and second body members are fixedly secured with each other by sonic welding.

20. A container according to claim 15 wherein said third body member is made of a synthetic polymer.

21. A method of providing a container for food and/or beverages, including:

- a. providing a first body member;
- b. providing a second body member;
- c. fixedly securing said first and second body members with each other to form a space therebetween;
- d. introducing a volume of a cooling and/or warming agent into said space; and
- e. fixedly securing said first and second body members with a heat-insulating third body member by co-injecting said first and second body members with said third body member.

22. A method according to claim 21 wherein said first body member is made at least principally of acrylic.

23. A method according to claim 21 wherein said second body member is made at least principally of acrylic.

24. A method according to claim 21 wherein said cooling and/or warming agent is water.

25. A method according to claim 21 wherein said first and second body members are fixedly secured with each other by sonic welding.

26. A method according to claim 21 wherein said third body member is made of a synthetic polymer.

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