Title
Beverage cooling holder

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Abstract: The invention comprises an outer container (12) for holding the ice and an inner container (13) for containing the beverage. The container has radial engaging surfaces (4, 6) which allow them to be sealed together in a particular manner.
Beverage Cooling Holder

Field of the Invention

The present invention relates to beverage coolers, and in particular, to a beverage cooling method and apparatus with an assembly for holding ice and water.

Background of the Invention

Many people prefer beverages, such as water, soda, juice, beer, etc., cold. To make or keep beverages cold, ice is typically used. Often, pre-made ice particles, such as ice cubes, chopped ice, crushed ice, etc., are placed directly into the beverage. A disadvantage of this is that as ice melts the beverage can become diluted. Also, when ice is made from unfiltered tap water, unwanted impurities can be introduced into the beverage.

Solutions that don’t involve ice have been attempted, such as insulated bottles, which help to keep beverages cold. The drawback, however, is that these don’t make beverages cold; the beverage has to be cold to start with. Other attempts include plastic ice cubes, which must be refrozen after each use, and various types of refreezable containers with refrigerants inside. Ice chests are also commonly used, but they tend to be large and cumbersome, particularly if only a single drink is to be kept cold.

Summary of the Invention

The present invention relates to methods and apparatuses for cooling beverages using conventional ice cubes, and/or other forms of pre-made ice particles, such as cubed ice, crushed ice, chopped ice, etc., which can be made by standard ice makers/dispensers, but without the disadvantages mentioned above.

In general, the present invention comprises an outer container for holding the ice particles, and an inner container for containing the beverage that can be positioned at least partially inside the outer container. The inner and outer containers are preferably adapted so that when the inner container is placed inside the outer container, a predetermined space is formed between them in which the ice particles can be stored. This way, the inner container can be substantially surrounded by, and be in direct contact with, the ice to keep the beverage inside cold. The inner and outer containers are, in this respect, preferably provided with engaging surfaces that can be sealed together in a particular manner, depending on the embodiment, to provide a substantial seal that can prevent water, such as when
the ice melts, from leaking out. Because the beverage stays in the inner container, and the ice stays in the outer container, the beverage can be kept cold, without the beverage becoming diluted, and without introducing any impurities into the beverage. The beverage can also be poured and consumed directly from the inner container without having to remove the inner container from the outer container.

The present invention comprises the general cooling methods and apparatuses discussed herein, which are embodied in the following embodiments:

In the first embodiment, the outer container is preferably adapted so that a particular commercial beverage bottle, such as a PET bottle (which serves as the inner container), can be held and supported inside, with the ice and water stored and sealed within the space between the bottle and outer container. In this respect, the outer container preferably comprises an open-top container, similar to a mug or jug, that supports the bottle and holds the ice, and a separate resealable cap is provided that has an opening through which the bottle’s neck can be extended. The cap is preferably adapted with a sealing member extending around the opening capable of being pressed and sealed against the bottle’s shoulder.

When the bottle is placed inside the container, with the bottle’s lower end supported by the container, the cap can be tightened and sealed, with the bottle’s neck extending through the cap’s opening. At the same time, the sealing member is pressed and sealed against the bottle’s shoulder. This combination can substantially seal the space between the bottle and container, so that the ice and water inside are prevented from leaking out. The cooler can also be re-used repeatedly without washing or refreezing, as in past devices. When done, just throw the bottle away, dump the ice and water out, and the cooler is ready to use again.

The container preferably has one or more supports on the inside to provide vertical and lateral support to the bottle. In one version, three or more self-centering supports are provided for engaging a lower surface of the bottle, and in another version, a central support is provided to engage an indentation on the bottom of the bottle. The central support can be made removable, or provided with a coil spring, to enable bottles of different shapes and sizes to be used. In either case, at least one support is preferably adapted to engage a groove or indentation on the bottle, so that the bottle can be prevented from rotating inside the container, which allows the bottle’s cap to be easily opened and closed without the bottle twisting inside. The bottom section of the container can also be made narrow, so that the cooler can fit
into conventional cup-holders. An indicator line can be provided to let the user know how much ice to put in the container before putting the bottle in.

The cooler is preferably adapted so that a particular beverage bottle having a predetermined size and shape can be held in substantial compression between the sealing member and lower support. This way, the cooler can be made to accommodate a particular beverage bottle, and not accommodate bottles having different sizes and shapes. Accordingly, one beverage manufacturer can promote and increase sales of its own bottled beverage products by promoting and selling the cooler (i.e. one that is adapted specifically for that manufacturer's bottles), since consumers will have to buy that manufacturer’s bottled beverage products, not its competitors, in order to use the cooler.

In another embodiment, a sports bottle is provided having inner and outer containers. Like the previous embodiment, the inner container is a bottle, but in this embodiment, the bottle is part of the product, not an existing beverage bottle. The inner container, in such case, is preferably adapted so that it can be inserted and sealed against the outer inner container, simply by bringing the inner container into contact with the outer container, wherein a predetermined space for storing ice can be formed thereby. In this respect, the outer container preferably has an interior surface capable of engaging and being sealed against an exterior surface of the inner container, i.e., by friction alone, an interference fit, a sealing gasket, or tongue and groove connection, etc. Where friction is used, an air release groove is preferably provided on the inner container to allow excess air to escape. The lower portion of the inner container is also preferably narrowed to enable more ice particles to be stored within the space between the inner and outer containers. A straw can be used to draw beverage from the lower portion where the beverage is surrounded by ice and likely to be the coldest.

In another embodiment, the inner container can be a cup-like member, and the outer container can be a mug-like or larger cup-like container. Like the sports bottle, the inner and outer containers are preferably adapted so that simply inserting the inner container into the outer container can cause the outer container to be sealed against the inner container to form a space in which the ice particles can be stored. In this embodiment, however, the inner container is preferably like a cup, which allows the beverage to be consumed directly from the inner container. Like the previous embodiment, various engaging surfaces can be provided to
substantially seal the inner container to the outer container, leaving a sealed space between them in which the ice particles can be stored. When a sealing member is used, it can be located on the outside surface of the inner container, so that the outer container can be a regular mug or cup. The sealing member can also be located on the inside surface of the outer container, so that other types of inner containers, such as bottles and cans, can be inserted and sealed therein.

Brief Description of the Drawings

FIGURE 1 is a side view of an embodiment of the present invention;
FIGURE 2 is a section view of the embodiment of FIGURE 1;
FIGURE 3 is another section view showing a PET bottle in dashed lines;
FIGURE 4 shows the bottom of a typical PET bottle with five grooves;
FIGURE 5 is a section view of the cap;
FIGURE 6 is a horizontal section view of a blow-molded embodiment;
FIGURE 7 shows section A-A of the blow-molded embodiment of FIGURE 6;
FIGURE 8 shows section B-B of the blow-molded embodiment of FIGURE 6;
FIGURE 9 shows ice being displaced by the bottle inside the container;
FIGURE 10 shows another embodiment of the present invention;
FIGURE 11 is a section view showing a fixed support;
FIGURE 12 is a section view showing a removable support;
FIGURES 13a to 13c show views of the removable support;
FIGURE 14 shows a coil spring embodiment;
FIGURE 15 shows two bottles having different sizes and shapes;
FIGURES 16a and 16b show cross-sections of an alternate sealing member;
FIGURE 17 shows the sealing member of FIGURES 16a and 16b;
FIGURE 18 shows an embodiment with external grips;
FIGURES 19-24 show a drinking container embodiment;
FIGURE 25 shows an alternate two-piece embodiment; and
FIGURES 26-28 show a sports bottle embodiment.

Detailed Description of the Invention

Figures 1-5 show an embodiment of the present invention having a container 5 and cap 3 designed to be connected and sealed together. As seen in Figure 2, container 5 is preferably an open-top container having a handle 7, and an internal space 9 formed by a wall 12, wherein an opening 11 enables a bottle 13, such as a PET beverage bottle, to be inserted at least partially therein.
Container 5 preferably has a plurality of supports 4, 6 extending inward, such as from wall 12, adapted to engage and provide lateral and vertical support to a lower portion of bottle 13, as shown in Figure 3. Supports 4, 6 preferably provide support to bottle 13 in a manner that forms a predetermined space 15, 17 between bottle 13 and container 5, as shown in Figure 3, in which the ice particles can be stored. Preferably, with bottle 13 inside container 5, the distance between wall 12 and bottle 13 allows standard sized ice particles, such as made by conventional ice makers/dispensers, to be stored within space 15. Such ice particles typically have a maximum dimension of between about one-half inch to one inch or more, and therefore, it is contemplated that the distance between bottle 13 and wall 12 is at least about three-quarters of an inch or more, depending on the size of the particles, although other dimensions, such as for holding larger ice particles, that serve the intended purpose can be used. While it is necessary to make space 15 large enough to hold the ice particles, it is also desirable for container 5 to be as compact as possible.

Cap 3 preferably has a central opening 19, as shown in Figure 5, through which neck 21 of bottle 13 can extend. One or more sealing members 23, such as a resilient sealing gasket, is preferably provided on the inside of cap 3 around opening 19. When cap 3 is connected to container 5, with neck 21 extended through opening 19, sealing member 23 preferably engages and presses against the shoulder of bottle 13, as shown in Figure 3. This enables cap 3 to be sealed to container 5 at the same time that sealing member 23 is sealed to bottle 13, wherein space 15 can be substantially sealed thereby. Supports 4, 6 preferably keep bottle 13 at a relatively fixed position inside container 5, so that bottle 13 can be held in substantial compression between sealing member 23 and supports 4, 6.

Container 5 preferably has a narrow lower section 2 adapted to fit into conventional cup-holders, as shown in Figures 1-3. Lower section 2 preferably forms an additional space 17 below bottle 13, and allows additional ice to be stored to surround a lower surface 49 of bottle 13. The distance between lower surface 49 and floor 8 of container 5, in this embodiment, depends on how tall lower section 2 is, and how much ice is desired in space 17. An intermediate section 52, shown in Figure 9, is preferably extended upward and radially outward from lower section 2, forming a sloped surface 51 thereon. This way, sloped surface 51 can cause some ice to be displaced upward along wall 12 as bottle 13 is pushed downward into
container 5. The distance between sloped surface 51 and where bottle 13 is supported in container 5 is preferably predetermined to allow ice to be circulated and displaced without getting caught inside lower section 2. Supports 4, 6 are preferably extended from wall 12 at or near intermediate section 52 to maintain bottle 13 at a predetermined level above floor 8, as shown in Figure 3.

Preferably, in this embodiment, at least three supports are provided to create a support system for holding bottle 13. For example, in the embodiment of Figures 1-3, there are four supports, including three supports 4 for engaging lower surface 49, and one slightly raised support 6 for engaging and fitting into one of the grooves 45 located on the underside of bottle 13. As seen in Figure 4, a typical PET bottle 13 has multiple grooves 45 on surface 49, i.e., many have five grooves. By forming at least one raised support 6 to fit into one of the grooves 45, the bottle 13 can be substantially prevented from rotating, which allows the bottle’s lid 47 to be easily twisted open and closed without the bottle 13 also twisting. Of course, if bottle 13 has a pull-up top, this feature is not required. The embodiment shown has one raised support 6, but any number of raised supports 6, such as one for each groove 45, can be provided if desired.

Sealing member 23 preferably has an engaging portion 25, as shown in Figure 5, which can have multiple blade-like surfaces to promote water-tightness, even against uneven surfaces and inexact dimensions of bottle 13. A projection 31 preferably extends down from cap 3 with engaging portion 25 connected thereto via groove 33. This preferably provides a pinching effect to engaging portion 25 and helps to compress bottle 13, as shown in Figure 3, and provide an effective seal. Sealing member 23 can otherwise be connected to cap 3 in any manner that provides a tight seal, including interlocking sections, adhesives, bonding (such as chemical), fusing, welding, etc. Sealing member 23 can be formed with a central lipped flange 27 that fits through opening 19 so that it can be mechanically snapped onto cap 3 if desired.

Sealing member 23 is preferably made of resilient material, such as rubber, silicon, polypropylene, polyethylene, or a combination thereof, or like material, etc. The present invention contemplates that sealing member 23 can be firm and/or thick enough so that a degree of tolerance can be provided between sealing member 23 and bottle 13, i.e., enough pressure can be applied by sealing member 23 against bottle 13 to prevent leaking. The connection between cap 3 and container 5 can
preferably be tightened by threads 35, 37, and substantially sealed by an interference fit between upper rim 43 of container 5, as shown in Figure 2, and interference groove 41 formed by an extension 39 extending downward on cap 3, as shown in Figure 5. Groove 41 is preferably elongated and adapted to provide a substantial seal even if upper rim 43 is not inserted all the way into groove 41 for additional tolerance. Alternatively, a gasket, a pair of clamps, buckles, hook and latch system, stem and socket connection, etc., can be provided to connect and/or seal cap 3 onto container 5.

In use, the following steps can be followed: Standard sized ice particles can be placed inside container 5. An indicator line 51, as shown in Figure 2, is preferably provided to indicate how much ice should be placed inside container 5 before bottle 13 is inserted, and is preferably based on being able to substantially fill spaces 15 and 17 with ice when bottle 13 is positioned in container 5. When bottle 13 is pushed into the ice, some of the ice is displaced upward, as shown in Figure 9, which can be caused by sloped surface 51. Water can be added to container 5, if desired, to make ice distribution around bottle 13 easier. Bottle 13 is preferably pushed down until it properly sits on supports 4, 6. Cap 3 can then be placed over bottle 13 with neck 21 extended through opening 19, and then tightened and sealed against the shoulder of bottle 13. This way, the ice particles can be stored and sealed within spaces 15, 17, to help keep the beverage cool, while preventing ice and/or water from leaking out.

Figures 6-8 show a preferred embodiment for a single serving bottle, such as a 20 ounce PET bottle, that can be manufactured at a relatively low cost. Container 55 is preferably molded, such as by blow-molding, from a single integral piece of moldable material such as plastic. The upper opening 71 of container 55 is shown to be relatively narrow, but it does not have to be, in which case container 55 can be injection-molded. Like the previous embodiment, container 55 preferably has a narrowed lower section 83, a handle 65, exterior threads 67, wall 61, and forms a space 60, etc. The same cap 3 used in the previous embodiment can be used in this embodiment. A bottle 13 of a predetermined size and shape is preferably used.

In this embodiment, when made by blow-molding, supports 57, 59 are preferably formed inward or indented into wall 61, as shown in Figure 6, and are preferably adapted to provide vertical and lateral support to lower surface 49 of bottle
13. Because blow-molding typically uses only an exterior mold, the thickness of container 55 is preferably controlled so that supports 57, 59, which are formed on wall 61, can engage and hold bottle 13 in substantial compression between sealing member 23 of cap 3 and supports 57, 59.

In this embodiment, at least three supports are preferably provided. Two raised supports 59 capable of fitting into two of the grooves 45 on bottle 13, and one support 57 adapted to engage lower surface 49, are shown in Figures 6-8. The two raised supports 59, as shown in Figures 6-7, are preferably positioned on opposing sides of container 5, such that they can fit into opposing grooves 45 on bottle 13.

Support 57 is preferably formed along a sidewall near handle 65. All three supports preferably form a triangulated support system symmetrical about a vertical center plane B-B, as shown in Figure 6, which allows blow mold halves to be easily separated. Supports 57, 59 can also have sloped upper surfaces, as shown in Figure 6, to help self-center bottle 13 inside container 55 and enable bottle 13 to be seated properly on supports 57, 59. Like the previous embodiment, container 55 preferably has a sloped surface 51 above lower section 63 to help displace ice upward as bottle 13 is inserted.

Figures 10-13 show an additional embodiment 73 having a cap 75 and container 77 capable of being secured and sealed together with bottle 83 inside.

Like the previous embodiments, cap 75 is preferably adapted with a sealing member 76 and an opening 74 through which neck 86 of bottle 83 can be extended. When bottle 83 is inserted into container 77, a space 91 is preferably formed between bottle 83 and container 77. While in one version, container 77 is specifically adapted and sized to fit a particular bottle 83, another version contemplates that various bottles of different sizes and shapes can be fitted inside container 77, i.e., by means of different central supports 93, as will be discussed. Although this embodiment can be adapted to fit any size bottle, it is particularly suited to larger bottles, such as 2 liter and 64 ounce PET bottles, where no need for a narrowed lower section exists, although the lower section 65 can be narrowed if desired.

Two versions are shown in Figures 11-12. Both versions are provided with a central support 93 extending upward like a pedestal from the lower floor 99 of container 77 to engage an indentation 97 on bottle 83. Bottle 83 is preferably supported by support 93 such that it can be held in substantial compression between sealing member 76 and support 93 inside container 77. Support 93 preferably
maintains bottle 83 at a predetermined level above floor 99 to form an additional space 101 under bottle 83, as shown in Figure 12, so that additional ice can be stored and be in direct contact with bottle 83. Lateral support can also be provided to bottle 83 by support 93 due to support 93’s rigidity. These embodiments can also be provided with supports extending from wall 89, as previously discussed.

Most PET bottles have an indentation 97 in the lower surface 98 thereof, wherein a pattern with multiple grooves or other formations are provided to give rigidity and support thereto. The upper surface 95 of support 93 is, as shown in Figures 13a, 13c, preferably configured with reciprocal grooves and/or formations 96 to engage and substantially mesh/mate with indentation 97, such that when bottle 83 is held in substantial compression inside container 77, bottle 83 can be prevented from rotating. Upper surface 95 can be provided, as shown in Figures 13a and 13c, with contours 96 matching the contours of lower surface 98 of bottle 83.

Figure 11 shows a fixed support 105 extending from floor 99. This version is adapted to enable a particular bottle to be used, wherein the upper surface 95 conforms to the shape of a particular indentation 97. A plurality of self-centering slats 90 can be formed on wall 89 to self-center bottle 83 onto support 105. Support 105 can be formed in floor 99, as shown in Figure 11, or it can be a solid extension or attachment on floor 99, as shown in Figure 12. Figure 12 shows a removable support 107, which allows a plurality of supports of varying sizes and shapes to be employed. Each support 107 preferably has an upper surface 95 adapted to fit a particular bottle 83, as described above, and a certain height. This way, a single container 77 allows a number of differently sized and/or shaped bottles to be held in substantial compression between sealing member 76 and support 107, simply by attaching and detaching different supports 107.

Support 107 is attached to floor 99. The attachment preferably prevents support 107 from rotating relative to floor 99. In one attachment, as shown in Figures 12 and 13b, a stem 109 is extended from floor 99. Stem 109 has a vertical slot 111, and support 107 is provided with a reciprocal bore 113, with a slot-engaging extension 115. Alternatively, slot 111 can be in bore 113, and the extension 115 on stem 109. In other versions, stem 109 and bore 113 can be adapted with non-circular shapes, such as square, rectangular, or triangular, etc., which can prevent rotation of support 107. The two pieces can also be reversed, i.e., bore 113 can be located on floor 99, and stem 109 can be extended down from support 107.
Wall 89 can be made without self-centering slats 90 so that larger diameter bottles can be used. For example, instead of a 2 liter bottle 83, as shown in Figure 12, a wider 64 ounce bottle may be used. Even without slats, supports 105 and 107 are preferably adapted so that upper surface 96 provides a self-centering effect to bottle 83. The upper opening 87 on container 77 can be made large enough, as shown in Figures 11 and 12, so that ice can be added to container 77, even after bottle 83 is inserted into container 77.

Like the previous embodiments, cap 75 preferably has threads 94 that engage threads 81 on container 77. An interference fit can also be used, such as with a gasket 80 within interference groove 84, as shown in Figure 11, although any watertight seal, as discussed previously, can be employed. Sealing member 76 can be connected to cap 75 via projection 78, i.e., by bonding, using adhesives, or other secure means, as discussed previously, and can be made of the same relatively thick material. Sealing member 76 also preferably has similar blade-like surfaces capable of being sealed against uneven surfaces.

Alternatively, support 93 is a coil spring 102, as shown in Figure 14, to accommodate bottles of different sizes. Spring 102 is preferably secured to floor 99 via housing 104 in a manner that prevents rotation thereof. Spring 102 is preferably stiff enough to apply upward pressure to bottle 83, and to prevent spring 102 from twisting, which can substantially prevent bottle 83 from rotating, as described above. In this respect, upper surface 95 can be secured non-rotationally to spring 102 so that the entire support prevents rotation of bottle 83. Spring 102 is preferably made of a rust-proof material such as aluminum, stainless steel, or composite material.

Different caps 75 can also be provided to accommodate different bottles 83, wherein the sealing member 76 can be adapted to fit onto bottles of different shapes and sizes. In this respect, the present invention contemplates that a single container 77 can be sold with multiple caps 75, for fitting different bottles, including a solid cap, such as with a straw, that can completely seal the container, if desired. It can also be sold with multiple removable supports 107 for the same purposes. Multiple caps 3 can also be provided in connection with the previous embodiments.

With respect to each embodiment, each main piece, including caps 3, 75, and containers 5, 55, 77, is preferably made from plastic, such as polyethylene, polypropylene, HDPE, PVC, PET, etc., although any conventional material, such as stainless steel, glass, ceramic, etc., can be used. The material is preferably food-
contact safe. For insulation purposes, the containers can be made of materials with poor heat conducting properties, or with double wall construction, or made relatively thick. Caps 3 and 75, and container 77, can be injection molded, while container 55 is preferably blow-molded. Container 5 can be made by any suitable method.

An alternate embodiment 170 is shown in Figure 25. In this version, the outer container 172 is preferably a mug or cup, such as made of plastic, with a lip 174 around the upper edge. The cap 176 is preferably made of a resilient but flexibly stiff material capable of conforming to the neck of the bottle 178. In one version, the material allows the user to grip the upper portion 175 of cap 176, to create friction between cap 176 and bottle 178, and thereby prevent bottle 178 from rotating. Also, cap 176 can be adapted with a flange 180 that can be snapped onto lip 174 of outer container 172, to hold the bottle inside container 172, and substantially hold the ice within space 177. In another version, cap 176 does not have to have a sealing surface that can be sealed against bottle 178 to prevent leaking, but can have an opening to allow the neck of bottle 178 to extend through, wherein cap 176 can substantially hold bottle 178 inside, as well as the ice particles within space 177. In such case, a straw can be used to drink from bottle 178, since water may leak between bottle 178 and cap 176 from space 177.

The size and shape of caps 3, 75 and containers 5, 55 and 77 are preferably based on the specific size, shape and dimensions of the bottle or bottles to be used. Accordingly, the preferred bottle is preferably scanned, or otherwise measured, to obtain its precise dimensions. Measuring can include making molds from the bottle. This enables the cooling device to be adapted to a particular bottle having a predetermined size and shape. The present invention also contemplates that bottles can be custom made to fit the cooler. Textures, grips or indentations can be provided on any piece for improved grip. The containers can have a side handle, a hole for a strap, or indented grips 98, as shown in Figure 18. One or both pieces can be made of transparent, translucent or tinted material so that the contents can be seen from outside. Shoulder straps can also be provided.

A unique aspect of the present invention is that the cooler can be made to accommodate a certain size and/or shape of beverage bottle, whereas, other beverage bottles having different sizes and/or shapes may not be accommodated. In this respect, Figure 15 shows two bottles 110, 112 having different shoulder configurations and heights. Bottle 110 has an effective shoulder height, b, based on
a dimension, a, which represents the diameter of sealing members 23, 76 (or openings 19, 74) on caps 3, 75. Bottle 112, however, has a shorter effective shoulder height, c, based on the same dimension, a. Accordingly, with a fixed supporting surface on the lower portion of the container, the cooler can be made so that it will accommodate one bottle, either 110 or 112, but not both. That is, with the wrong bottle inside, either the seal against the bottle will not be made, or the cap will not fit onto the container. In either case, water will be allowed to leak out. Other means of preventing bottles of different sizes and shapes from being used are contemplated. For example, the lower supports, such as 4, 6, 57, 50, 105, can be made to fit into grooves on one type of bottle, while not others, to accomplish the same objective. Likewise, openings 19, 74, even without any sealing surfaces, can be made to prevent bottles having too large necks from fitting properly inside.

Figures 16a, 16b, and 17 show an alternate sealing member 114 with openings 116 on edges 120 or 122 that effectively prevent bottles having different shoulder angles from being sealed properly. With this embodiment, even if the effective shoulder height of each bottle is the same, if the shoulder angle is different, the bottle will not seal properly. For example, Figure 16a shows sealing member 114 sealed against bottle 110, wherein the shoulder angle of bottle 110 is adapted to engage flat surface 118 to create a proper seal. Figure 16b, on the other hand, shows how the same sealing member 114 cannot be sealed against the shoulder of bottle 112, because the shoulder angle is steeper and causes edge 120 of member 114, which does not have a flat sealing surface, to engage bottle 112. With bottle 112 held in this manner, openings 116 allow water to leak out despite sealing member 114 being pressed against bottle 112. Sealing member 114 is preferably made of a relatively stiff resilient material, and openings 116 can be provided on one edge 120, as shown in Figure 17, or other edge 122, or both edges 120, 122.

For the above reasons, the present invention contemplates using a method where one beverage manufacturer can use the cooling device to increase sales and market share of its own beverage products. Because the cooling device can be made so that only one type of bottle can fit properly, by getting consumers to buy the cooler, a manufacturer can use the cooling device as a marketing tool to increase sales of its own beverage products. The manufacturer can adapt the cooler to its own bottles, with its own logos printed thereon, so that consumers will have to buy its bottled beverage products in order to use the cooler. The invention also
contemplates a method wherein a manufacturer can use any of the embodiments described herein, as well as any cooler specifically designed for a single container of beverage, i.e., a PET bottle, to promote sales of those products, by placing logos and/or other trademarks on the coolers, and then promoting and selling the coolers.

For example, the coolers can be provided with printed images or diagrams of the intended bottled products that fit, as well as those that don't fit.

Figures 19-24 show drinking container embodiments. Figure 19 shows an inner container 130, which has an upper portion 131, intermediate portion 134, and lower portion 135, and an outer container 136, similar to a mug or cup. Preferably, lower portion 135 is narrower than intermediate portion 134, and intermediate portion 134 is narrower than upper portion 131. A sealing member 132, such as a flexible and resilient gasket (sleeve or ring) made of the same materials discussed above, is preferably secured to and extended around the exterior of intermediate portion 134, as shown in Figure 19. When inner container 130 is inserted into outer container 136, sealing member 132 can engage a smooth interior surface 133 of outer container 136, to form a sealed space 141, as shown in Figure 22, between the inner and outer containers, in which the ice particles can be stored. The preferred sealing member 132, shown in Figure 19, preferably has multiple resilient blade-like surfaces angled relatively upward from intermediate portion 134 to make insertion easy and withdrawal relatively difficult.

In another version, as partially shown in Figure 24, sealing member 132 can be secured to and extended around the interior surface 133 of outer container 136, in which case sealing member 132 can be adapted to be pressed and sealed against an exterior smooth surface of intermediate portion 134 to seal space 141. Resilient blade-like surfaces, in such case, are preferably angled downward, as shown, for easy insertion. In another version, sealing member 132 can be adapted to be pressed and sealed against, in addition to intermediate portion 134, a pre-selected can or bottle. That is, outer container 136 can be adapted so that inner container 130 and the can or bottle are interchangeable. This may require a larger flexible sealing member 132 extended inward to engage the can or bottle, or outer container 136 can be expanded outward to allow standard sized ice particles to be stored between the can or bottle and outer container 136. One or more supports for supporting the can or bottle, in such case, can be provided if needed.
Figure 20 shows another version where the connection between inner and outer containers 138, 140 has threads 142, 144, as well as an interference fit, as shown in Figure 21, which can be provided with downward extension 146 on inner container 138 forming an interference groove 148 into which upward extension 150 of outer container 140 can be fitted. This way, after ice is placed in outer container 140, inner container 138 can be rotated into outer container 140 to seal space 152. In another version, outer containers 136 and 140 can be made out of foam material, wherein sealing member 132 can be coated on ribbed surfaces located on the interior surface thereof. The ribbed surfaces can then perform in substantially the same manner as the blade-like surfaces.

Figure 22 is a cut-away view showing the ice particles inside space 141 distributed around and below lower portion 135. Figure 23 shows a connection with threads 142, 144 and a friction fit. The connection can also be sealed by friction alone, in which case, an air release groove, as discussed below, can be provided on the intermediate portion 134. Preferably, inner container 130 is supported inside outer container 138 by engagement of an upper edge 139 of outer container 136 with a lower edge 143 of upper portion 131, as shown in Figure 19. An indicator line 137 to show how much ice to put into outer container 135, 140 before the inner container is inserted can be provided, if desired, so that the correct amount of ice is used to substantially fill space 141, 152. The lower portion 135 is preferably fluted 145 so that space 141 has more surface area contact with the ice. The lower portion 135 is also preferably narrowed to maximize space 141, 152 to enable standard sized ice particles to be stored therein.

These drinking container embodiments are preferably made from the same materials from which mugs and cups are typically made. For example, outer containers 136 and 140 can be made of plastic, stainless steel, ceramic, glass, etc., and are preferably made of materials that provide insulation properties. They can also be made relatively thick or double walled. The inner containers 130 and 138, on the other hand, are preferably relatively thin, and can be made out of plastic or aluminum, or other good heat conducting material. Each piece can be molded, or formed in any conventional manner.

Figures 26-28 show a sports bottle embodiment. This embodiment has an inner bottle-like container 153 having a lid 155 which can have an opening for a straw 157, and an outer container 165 which can be similar to a large cup. The inner
container 153 preferably has an upper portion 159, intermediate portion 161, and lower portion 163, and can be inserted at least partially into outer container 165, to form a space 160 between the lower portion 163 and outer container 165 in which standard sized ice particles can be stored and sealed.

Intermediate portion 161 is preferably adapted with an exterior surface 162 that engages and seals against an interior surface 164 of outer container 165. While a sealing member can be provided, in the preferred embodiment, the inner and outer containers 153, 165 are preferably adapted so that inserting inner container 153 into outer container 165 causes a friction fit to be formed between intermediate portion 161 and interior surface 164 to substantially seal space 160, as shown in Figure 28. At least one air release groove 158, in such case, is preferably provided on intermediate portion 161, extending up to just below a lower edge 156 of upper portion 159, so that while inner container 153 is being lowered into outer container 165, groove 158 will remain open, but when an upper edge 154 of outer container 165 meets lower edge 156, the engagement of interior surface 164 with exterior surface 162 can cause groove 158 to be sealed. A tongue and groove connection, as shown in Figures 27-28, can also be provided for a more secure connection.

Lower portion 163 is preferably narrowed and can be fluted 169 to enable space 160 to be as large as needed. The lower edge 156 of upper portion 159 is preferably extended outward relative to intermediate portion 161 to engage upper edge 154 of outer container 165 to function as a stop for inner container 153. In this respect, preferably, lower portion 163 is narrower than intermediate portion 161, and intermediate portion 161 is narrower than upper portion 159. An indicator line 166 for indicating how much ice to use can be provided. Straw 157 can draw beverage from the lowest point of lower portion 163, as shown in Figure 28, where the beverage is likely to be coldest. Inner and outer containers 153, 165 are preferably molded out of a plastic, such as HDPE, or any conventional material.

The above discussion illustrates some of the preferred embodiments and features. It should be understood, nevertheless, that other embodiments and features, such as those not specifically disclosed herein, which may perform in the intended manner, are also within the scope of the present invention.
What is Claimed is:

1. A cooling device for holding a beverage receptacle, comprising:
   a container for holding ice particles therein, wherein said container is
   adapted to enable the beverage receptacle to be inserted at least partially
   therein, wherein a wall of said container is adapted such that when the
   beverage receptacle is placed in said cooling device, a space for storing the
   ice particles is formed between the beverage receptacle and said container;
   a cap adapted to be substantially sealed onto said container, wherein
   said cap has an opening through which a neck of the beverage receptacle can
   be extended;
   a sealing member on said cap adapted to be pressed against a
   shoulder portion of the beverage receptacle when the beverage receptacle is
   placed in said cooling device;
   at least one support on the inside of said container for engaging the
   beverage receptacle, wherein at least one of said at least one support is
   adapted to engage a portion of the beverage receptacle in a manner that
   substantially prevents the beverage receptacle from rotating inside said
   cooling device; and
   wherein said cooling device is adapted such that when said cap is
   substantially sealed onto said container with the beverage receptacle inside,
   said sealing member is pressed and substantially sealed against the shoulder
   portion of the beverage receptacle, and places the beverage receptacle in
   substantial compression between said sealing member and said at least one
   support, and helps to substantially seal the space.

2. The device of Claim 1, wherein said at least one support provides
   vertical support for the beverage receptacle, wherein an additional space is
   formed between the beverage receptacle and a floor of said container, and
   wherein at least a portion of the ice particles in said container can be
   distributed below the beverage receptacle in direct contact with the beverage
   receptacle.

3. The device of Claim 2, wherein a bottom section of said container is
   narrowed in relation to a section of said wall above it, wherein said section
   above said bottom section is extended upward and radially outward, such that
when the beverage receptacle is inserted into said container, at least a portion
of the ice particles in said container is displaced upward substantially around
the beverage receptacle.

4. The device of Claim 3, wherein said at least one support comprises at
least three support members extended inward from said wall of said
container, at or near said section above said bottom section, wherein at least
one of said at least three support members is adapted to fit into a groove or
indentation located on a lower portion of the beverage receptacle, to
substantially prevent the beverage receptacle from rotating inside said cooling
device.

5. The device of Claim 1, wherein said at least one support comprises at
least three support members extended inward from said wall of said container
for self-centering and supporting the beverage receptacle, wherein at least
one of said at least three support members is adapted to fit into a groove or
indentation located on a lower portion of the beverage receptacle, to
substantially prevent the beverage receptacle from rotating inside said cooling
device.

6. The device of Claim 1, wherein said at least one support comprises a
support member extending upward from a floor of said container, wherein said
support member has an upper surface adapted to engage at least one groove
or indentation located on a lower portion of the beverage receptacle, wherein
the engagement of said support member with the beverage receptacle
substantially prevents the beverage receptacle from rotating inside said cooling
device.

7. The device of Claim 6, wherein said support member is removable and
non-rotatably attached to said floor, such that other support members of
varying sizes and shapes can be non-rotatably attached to and detached from
said floor.

8. The device of Claim 6, wherein said support member comprises a coil
spring adapted to be sufficiently stiff enough such that the engagement of said
support member with the beverage receptacle can substantially prevent the
beverage receptacle from rotating inside said container.
9. The device of Claim 1, wherein said container has an indicator for indicating the amount of ice particles that should be placed in said container before inserting the beverage receptacle into said container.

10. The device of Claim 1, wherein said cap has a threaded section and said container has a threaded section, wherein said threaded sections enable said cap and container to be substantially tightened together, wherein said cap has a gasket that can be substantially sealed onto said container at the same time said sealing member is substantially sealed onto the beverage receptacle in said container.

11. The device of Claim 1, wherein said sealing member is made from a resilient material and comprises at least one feature taken from the group consisting of:
   a sealing portion that extends relatively downward and inward to engage and press against the shoulder portion of the beverage receptacle;
   a plurality of ribbed or blade-like surfaces that can be pressed against the beverage receptacle;
   a thickness sufficient to form a water-tight seal despite uneven surfaces and inexact dimensions of the beverage receptacle;
   an inner lipped flange adapted to be extended through said cap's opening to enable said sealing member to be snapped into said cap; and
   at least one groove into which a projection on said cap can be inserted, wherein said projection helps support and provide a pinching effect to said sealing member.

12. The device of Claim 1, wherein said sealing member has a first surface that can be substantially sealed against the shoulder portion of the beverage receptacle, and a second surface with openings therein that can prevent said sealing member from being sealed against a shoulder portion of a different beverage receptacle having a different size and/or shape placed in said container.

13. A cooling device for holding a beverage receptacle of a predetermined size and shape, comprising:
   a container for holding ice particles therein, wherein said container is adapted to enable the beverage receptacle to be inserted at least partially
therein, wherein a wall of said container is adapted such that when the beverage receptacle is placed in said cooling device, a first space is formed between the beverage receptacle and said container for storing the ice particles therein;

5 a cap adapted to be substantially sealed onto said container, wherein said cap has an opening through which a neck of the beverage receptacle can be extended;

a sealing portion on said cap adapted to be pressed against a shoulder portion of the beverage receptacle when the beverage receptacle is placed in said cooling device;

10 at least one support extended on the inside of said container adapted to engage and support the beverage receptacle in a manner that substantially prevents the beverage receptacle from rotating in said cooling device, wherein with the beverage receptacle in said cooling device, a second space is formed between a lower portion of the beverage receptacle and a floor of said container; and

wherein said cooling device is adapted such that when said cap is substantially sealed onto said container, and said sealing member is pressed and substantially sealed against the shoulder portion of the beverage receptacle, the beverage receptacle is held in substantial compression between said sealing portion and said at least one support, and the first and second spaces are substantially sealed thereby.

14. The device of Claim 13, wherein a bottom section of said container is narrowed in relation to a section above it, and wherein said at least one support comprises at least three support members extended inward from said wall of said container, at or near said section above said bottom section, wherein said section above said bottom section is extended radially outward in a manner that enables at least a portion of the ice particles in said container to be displaced upward when the beverage receptacle is pushed down into said container.

15. The device of Claim 13, wherein said at least one support comprises at least three support members extended inward as indentations on said wall of said container, wherein at least one of said at least three support members is
adapted to fit into at least one groove or indentation located on the lower portion of the beverage receptacle to prevent the beverage receptacle from rotating inside said cooling device.

16. A method of making a cooling device for holding a beverage receptacle of a predetermined size and shape, comprising:
   determining the size and shape of the beverage receptacle by at least one method taken from the group consisting of: measuring the size and shape of the beverage receptacle; scanning the size and shape of the beverage receptacle; and adapting the beverage receptacle to have a predetermined size and shape;
   forming an open-top container adapted to enable the beverage receptacle to be inserted at least partially into said container;
   forming said container so that a space suitable for storing ice particles therein is formed between said container and the beverage receptacle when the beverage receptacle is inserted into said container;
   forming a cap adapted to be substantially sealed onto said container,
   wherein said cap is formed with an opening through which a neck of the beverage receptacle can be extended;
   forming a sealing member for said cap adapted to be pressed and substantially sealed against a shoulder portion of the beverage receptacle when the beverage receptacle is placed in said cooling device;
   forming at least one support extended on the inside of said container for engaging and supporting the beverage receptacle, and for substantially preventing the beverage receptacle from rotating inside said container; and
   adapting said sealing member and said at least one support, and the distance between them, whereby when said cap is tightened and substantially sealed onto said container, the beverage receptacle is placed in substantial compression between said sealing member and said at least one support, the beverage receptacle is substantially prevented from rotating within said cooling device, and the pressure applied by said sealing member against the beverage receptacle helps to substantially seal said space.
17. The method of Claim 16, wherein forming said container comprises
making said container from an integral piece of moldable material, and
forming said at least one support as an indentation on said container.

18. The method of Claim 16, wherein the method comprises pre-selecting
the beverage receptacle and adapting said cooling device based on the size
and shape of the beverage receptacle, so that with the beverage receptacle in
the cooling device, the space can be substantially sealed by tightening said
cap onto said container, and so that other beverage receptacles having
different sizes and/or shapes will not fit properly inside said cooling device,
and/or will not allow a space between the other beverage receptacle and said
container when the other beverage receptacle is placed in said container to
be substantially sealed thereby.

19. The method of Claim 16, comprising scanning the beverage
receptacle, and forming said at least one support based on the size and
shape of the beverage receptacle, such that at least one of said at least one
support can fit into at least one groove or indentation located on a lower
portion of the beverage receptacle, wherein when the beverage receptacle is
held in substantial compression between said sealing member and said at
least one support, the beverage receptacle is substantially prevented from
rotating inside said container.

20. The product made by the method of Claim 16.

21. A cooler for holding a beverage bottle of a predetermined size and
shape, comprising:
   a container for holding ice particles therein, wherein said container is
adapted such that the bottle can be inserted at least partially therein, wherein
said container is adapted such that with the bottle positioned in said container,
a predetermined space is formed between the bottle and said container for
storing the ice particles in direct contact with the bottle;
   a cap adapted to be substantially sealed onto said container, wherein
said cap has a threaded section located on a lower portion of said cap, and
said container has a threaded section located on an upper portion of said
container, to enable said cap to be substantially tightened and sealed onto
said container;
wherein said cap has an opening through which a neck of the bottle can be extended, and at least one resilient sealing member adapted to be pressed and substantially sealed onto a shoulder portion of the bottle;

at least one supporting surface located on the inside of said container for providing vertical and lateral support for the bottle, and locating the bottle in a predetermined location inside said container, and adapted to substantially prevent the bottle from rotating inside said cooler;

wherein said cooler is adapted in relation to the bottle such that when the bottle is positioned in said container, said cap can be tightened and substantially sealed onto said container, at the same time that said sealing member is pressed and substantially sealed against the shoulder portion of the bottle; and

wherein said sealing member is adapted to be pressed against the bottle to hold the bottle in substantial compression between said sealing member and said at least one supporting surface, wherein the pressure applied by said sealing member against the bottle helps to substantially seal said space.

22. The cooler of Claim 21, wherein said sealing member is comprised of at least one feature taken from the group consisting of:

- a sealing portion that extends relatively downward and inward to engage and press against the shoulder portion of the bottle;
- a plurality of ribbed or blade-like surfaces that can be pressed against the bottle;
- a thickness sufficient to form a water-tight seal despite uneven surfaces and inexact dimensions of the bottle;
- an inner lipped flange adapted to be extended through said cap's opening to enable said sealing member to be snapped into said cap, and at least one groove into which a projection on said cap can be inserted, wherein said projection helps support and provide a pinching effect to said sealing member.

23. The cooler of Claim 21, wherein said sealing member has a first section that can be sealed against the shoulder portion of the bottle, and a second section with openings that can prevent said sealing member from
being sealed against a shoulder portion of a different bottle having a different size and/or shape placed in said container.

24. A cooler for holding a beverage bottle having a predetermined size and shape, comprising:
   a container adapted to enable the bottle to be inserted at least partially therein, wherein said container is adapted such that when the bottle is placed in a predetermined location in said cooler, a predetermined space for storing ice particles in direct contact with the bottle is formed between the bottle and said container;
   a cap adapted to be substantially sealed onto said container, wherein said cap has an opening through which a neck of the bottle can be extended, and wherein said cap has a sealing portion adapted to be pressed against a shoulder portion of the bottle when the bottle is placed in said container;
   at least one support extended on the inside of said container for engaging and supporting the bottle in said predetermined location, wherein at least one of said at least one support is adapted to engage at least one groove or indentation located on the bottle to substantially prevent the bottle from rotating within said container; and
   wherein said cooler is adapted such that when the bottle is placed in said predetermined location, and said cap is substantially sealed onto said container, the bottle is held in a substantially fixed position between said sealing portion and said at least one support, and said space is substantially sealed thereby.

25. The cooler of Claim 24, wherein said at least one support comprises at least three indented members extending inward from a wall of said container, wherein at least one of said indented members is adapted to fit into said at least one groove or indentation located on the bottle, and at least one other of said indented members is adapted to engage an exterior surface of a portion of the bottle, wherein a handle is provided on said container that extends above said one other of said indented members for carrying said cooler.

26. A container for holding a beverage receptacle, comprising:
   an upper portion having an opening therein for enabling the beverage receptacle to be inserted at least partially into said container;
an intermediate portion adapted such that when the beverage receptacle is placed in a predetermined location inside said container, a predetermined space is formed between a wall of said container and the beverage receptacle, wherein the space is sufficient in size for storing ice particles in direct contact with the beverage receptacle;

a lower portion comprising a plurality of support members extended radially inward as indentations from said wall of said container for engaging and supporting the beverage receptacle in the predetermined location; and

wherein said container, including said upper, intermediate and lower portions, and said plurality of support members, has substantially uniform wall thickness, and said plurality of support members extend inward in a manner that allows the beverage receptacle to be supported in the predetermined location, while at the same time, for the ice particles in the container to be in direct contact with the beverage receptacle.

27. The container of claim 26, wherein at least one of said plurality of support members is adapted to engage at least one groove or indentation located on a lower end of the beverage receptacle, to enable said container to substantially prevent the beverage receptacle from rotating within said container when the beverage receptacle is held in a substantially constant vertical position inside said container.

28. The container of claim 26, wherein at least a first of said plurality of support members is adapted to engage a groove or indentation located on the beverage receptacle, and at least a second of said plurality of support members is adapted to engage an exterior surface of the beverage receptacle.

29. The container of claim 28, wherein a handle is provided on said container that extends through a vertical center plane of said container, and wherein said handle extends substantially above said second of said plurality of said support members, wherein said second of said support members also extends through said center plane.

30. The container of claim 28, wherein at least two of said support members are adapted with sloped surfaces that help to self-center the
beverage receptacle as the beverage receptacle is being inserted into said container.

31. The container of claim 26, wherein a bottom section of said lower portion is narrowed in relation to a section above it, wherein said bottom section is adapted to enable said container to fit in conventional cup-holders.

32. The container of claim 31, wherein said support members are extended inward from said wall at or near said section above said bottom section, and wherein said section above said bottom section is extended radially outward and extends a predetermined distance from a lower portion of the beverage receptacle to enable at least a portion of the ice particles in said container to be displaced upward as the beverage receptacle is being pushed down into said container.

33. The container of claim 28, wherein said upper portion has threads for engaging a threaded cap, and is narrowed in relation to said intermediate portion.

34. The container of claim 26, further comprising a sealing cap for sealing onto said container, said cap having an opening through which a neck of the beverage receptacle can be extended, and a threaded section that enables said cap to be substantially tightened onto said container, wherein said resilient sealing member on the inside of said cap is adapted to be pressed against a shoulder portion of the beverage receptacle when the beverage receptacle is placed in said container and said cap is tightened onto said container.

35. The container of claim 34, wherein said sealing member comprises at least one feature taken from the group consisting of:

- a surface that is bonded or welded onto said cap;
- a sealing portion that extends relatively downward and inward to engage and press against the shoulder portion of the beverage receptacle;
- a plurality of ribbed or blade-like surfaces that can be pressed against the beverage receptacle;
- a thickness sufficient to form a water-tight seal despite uneven surfaces and inexact dimensions of the beverage receptacle;
an inner lipped flange adapted to be extended through said
cap's opening to enable said sealing member to be snapped into said
cap; and

at least one groove into which a projection on said cap can be
inserted, wherein said projection helps support and provide a pinching
effect to said sealing member.

36. The sealing cap of Claim 34, wherein said sealing member has a first
surface that can be substantially sealed against the shoulder portion of the
beverage receptacle, and a second surface with openings therein that can
prevent said sealing member from being sealed against a shoulder portion of
a different beverage receptacle having a different size and/or shape placed in
said container.

37. A cooling device for holding a beverage receptacle, comprising:

a container for holding ice particles therein, wherein a wall of said
container is adapted such that when the beverage receptacle is placed in said
cooling device, a space for storing the ice particles is formed between the
beverage receptacle and said container;

a cap adapted to be substantially sealed onto said container, wherein
said cap has an opening through which a neck of the beverage receptacle can
be extended, and a sealing portion adapted to be pressed against a shoulder
portion of the beverage receptacle when the beverage receptacle is placed in
a predetermined location in said cooling device;

a support member extending upward on the inside of said container for
engaging and supporting the beverage receptacle in the predetermined
location;

wherein said cooling device is adapted such that when said cap is
sealed onto said container with the beverage receptacle inside, said sealing
member is pressed and substantially sealed against the shoulder portion of
the beverage receptacle, and substantially holds the beverage receptacle
between said sealing member and said support member; and

said support member is removable such that other support members of
varying sizes and shapes can be attached to and detached from said
container to provide support for different sized and shaped beverage receptacles.

38. The cooling device of claim 37, wherein an upper surface of said support member is adapted to engage at least one groove or indentation located on a lower portion of the beverage receptacle in a manner that prevents the beverage receptacle from rotating inside said cooling device.

39. A cooler for holding a beverage bottle, comprising: a container for holding ice and water therein, wherein said container is adapted such that the bottle can be inserted at least partially therein and held in a predetermined location inside said cooler;

    a cap with an opening through which a neck of the bottle can be extended, said cap being capable of being connected to said container with the bottle substantially inside said container and the neck extending through said opening; and

    wherein said container has a narrowed lower section that is able to fit inside a conventional cup-holder, and said container has at least one supporting surface extended above said narrowed lower section to help maintain the bottle at a predetermined level inside said cooler.

40. The cooler of Claim 39, wherein an intermediate section extends upward and radially outward from said lower section, forming a sloped surface that is able to cause some of the ice in the container to be displaced upward when the bottle is pushed down into the ice.

41. The cooler of Claim 39, wherein said at least one supporting surface is extended inward from said container, at or near said intermediate section, to enable the bottle to be maintained at a predetermined distance from said sloped surface.

42. A method of making a cooling device for holding a beverage bottle of a predetermined size and shape, comprising:

    scanning a three dimensional image of the bottle;

    using said image to design an open-top container that enables the bottle to be inserted at least partially into said container, and positioned in a predetermined location such that a space suitable for storing ice particles in
direct contact with the bottle is created between said container and the bottle when the bottle is inserted into said container;

using said image to design a cap with a sealing portion and an opening through which a neck of the bottle can be extended, wherein said sealing portion is adapted to be pressed and substantially sealed against a shoulder portion of the bottle when the bottle is placed in the predetermined location inside said cooling device; and

using said image to design at least one support member on the inside of said container capable of engaging and supporting a lower portion of the bottle, wherein the location of said at least one support member is predetermined such that when said cap is tightened and substantially sealed onto said container, with the bottle inside said container, the bottle is held in substantial compression between said sealing member and said at least one support member, and the pressure applied by said sealing member against the bottle helps to substantially seal the space.

43. The method of Claim 42, wherein the method comprises pre-selecting a particular bottle to be held inside said cooling device, and adapting the cooling device so that the bottle fits substantially leak-free inside said cooling device, and so that other beverage bottles having different sizes and/or shapes will not fit properly inside said cooling device and/or will allow water to leak out of said cooling device.

44. The method of Claim 42, wherein the method comprises providing at least one support member taken from the group consisting of:

1) three or more supports extending inward from the inside of said container to self-center and provide support for the bottle;

2) one central support extending upward from a floor of said container having an upper surface adapted to engage one or more grooves or indentations located on the lower portion of the bottle to prevent the bottle from rotating; and

3) at least one removable support member capable of being connected to and extended from the floor.

45. A method of making a cooling device capable of holding a pre-selected beverage bottle of a predetermined size and shape, comprising:
measuring and/or scanning the specific size and shape of the bottle or adapting the bottle to have a specific predetermined size and shape; determining the size and shape of a different bottle having a different size and/or shape;

5 providing an open-top container in which the bottle can be placed and supported so that a space for storing ice particles is created between said container and the bottle when the bottle is placed in said container;

providing a cap adapted to be substantially sealed onto said container with the bottle inside to substantially hold said ice particles within the space,

10 wherein said cap is formed with an opening through which a neck of the bottle can be extended, and a sealing portion is provided for sealing against a shoulder portion of the bottle; and

adapting said cap and/or container such that with the different bottle placed inside said cooling device, said cap is prevented from being substantially sealed onto said container, and/or from being substantially sealed against a shoulder portion of the different bottle, such that water inside said container can leak out from the space.

46. The method of Claim 45, wherein the method comprises forming a sealing member on the inside of said cap, wherein said sealing member has a first surface that can be substantially sealed against the shoulder portion of the bottle when the bottle is placed in said container, and a second surface with openings therein that prevent said sealing member from being sealed against the shoulder portion of the different bottle having a different size and/or shape when the different bottle is placed in said container.

47. A cooler for holding a beverage receptacle of a predetermined size and shape, comprising:

a container adapted such that the beverage receptacle can be inserted at least partially therein, wherein with the beverage container positioned in a predetermined location in said container, a predetermined space is formed between said container and the beverage receptacle in which ice particles can be stored;
at least one supporting surface on said container for maintaining the
beverage receptacle in said predetermined location inside said container; and

an indicator for indicating how much ice should be placed inside said
container before the beverage receptacle is inserted into said container,
wherein the location of said indicator is based on the level of ice that should
be placed in said container to cause the ice particles to be displaced in a
manner that substantially surrounds the beverage receptacle and substantially
fills the space when the beverage receptacle is inserted into said container
and positioned at said predetermined location.

48. A beverage cooler comprising:

a container for holding ice particles, said container having an open-top
upper section and an interior sealing surface thereon;

a removable receptacle for holding a beverage, said receptacle having
upper, intermediate, and lower portions, wherein said upper portion has a
diameter greater than said intermediate portion, and said intermediate portion
has a diameter greater than said lower portion; and

wherein said receptacle is adapted to be inserted at least partially into
said container, with said upper portion extending above said container, and
said intermediate portion being in sealing engagement with said interior
sealing surface of said container, and wherein when said lower portion is
positioned inside said container, a predetermined space is formed between
said lower portion and said container in which said ice particles can be stored.

49. The beverage cooler of claim 48, wherein said cooler is a cup, mug or
sports bottle.

50. The beverage cooler of claim 48, wherein said sealing engagement
between said interior sealing surface and said intermediate portion is
substantially formed by friction.

51. The beverage cooler of claim 48, wherein a resilient sealing member is
provided on the exterior of said intermediate portion for providing said sealing
engagement between said intermediate portion and said interior sealing
surface.
52. The beverage cooler of claim 51, wherein said sealing member has a plurality of fin or blade-like rings that extend upward and outwardly, wherein they facilitate the insertion of said receptacle into said container.

53. The beverage cooler of claim 48, wherein a sealing member is provided on said interior sealing surface which provides said sealing engagement between said intermediate portion and said interior sealing surface.

54. The beverage cooler of claim 53, wherein said sealing member has a plurality of fin or blade-like rings that extend downward and inwardly, wherein they facilitate the insertion of said receptacle into said container.

55. The beverage cooler of claim 48, wherein said intermediate portion and said upper section of said container are provided with threaded sections for tightening said receptacle into said container.

56. The beverage cooler of claim 48, wherein a lower edge of said upper portion of said receptacle is adapted to engage an upper edge of said container as said receptacle is inserted into said container, to facilitate said sealing engagement between said receptacle and said container.

57. The beverage cooler of claim 48, wherein at least one groove is provided on said intermediate portion to allow excess air to be released from the space as said receptacle is inserted into said container.

58. The beverage cooler of claim 48, wherein said cooler is adapted such that said receptacle can be inserted into said container until an upper edge of said container engages a lower edge of said upper portion.

59. The beverage cooler of claim 48, wherein said sealing engagement between said receptacle and said container comprises a tongue and groove connection.

60. The beverage cooler of claim 48, wherein said lower portion of said receptacle is fluted.

61. The beverage cooler of claim 48, wherein an indicator line is provided on said container for indicating how much ice to use.

62. The beverage cooler of claim 48, wherein a sealing member is located on said intermediate portion for engaging said upper section and providing a
substantially water-tight seal, and said container is similar to a regular cup or mug with a substantially smooth surface around said upper section.

63. The beverage cooler of claim 46, wherein a sealing member is provided on said receptacle or container taken from a group consisting of 1) a plurality of resilient fin or blade-like surfaces, 2) a resilient gasket, coating or sleeve, and 3) a resilient ribbed surface.