A method and device for cooling drinks using ice cubes made from that kind of drink. Packaging, storing and marketing those ice cubes both in their liquid state and after they have been frozen. Marketing the ice cubes together with the drink of its own kind or as a separate entity. Making the said ice cubes using ice cube machines.
METHOD AND DEVICE TO COOL, PACKAGE, STORE AND MARKET DRINKS INCLUDING MAKING ICE FROM THE DRINK ITSELF

TECHNICAL FIELD

[0001] This invention is in the field of drinks and in particular to cool a drink by adding to it frozen cubes of that particular drink.

BACKGROUND ART

[0002] It is well known that people prefer to drink cold beverages cooled more than room temperature. A common method of doing this is to place the drink in a refrigerator for a few hours before the desired time to drink. This has the disadvantage of needing to plan ahead the quantity and timing when the drinks will be needed, as it can take several hours to cool bottles of one and a half liters or more. It also assumes that there is enough space in the refrigerator to accommodate these bottles.

[0003] To overcome these problems another common method is to add ice cubes to the drink desired to be cooled. The usual way to make such ice cubes is to put water in a container that is divided into cubes or other shapes and place in a freezer. The water freezes and the ice can be removed when needed. This obviates the need to plan ahead several hours as the ice can be made before it is needed and stored in the freezer without significant loss of quality over long periods of time. It also basically solves the problem of space in the refrigerator as the containers of ice are usually shaped like trays that are stackable and do not use much space relative to the volume of drink those cubes can cool.

[0004] Another common use of ice cubes is in the commercial market. Hotels, restaurants, pubs, bars, fast-food stores are examples of common users of large quantities of ice. Here ice cubes are sometimes made in ice cube machines that produce and store large quantities of ice. Often they work on an automatic basis whereby the machine is attached to a water supply and the machine produces ice continuously until a sensor stops production when the storage bin is full. As ready made ice is removed from the bin, the sensor starts the ice production again. This invention also can work with these ice making machines.

[0005] The main disadvantage of adding water based ice cubes is that they dilute the original drink. Many drinks are manufactured with precision so that their taste is uniform. This is especially so with drinks made by well known companies who have sales worldwide. These companies go to great lengths to make sure the taste of their product is uniform throughout the world. The addition of ice dilutes and spoils the original taste.

[0006] Prior art shows attempts at making flavored ice cubes the same flavor as the drink but they use concentrates to try to mimic the flavor of the original drink. This leads to a variety of tastes and has the problem of missing the exact flavor of the manufacturer’s original product. For example, this can be seen in U.S. Pat. No. 6,672,097 issued to Ashley or US Patent Application Number 20050074523 issued to Rodriguez et al.

[0007] This invention comes to overcome these above mentioned disadvantages by using a method that keeps the manufacturer’s original taste and concentration in the “ice” so that there is no dilution of the original drink. In addition, this invention innovates methods of storage, packaging and marketing as will be herein revealed.

DISCLOSURE OF THE INVENTION

[0008] It is to be understood that both the foregoing general description and the following detailed description present embodiments of the invention, and are intended to provide an overview, or framework, for understanding the nature and character of the invention as it is claimed. The accompanying drawings are included to provide a further understanding of the invention, and are incorporated into and constitute a part of this specification. The drawings illustrate various embodiments of the invention and, together with the description serve to explain the principles and operations of the invention.

[0009] The object of the invention is to cause a cooling of a drink using smaller quantities of frozen liquid made from the liquid of the drink that is desired to be cooled. This method of cooling will have the advantage of cooling the drink whilst retaining the manufacturer’s desired concentration and taste.

[0010] The smaller quantities of drink can be marketed in liquid form with the intention of being frozen. These small quantities of liquid, when frozen, will have the similar function as ice cubes that is to say, to make a drink cold.

[0011] The word “cube” herein used is derived from the phrase “ice cube” but does not restrict the actual shape of the frozen drink which could be spherical or any other shape considered advantageous for manufacturing or marketing purposes.

[0012] The word “container” herein refers to an individual vessel in which the liquid drink is placed for marketing and/or for freezing and when frozen holds one cube;

[0013] The phrase “sheet of containers” herein refers to a number of containers joined together.

[0014] There could be, for example, containers in plastic joined together to form a sheet of containers in which the liquid drink is poured. These containers may be open on top like a conventional ice cube tray or closed like a hollow bubble. Tubes could join all these closed containers rather like tributaries meeting the main river. The main tube would lead to the outside the parameters of the sheet of containers and have a closeable opening for the purpose of filling the containers with liquid. These containers, that are intended to be filled with liquid drink and be frozen, could be detachably joined together in the sheet of containers, for the purpose of marketing and ease of handling. Once frozen, the cubes will be extractable from their container by any convenient method, for example, using scissors or manual pressure to break a plastic seal, thereby releasing the frozen cube.

[0015] Another object of this invention is to store, package and market in a novel way, the sheets of containers. The storage and packaging could be in sheets of flexible plastic divided into small individually detachable sections. These sheets could be any suitable overall shape, for example, to fit the shape or to compliment the shape of the bottle of drink. This would enable convenient marketing where for example, each bottle could have its freezable drink cubes attached to the bottle or one or more sheets of containers in a box of six bottles.

[0016] The contents of the sheets of containers could be marketed in liquid form, from the time of manufacture of the bottles of drink and packaged and sold together with the
drinks. Alternatively, the sheets of containers could be marketed separately from the bottles of drink.

[0017] Containers filled by the manufacturer could be sealed at the time of filling and would not need a consumer compatible filling and sealing device.

[0018] Another alternative could be to sell the sheets of containers empty of any liquid and the consumer could fill them with a portion of the drink in his possession and freeze it before the time he needs to consume the drink. A disadvantage of the latter option would be that the consumer would have to open the drink bottle a period of time before he desires to consume the drink. This would require more planning and in the case of carbonated drinks would have the effect of reducing the quantity of carbonation in the opened drink bottle. A method of filling and sealing such consumer filled sheets of containers would be part of their design. An advantage of marketing such consumer fillable sheets of containers would be that the consumer could choose to fill the containers with any drink of his choice, for example one that was not marketed together with sheets of containers, or to fill them with a home made drink.

[0019] In all the above mentioned options the material forming the container for the freezeable drink cubes could be made of suitable materials depending whether the drink is soft (gassless) or carbonated. Carbonated drinks would require a stronger material to contain the pressure caused by the gas.

[0020] Another object of this invention is to enable the consumer to consume the cubes of frozen drink as a pleasurable experience in itself, without using it to cool a beverage.

[0021] Many people, especially children, like to eat water based ice cubes. With this invention they will be able to enjoy the ice cube made from their favorite drink. The marketing of such freezeable ice cubes made from particular and/or well known drinks manufactures could be made attractive especially for children for example, using shapes of animals or fruits.

[0022] Another object of the invention is for the container to be made to represent the shape of the fruit of that particular flavor of drink, so for example, orange drink could have containers for ice shaped like an orange and grape drink containers shaped like a cluster of grapes.

[0023] Another object is for the liquid to be frozen is flavored to compliment the drink destined to be cooled. An example could be for the cubes to be used in a cola drink to have a lemon flavor added to the cola liquid to be frozen into cubes. Another object of this invention is to produce in an ice making machine, ice made from the drink that is to be served. As mentioned above this type of machine is used commercially in hotels, bars etc. There could be a number of compartments in the machine each one producing ice of a different type of drink.

[0024] Instead of the ice making apparatus being attached to a water supply, it would be attached to barrels or containers of the manufacturer’s drink. Where gaseous drink is required there could be a bottle of pressured gas attached to the said apparatus as is done in existing establishments where gaseous drinks of known companies are sold direct from barrels into cups. The existing art usually works by the gas pressure applied to the drink forcing the drink out of the faucet. In this embodiment of this invention the gas pressure would be used to force the drink from the barrels supplied by the manufacturer into the ice making machine in order to make ice cubes of each flavor of drink. In cases where the manufacturer supplies a concentrate then water would be added according to the manufacturer’s instructions. These flavored ice cubes would be kept frozen in separate dispensers until required for use. In those countries of the world where ice has become a major ingredient in the drinks industry, this embodiment of this invention is anticipated to make a significant impact. Drinks companies who value the worldwide consistent and monitored taste of their product will most appreciate the added value to the customer that this invention provides.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0025] The accompanying drawings, which are incorporated in and form a part of this specification, illustrate embodiments of the invention and, together with the description, serve to explain, by way of example only, the principles of the invention:

[0026] Fig A is a schematic depiction of a bottle of drink with a sheet of containers of ice cubes around the neck of the bottle.

[0027] Fig B is a schematic depiction showing the top view of a box of six bottles with the sheet of containers therein.

[0028] Fig C is a schematic depiction of a sheet of containers made to be filled with liquid.

[0029] Fig D is a schematic depiction of an ice machine adapted for use with this invention.

**DESCRIPTION OF THE PREFERRED EMBODIMENTS**

[0030] As will be appreciated the present invention is capable of other and different embodiments than those discussed above and described in more detail below, and its several details are capable of modifications in various aspects, all without departing from the spirit of the invention.

[0031] Accordingly, the drawings and description of the embodiments set forth below are to be regarded as illustrative in nature and not restrictive.

[0032] Fig A shows an optional method of storing and marketing the sheets of containers of this invention. The drawing Fig A shows the cross-section view. The sheet 102 of containers 104 could form a sleeve around the neck of the bottle 100. This would utilize the space made by shape of the neck of the bottle 100 without interfering with adjacent bottles in a box or on a shelf. This invention in one embodiment requires the liquid in the container 104 to be from the same manufacturer and flavor as the liquid in the bottle 100. The consumer could remove the sheet of container 102 and put all or part of it in the freezer. The containers 104 of liquid or frozen drink could be conveniently separable by perforation or otherwise to enable one or more container 104 to be separated from its adjacent neighbors. The actual iced drink cube when formed could be removed from its container 104 by any convenient means like for example, by using finger pressure to break surrounding plastic seals or using scissors.

[0033] Fig B shows another method of storage and marketing this invention. This figure shows the top-view of a box 120 of six drinks 122. The sheet 124 of containers 126 could utilize the space near the top of the box 120 between bottle necks and adjacent bottle necks and/or between the
bottle necks and the sides of the box 120. There could be at least one layer of the said sheet 124 with, for example, the containers 126 therein containing the liquid of the drink of those bottles 122.

[0034] There could be perforations 128 separating the containers 126 so that as many as desired could be detached and frozen. When frozen, the containers 126 which are individual cubes of iced drink, could be detached from their neighboring containers by tearing on the perforation 128 and then pressing the ice out of the plastic wrapping into the drink to lower the latter’s temperature.

[0035] Fig C shows a sheet 150 of containers 154 made to be filled by the consumer with the drink of his choice. The entrance 152 could be relatively wide to ease the filling process. The containers 154 would be joined to each other and to the central artery 158 by tubes 156. There could be perforations 160 between the containers 154 to ease their separation when required to be separated. These perforations 160 would not be made in the plastic forming the container 154 which contains the liquid to be frozen. Where the thickness of the plastic allows, an indentation could be made instead of a perforation, to ease separation. Where the plastic is not thick enough for an indentation, it could be torn. This tearing would be that small plastic tube 156 with perforations 160 on either side of it. After being filled, the entrance could be closed with a closing device 164 to prevent leaks of drink until the drink is frozen.

[0036] Fig D shows an ice making machine 200 divided into a number of compartments 202 representing the different flavored ice cubes available. Each flavor would have its space 204 for the barrel or other vessel of drink or drink concentrate supplied by the manufacturing company making that drink. Also in that space could be the pressured gas supply and water where necessary. The various flavored drinks could share the same freezing apparatus. The ice cubes of each drink thereby made would fall or be brought by for example, by conveyor belt to its specific frozen storage container. There could be agitators attached to such storage containers to ensure the cubes stay separate from each other while being stored, to ease dispensing the frozen cubes when needed. The ice cubes could be stored in a bin inside the compartments 202 and be scooped out manually when needed or fall from a chute 206 to ease the filling of glasses or jugs. There could be a mechanically or electronically operated hatch which would open when a vessel is placed under the chute 206 and would close or be closed when the vessel is removed. It is anticipated that the standard features of existing art in these types of ice making machines, like for example, the automatic continual production of ice until each bin is full of its flavor of ice, the automatic ceasing of production when each bin is full and the resumption of ice making when ice from a bin has been removed, will be used in conjunction with this invention. The main change this invention calls for is the adaptation to cater for the production of one or more different flavors of ice cubes to match the flavors of drinks sold in that particular establishment.

What is claimed:

1. A method and device to make ice cubes comprising a container to hold liquid to be frozen, a liquid to be frozen being the same kind of liquid as the liquid to be drunk, a sheet comprising at least one said container, whereby the ice so formed can be used to cool a drink without diluting or adversely affecting the taste of the said drink.

2. A method and device as claimed in claim 1 wherein each said container is a size and shape suitable for making an ice cube.

3. A method and device as claimed in claim 1 wherein the said liquid is contained in a sheet comprising more than one container joined together.

4. A method and device as claimed in claim 3 wherein the said containers are made by a means to withstand the pressure of gaseous drinks.

5. A method and device as claimed in claim 3 wherein there are perforations between the said compartments containing the liquid drink or frozen drink cube to guide and ease the separation of the said compartments from each other and/or from the said sheet.

6. A method and device as claimed in claim 3 wherein the said sheet and said containers are made of plastic.

7. A method and device as claimed in claim 3 wherein the frozen cubes are removable from the said containers by applying manual pressure to the said container.

8. A method and device as claimed in claim 7 wherein the said removal is with the aid of a cutting instrument.

9. A method and device as claimed in claim 1 wherein the said sheet of containers is marketed while the liquid drink in the said containers is in liquid state.

10. A method and device as claimed in claim 1 wherein the said sheet of containers is marketed while the liquid drink in the said containers is in frozen state.

11. A method and device as claimed in claim 1 wherein the said sheet of containers is marketed together with at least one bottle of drink being of the same kind as the liquid in the said containers.

12. A method and device as claimed in claim 11 wherein the volume of space around the neck of a bottle of drink is used to house the said sheet of containers when marketing the said sheet of containers with the said bottle.

13. A method and device as claimed in claim 11 wherein the marketing of the said sheet of containers containing liquid drink or frozen cubes is independent of the marketing of the said bottle of drink.

14. A method and device as claimed in claim 13 wherein the said sheet of containers is marketed empty of drink and with a means of filling the said containers with liquid drink and a means of closing the opening to prevent leakage before being frozen.

15. A method and device as claimed in claim 1 wherein the said sheet contains passages joining all the containers therein.

16. A method and device as claimed in claim 15 wherein the said passages also are connected to a closable opening to outside the said sheet of containers whereby the said containers can be filled with liquid.

17. A method and device as claimed in claim 1 wherein the said container is a shape or shapes to amuse and attract people, especially children, to purchase the said sheets of containers.
18. A method and device as claimed in claim 1 wherein the shape of the said container represents a fruit or vegetable that is the flavor of the drink in the container.

19. A method and device as claimed in claim 1 wherein the said liquid to be frozen contains a flavor to compliment the flavor of the drink it is used to cool.

20. A method and device to make ice cubes using an ice making machine comprising at least one compartment for producing ice cubes made from the drink it will thereafter be used to cool.

21. A method and device as claimed in claim 20 wherein the source liquid for the said ice cubes is the drink or concentrate of that drink supplied by the manufacture.

22. A method and device as claimed in claim 20 wherein different flavors of ice cubes are made and stored in separate compartments of the said machine.

23. A method and device as claimed in claim 20 wherein the said compartments are labeled with the name and/or picture of its flavor of drink.

24. A method and device as claimed in claim 20 wherein the cube containers in the said ice making machine are a shaped of various objects designed amuse and attract people and to encourage sales especially to young persons.

25. A method and device as claimed in claim 20 wherein the ice cube containers in the said ice making machine represents a fruit or vegetable that is the flavor of the drink in the container.

26. A method and device as claimed in claim 20 wherein the liquid to be frozen contains a flavor to compliment the flavor of the drink it is used to cool.

* * * * *