ICE LID AND MOULD FOR ITS PRODUCTION

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ABSTRACT
An ice lid for a drinking vessel, the ice lid formed of the ice cubes to be mixed in the beverage in the drinking vessel and a support structure for keeping the ice cubes together. It is characteristic of the ice lid that it is designed such that it stays in place on top of the drinking vessel. Additionally, the subject of the invention is a mold for producing the ice lid as well as a drinking storage system that comprises the drinking vessel and the ice lid.
ICE LID AND MOULD FOR ITS PRODUCTION

TECHNICAL FIELD

[0001] The subject of the invention is a lid of ice to be placed on the upper rim of a drinking vessel, a mold to produce such a lid, as well as a system of which the ice lid is a part. In particular, the subject of the invention is a product that is breakable by hand so that ice cubes are introduced into the beverage.

[0002] Previously known are molds for producing differently shaped ice cubes in deep freezers.

BACKGROUND

[0003] The publication U.S. Pat. No. 5,013,562 A describes a product, wherein a previously defined amount of previously defined alcoholic beverage is located, by means of a lid, into a cup separately made of water. When served, the product is obtained out of refrigerator and a tear-off cap is removed. The lid on the beverage is smashed and the beverage is to be drunk of its mug.

[0004] The publication US 1 635 438 A describes providing an ice cup for bottles and receptacles, to keep milk in the bottle cold.

[0005] Administered as separate cubes, the problem with ice cubes, however, is that they must be dropped directly into the beverage, for example, at a restaurant counter. Then from the counter different products must be sent out depending on whether customers want ice in their beverage or not. Further, when the ice cubes are dropped into the beverage and the drinking glass is then transported away, the surface of the beverage, because of the ice cubes in the beverage, is so high in the drinking vessel that the beverage spills easily over the edges.

[0006] Previously known are also lids to be fixed on top of drinking vessels that are especially used to prevent hot beverages from spilling from disposable cups. The prerequisite for the use of these also is, however, that the surface of the beverage is not too close to the rim of the cup.

SUMMARY

[0007] The goal of the disclosed embodiments is to provide a solution with the help of which the drinking vessel can be transported easily without spilling over onto the drinking place or the drinking person such that the beverage also contains the desired amount of ice.

[0008] This goal is achieved with the ice lid of the independent claims, the mold of the independent claims used to produce the ice lid, and the beverage storage system of the independent claims.

[0009] The ice lid of the disclosed embodiments for a drinking vessel is formed from the ice cubes to be mixed in the beverage in the drinking vessel and a support structure that holds the ice cubes together. It is characteristic of the ice lid that it is shaped in such a way that it stays in place on top of the drinking vessel. It is characteristic of the mold of the invention that it is designed so that with its help the ice lid of the invention can be produced. The beverage storage system of the invention comprises the drinking vessel and the ice lid of the disclosed embodiments.

[0010] It is to be mentioned, that in this context the word of ice cube means any small block of artificial ice formed in a mold or cut from a larger block and commonly used for icing drinks. The wording with “cube” should not be considered as limiting the meaning into blocks with form of a cube.

[0011] The preferred embodiments are disclosed in the dependent claims.

[0012] The ice lid of the disclosed embodiments is preferably made entirely from a liquid by freezing and shaping.

[0013] Shaping the ice lid so that it stays in place on top of the drinking vessel can comprise at least one positioning ledge, a positioning wall or at least two positioning shoulders. These structures are described below in more detail. Alternatively, the staying in place of the ice lid can be achieved also such that additionally is used a specially manufactured drinking vessel, whose rim is shaped to fit together with the ice lid.

[0014] The ice lid can also have at least one fraction line, with the aid of which the ice lid is guided to break in the desired place. The ice lid can have in addition at least one breakage clearance that contributes to the clean breaking of the ice lid.

[0015] The ice lid can be produced using a mold. In this case the ice lid can comprise at least one ice mold clearance that prevents the ice from being compressed tightly stuck to the mold. The mold of the invention to produce the ice lid is designed so that with its aid the ice lid of the invention is produce-able. The mold can be entirely or partly silicone or food-safe plastic.

[0016] In the preferred embodiment of the present disclosure, the ice lid comprises regions thinned of the ice material that are the fraction lines that help its breaking so that the ice cubes break off cleanly and drop into the drinking vessel without splashing the beverage. This can be aided also by appropriately placed slots, or breakage clearances.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] In the following, the preferred embodiments of the present disclosure are described with the aid of the accompanying drawings, where:

[0018] FIG. 1A illustrates the invention’s first preferred embodiment of the ice lid for the drinking vessel from the direction shaped by the mold;

[0019] FIG. 1B illustrates the cross-section at the place marked A-A in FIG. 1A of the invention’s first preferred embodiment of the ice lid;

[0020] FIG. 1C illustrates a perspective view of the invention’s first preferred embodiment of the ice lid;

[0021] FIG. 2A illustrates the invention’s second preferred embodiment of the ice lid for the drinking vessel from the direction shaped by the mold;

[0022] FIG. 2B illustrates the cross-section at the place marked A-A in FIG. 2A of the invention’s second preferred embodiment of the ice lid;

[0023] FIG. 2C illustrates a perspective view of the invention’s second preferred embodiment of the ice lid;

[0024] FIG. 3A illustrates the invention’s third preferred embodiment of the ice lid for the drinking vessel from the direction shaped by the mold;

[0025] FIG. 3B illustrates the cross-section at the place marked A-A marked in FIG. 3A of the invention’s third preferred embodiment of the ice lid;

[0026] FIG. 3C illustrates a perspective view of the invention’s third preferred embodiment of the ice lid;
[0027] FIG. 4A illustrates the invention’s fourth preferred embodiment of the ice lid for the drinking vessel from the direction shaped by the mold;

[0028] FIG. 4B illustrates the cross-section at the place marked A-A in FIG. 4A of the invention’s fourth preferred embodiment of the ice lid;

[0029] FIG. 4C illustrates a perspective view of the invention’s fourth preferred embodiment of the ice lid;

[0030] FIG. 5A illustrates a mold according to a preferred embodiment of the invention for producing the ice lids in FIGS. 1A-C;

[0031] FIG. 5B illustrates the cross-section at the place marked A-A in FIG. 5A of a preferred embodiment of the mold of the invention;

[0032] FIG. 5C illustrates a perspective view of a preferred embodiment of the mold of the invention;

[0033] FIG. 6A illustrates the invention’s fifth preferred embodiment of the ice lid for the drinking vessel from the direction shaped by the mold;

[0034] FIG. 6B illustrates the cross-section at the place marked A-A marked in FIG. 6A of the invention’s fifth preferred embodiment of the ice lid;

[0035] FIG. 6C illustrates a perspective view of the invention’s fifth preferred embodiment of the ice lid;

[0036] FIG. 6D illustrates the fifth preferred embodiment of the invention for producing the ice lids in FIGS. 6A-C;

[0037] FIG. 6E illustrates the cross-section at the place marked A-A in FIG. 6D of the fifth preferred embodiment of the mold of the invention;

[0038] FIG. 6F illustrates a perspective view of the mold of the fifth preferred embodiment of the invention.

DETAILED DESCRIPTION OF THE DRAWINGS

[0039] In FIGS. 1A-C present a preferred embodiment of the invention, fraction lines 1 are shaped such that the ice lid’s controlled and standardized fracturing at the designed location is ensured. If necessary, the thickness of the ice remaining at fraction line 1 may thin towards the center of the ice lid. In this way the additional thickness brought about by the ice sheet caused by the freezing can be compensated and the ice cubics fit to fall more cleanly into the beverage.

[0040] In the embodiment in FIGS. 1A-C fraction lines 1 are placed center symmetrically. Fraction lines 1 can also be placed completely at random.

[0041] Further, on the outer periphery of the ice lid can be formed openings or breakage clearances 4, that reduce breakage of the ice lid or the number of shards created due to breakage. Because the number of shards reduces significantly, an ice lid equipped with breakage clearances 4 offers a clean user experience and is suitable also for a fine-dining atmosphere.

[0042] When the ice lid is frozen in its mold, those parts of the ice lid that border each other can get squeezed stuck onto the mold. This sticking by being squeezed can be prevented among other things with mold clearance 2, which means those parts of the ice lid that border each other, or the geometry and design of the mold walls between the ice cubes. The ice mold clearance 2 is preferably implemented so that the mold walls are formed as seen in the direction of the lid so that they are not parallel. The cross-section of these kinds of nonparallel mold walls thus varies.

[0043] The mold clearance 2 seen in FIGS. 1A-C is one preferred embodiment for the mold release. The special molding aids the release of the cast of frozen water from its mold. Appropriate molding also achieves that when the water freezes in the mold the cast water stays intact better.

[0044] In order that the ice lid of the invention would work for its intended use, it must be characterized by the fact that it stays in place on the upper rim of the drinking vessel. Then, breaking the ice into the beverage with one tap is possible and the ice lid stays snugly on top of the drinking vessel also during transportation. The ice lid can comprise various designs for different sized glasses and mugs. The design can comprise, for example, separate brim protrusions, support booms or nubbles. Parts of the ice cubes can also be located against the brim of the glass so that they fit on it.

[0045] FIGS. 1A-C present the mold and the positioning ledge 3 formed on the ice lid’s edge that holds the ice lid firmly on the brim of the drinking vessel. There can be several such ledges, in which case the ice lid is suitable for glasses of many sizes.

[0046] FIGS. 2A-C present a positioning wall 5 suitable for keeping the ice lid in place, that forms a cylinder-like applicator such as the positioning ledge 3 seen on the bottom surface of the ice lid in FIGS. 1A-C. Such an applicator positions the ice lid onto the glass rim precisely. The ice lid can have several such positioning walls 5.

[0047] FIGS. 2A-C show the positioning wall 5 that goes uniformly around the ice lid edge. The uniform structure is, however, not necessary in the preferred embodiment of the invention. The positioning wall 5 can also be made up in parts or point-like protrusions.

[0048] The examples described in this account focus primarily on the ice lid shape that contributes to the ice lid staying on top of drinking vessels that are in general use. This, however, does not exclude the possibility that also the brim of the drinking vessel can be shaped so that it contributes to the ice lid staying on top of the drinking vessel. In this case, particularly step-like or slanting wedge-shaped vessel edges come into question, such as the edge structures that appear, for example, in well-known ceramic, glass or metal vessels with lids.

[0049] Thanks to the brim structures of the drinking vessel, where the edge on the outside is higher than on the inside, the ice lid can fit on top of the drinking vessel so that also its edge partly or completely sinks or wedges below the drinking vessel’s upper edge on the inside of the drinking vessel. The difficulty with the use of a system comprising a specially designed drinking vessel and ice lid is that in addition to the ice lid also the drinking vessel must be manufactured separately to be used with the ice lid. An advantage of such a system would be, however, that when the ice lid begins melting during use the melt-water would flow into the inside of the drinking vessel. Guiding of the melt-water can be further intensified in addition to stop- or wedge-edges with groove patterns formed on the drinking vessel’s inner surface.

[0050] Further, FIGS. 2A-C present the ice lid’s structure where the side to be turned inside the drinking vessel with the exception of the fraction lines is essentially uniformly thick. Further, its surface can preferably be essentially flat.

[0051] When the ice cubes are broken off the ice lid, they can with dis-advantageous design get stuck between the upper surface of the glass on their way to turning down. In order to prevent this, the fraction lines can be preferably shaped wedge-like.
[0052] FIGS. 3A-C present yet another preferred embodiment of the ice lid design. The positioning shoulders 6 form functionally an edge shape like positioning ledge 3. With the aid of these positioning shoulders 6 the ice lid settles into place on the drinking vessel’s rim. Further, with such molding, positioning shoulders 6 are also the ice lid’s ice cubes that when broken fall into the beverage.

[0053] Further, FIGS. 4A-C present a certain possible asymmetric design for the ice lid’s ice cubes. With such a design the ice lid shutters into different sized pieces, in which case the ice cubes don’t arch as easily as with same sized ice lid ice cubes from a center symmetric lid.

[0054] The ice lid’s surface that is on the outside is preferably flat, in which case the breaking lines defined by fraction lines 1 are realized more probably.

[0055] Further, the ice lid can be made to have stamps, logo impressions and/or text in many different ways. The ice lid mold can be, for example, shaped to have fixed patterns, which impress the ice cubes’ and ice lid’s surfaces. The ice lid’s pieces can also be shaped so that the ice cubes comprise marks or, for example, letters. The ice cubes can also be, for instance, some logo to which are added appropriately styled fraction lines 1.

[0056] At the beginning of the freezing, on the top of the ice can also be placed a floating stamp, that is a surface stamp. A ready ice lid surface can also be shaped, for example, by melting it with the aid of a stamp made of metal.

[0057] Producing an ice lid requires a mold that shapes the freezing liquid in the desired shape. Such a mold can be, for example, silicone or food-safe plastic. The mold can also be some other freeze-resistant material that is suitable for use with foods.

[0058] FIGS. 5A-C illustrate the mold for the ice lid according to the invention’s preferred embodiment. In the mold presented in this example can be produced the ice lid of FIGS. 1A-C. The mold comprises molding parts for the fraction lines 1, the mold clearances 2, the positioning ledges 3, and the breakage clearances 4 in accordance with the ice lid diagram markings of FIGS. 1A-C.

[0059] In certain embodiments of the invention the diameter of the mold can be, for example, 80-90 mm and the groove for the positioning ledge 3 going around the ice lid’s edge can be, for example, 2.5-3.5 mm preferably 3.0 mm away from the edge. The mold for the ice lid of FIGS. 1A-C can then be filled with about 0.7 dl of liquid, preferably water. Water expands on freezing by about 10% in volume, which causes in this sized mold about a 1-mm rise in surface. Fraction lines 1 can narrow by about 0.5 mm from the middle.

[0060] Further, the ice lid and mold of the invention can be as presented in FIGS. 6A-E. The ice lid of FIGS. 6A-C can be produced for instance with an ice cube machine or with separate ice cubes 8 from a deep freezer ice tray. The production of such an ice lid happens with the assembly mold of FIGS. 6C-F. When using ready ice cubes, the part forming the ice cubes themselves does not require its own mold, but the mold can be used to shape the other side of the ice lid. In other words, the mold of FIGS. 6D-F now forms unlike the mold of FIGS. 5A-C the top surface of the ice lid to be placed on the glass. Such a mold thus makes possible freezing in the mold on the surface of the ice lid molded writing, patterns or other graphical topics 7 of the ice lid obtained directly from the mold. When in addition to the ready ice cubes is frozen a support structure holding the cubes together, in the support structure between the ice cubes 8 forms also a breakage clearance 4 that helps to break the ice lid.

[0061] In the above embodiments the moldings on the ice lid are designed primarily keeping an eye on that that the ice lid is produced by freezing in a mold. Similar lids can, naturally, be produced by shaping an ice cube billet. Such shaping can be executed, for example, by routing. A preferred tool for routing the ice cube billet can be, for example, a 3- or 5-axis CNC router.

[0062] The invention being presented is not limited only to the presented embodiments, but it can also be applied in many ways within the scope of the protection defined by the claims.

1. An ice lid for a drinking vessel, the ice lid formed of the ice cubes to be mixed in the beverage and a supporting structure holding the ice cubes together wherein the ice lid comprises at least one molding comprising at least one of the following:
   a) a positioning ledge (3);
   b) a positioning wall (5) and
   c) two positioning shoulders
   such that it stays in place on top of the drinking vessel.

2. The ice lid of claim 1 wherein it is produced in its entirety of liquid by freezing and shaping.

3. (canceled)

4. (canceled)

5. The ice lid of claim 1 comprising at least one fraction line, with the aid of which the ice lid is guided to break at the desired place.

6. The ice lid of claim 5 comprising at least one breakage clearance that contributes to the clean breaking of the ice lid.

7. The ice lid of claim 1 wherein it is produced in a mold.

8. The ice lid of claim 7 wherein it comprises at least one ice mold clearance that prevents the ice from getting squeezed stuck onto the mold.

9. A mold for producing the ice lid of claim 1.

10. The mold of claim 9 for producing an ice lid that is completely or partially silicone or food-safe plastic.

11. A beverage storage system that comprises a drinking vessel and an ice lid of claim 1.

12. The beverage storage system of claim 11, where the drinking vessel’s brim is designed to fit together with an ice lid.

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