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[54] **CONTAINER SUPPORT**

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[51] **Int. Cl.** **B63b 35/02,** A47g 29/00

[58] **Field of Search** ..... 9/1 R, 1 A, 348, 347; D34/5 N, 5 NN; D7/95, 70; 248/346.1; 220/9 F, 1 R, 69; 215/100.5

[56] **References Cited**

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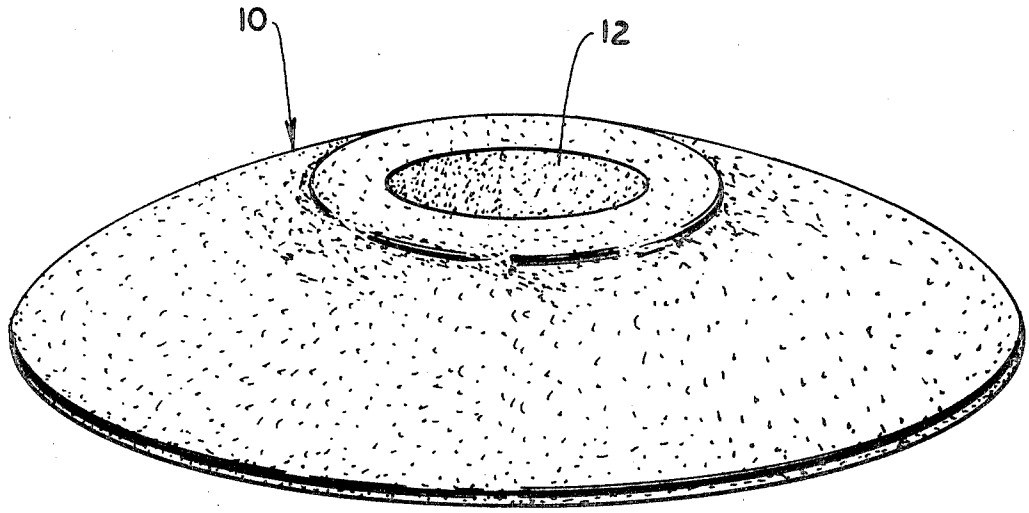
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[57] **ABSTRACT**

A buoyant beverage container support for retaining and supporting a beverage container in a vertical non-tilting and non-capsizing position on the surface of water. The beverage container comprises a piece of buoyant material of suitable size and shape containing a recessed portion therein for receiving the beverage container.

3 Claims, 3 Drawing Figures



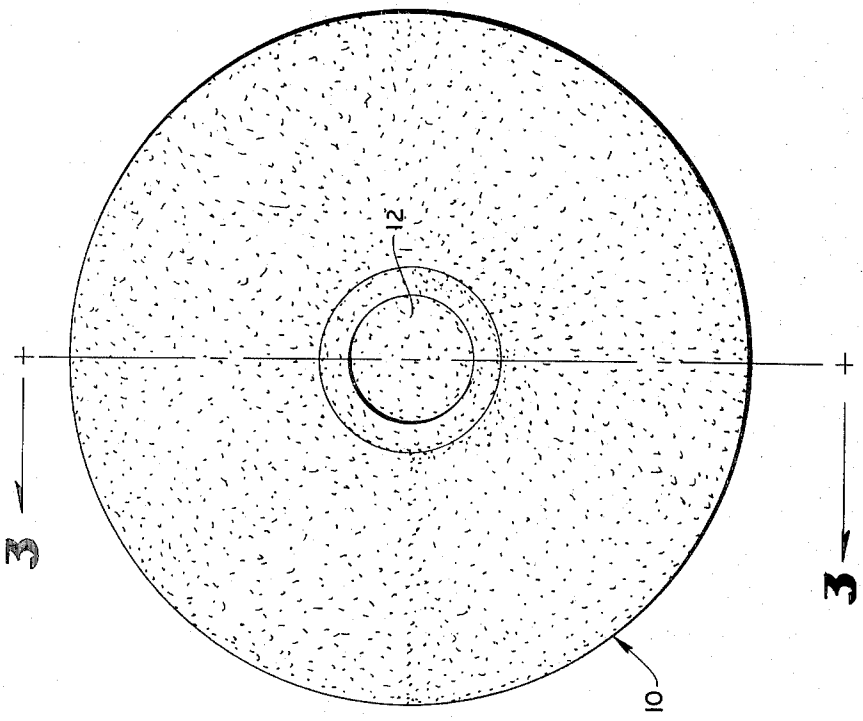


FIG 2

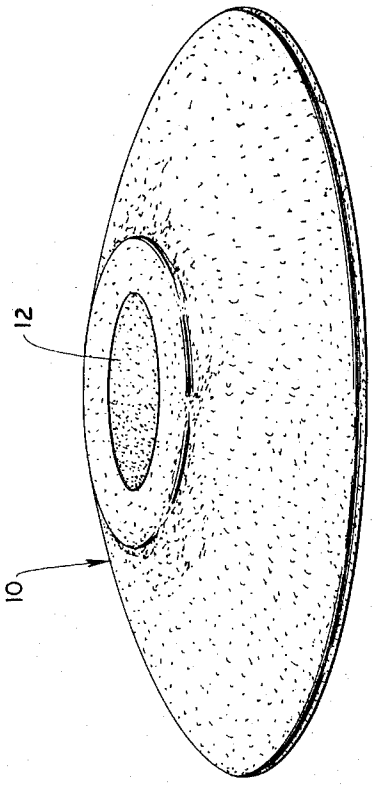


FIG 1

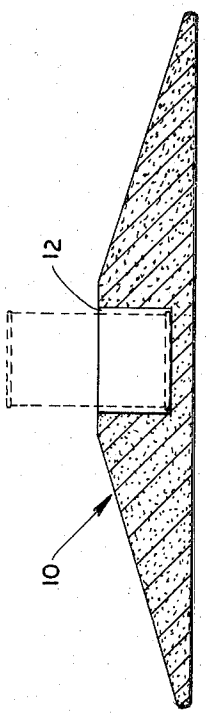


FIG 3

CONTAINER SUPPORT

This invention relates to a buoyant support for beverage containers.

The number of family and commercial swimming pools in use increases each year. Accompanying this increase in the number of swimming pools is an increase in the number and types of accessories which complement the pools and add to the enjoyment of using the pools. A need has existed for an accessory capable of supporting a beverage container in the immediate vicinity of a person in the pool in order to allow the person to reach the container without having either to go to the edge of the pool or to leave the pool entirely.

It is therefore an object of the present invention to provide a buoyant support for a beverage container which will float on the surface of the water within a pool and support a beverage container in an upright position without the container capsizing or tilting.

Other objects, aspects, and advantages of the present invention will in part be pointed out and in part be apparent from the following description of a disclosed embodiment taken in conjunction with the accompanying drawings in which:

FIG. 1 is a perspective view of a buoyant beverage container support according to a disclosed embodiment of the present invention.

FIG. 2 is a plan view of the beverage container support of FIG. 1.

FIG. 3 is a section side view of the beverage container support of FIG. 2 taken along the lines 3—3 of FIG. 2.

In accordance with the present invention a buoyant beverage container support is provided in which a piece of buoyant material has a recessed portion therein for retaining and supporting a beverage container. The beverage container support is of such a size that the beverage container is easily buoyed and of such a shape that the beverage container is kept from tilting and capsizing.

Suitable materials for the buoyant beverage container support of the present invention have a low specific gravity. By having a material of low specific gravity, a relatively small support can be constructed capable of adequately supporting the beverage container. Suitable materials for the beverage container support of the present invention include cellular polystyrene with a specific gravity from about 0.012 to about 0.16, polyvinyl chloride foam with a specific gravity from about 0.03 to about 0.16, polyurethane foam with a specific gravity from about 0.012 to about 0.5, and other similar materials. Cellular polystyrene is the most preferred material for the beverage container support and can be easily formed into acceptable support shapes by either molding or extruding.

Molded cellular polystyrene is produced by placing polystyrene beads, a blowing agent such as a pentane or other hydrocarbon, and an internal lubricant such as a polybis-amide wax or mineral oil in a mold and heating. The polystyrene beads expand and form a myriad of noninterconnecting cells. The degree of expansion can be controlled by various methods, and densities of from about 0.8 to about 10.0 pounds per cubic foot can be obtained. This process of forming the beverage container support is particularly suitable because the final shape is governed by the shape of the mold and no subsequent shaping steps are necessary after the support is taken from the mold.

Extruded cellular polystyrene is produced by the free expansion of a hot mixture of polystyrene, blowing agents, and various additives through a slit orifice to about forty times the pre-extrusion volume of the polystyrene. Densities of from about 1.5 to about 5.0 pounds per cubic foot can be obtained in extruding the polystyrene. This process of forming the beverage container support is acceptable if the support is to have flat surfaces. However, some additional shaping is necessary subsequent to the extrusion step, including the forming of the recessed portion for retaining and supporting the beverage container.

In addition to the ease of forming cellular polystyrene into a suitably shaped beverage container support, cellular polystyrene is preferred because of the ease of decorating by printing directly onto the surface. Printing processes such as flexographic, lithographic, offset, silkscreen and roll-leaf are usable on cellular polystyrene materials. The cellular polystyrene supports can also be colored by including water-insoluble dyes and pigments into the raw materials used to form the polystyrene material.

The size of the buoyant beverage container support of the present invention is governed by the weight of the beverage container and beverage. Since it is preferable that the surface of the support containing the recessed portion remain above the water surface in order to keep the beverage container away from the pool water, the beverage container support should be large enough so that only a portion of the support is below the water surface. This is accomplished by insuring that the total weight of the support, beverage container, and beverage is less than the weight of a volume of water equal to the volume of the support. For a cellular polystyrene with a specific gravity of 0.012, or a density of 0.8 pounds per cubic foot, a beverage container support with as little as 0.02 cubic feet of volume is sufficient to buoy a normal 12 ounce container full of beverage, the total weight of which is about 15 ounces. Of course, increased buoyancy is obtained by using a support with a larger volume.

The shape of the buoyant beverage container of the present invention can vary provided that the center of gravity of the support is located along the longitudinal axis of the recessed portion, the center of gravity of the combined support, container, and beverage is located along the longitudinal axis of the container in the recess portion, and additionally provided that the metacenter of the combined support, container, and beverage is located above the center of gravity. The metacenter is defined as the intersection of the counterbalancing force of the water on the tilting support with the longitudinal axis of the container in the recessed portion. Suitable container supports include thin slabs in square, rectangular, and circular shapes with the recessed portions located in the centers. The width of diameter of each of the supports should be of sufficient dimension to insure that the metacenter remains above the center of gravity, insuring that the beverage container will not tilt or capsize. The support should be of sufficient thickness to insure that the recessed portion adequately retains and supports the beverage container.

The shape and size of the recessed portion in the buoyant beverage container support is chosen in accor-

dance with the shape and size of the beverage container used with the support. If a typical 12 ounce cylindrical can is to be used with the support, a cylindrical recessed portion with a diameter slightly larger than the can is used. The depth of the recessed portion into the support can vary but the depth should be such that the container is held upright by the sides of the recessed portion. Normally, a depth equal to from one-third to two-thirds the length of the container is sufficient.

Referring now more particularly to the drawings, a preferred buoyant beverage container support in accordance with the disclosed embodiment of the present invention for a 12-ounce cylindrical can is depicted by the numeral **10** in FIG. **1**. The support is in the general shape of a truncated cone with a diameter at the base of 24 inches and a diameter at the top of 5 7/16 inches. The support is 4 ¼ inches thick and the edges around the base and the top are rounded. The recessed portion **12** is 3 inches deep, has a diameter of 3 3/16 inches and is centered in the circular top.

The buoyant beverage container support has been described hereinabove for purposes of illustration and is not intended to define the limits of the present invention, the scope of which is defined by the following claims.

I claim:

1. A buoyant beverage container support for retaining and supporting a beverage container on the surface of water in an upright non-tilting and non-capsizing position, comprising buoyant support means having a cylindrically-shaped recess for a beverage container, said cylindrically-shaped recess having a longitudinal axis that passes through the center of gravity of said support means, said buoyant support means being a solid buoyant material and having a size such that the total combined weight of said buoyant support means, beverage container, and beverage is less than the weight of a volume of water equal to the volume of said support means, and said buoyant support means having a general shape of a truncated cone having a proximately flat upwardly facing surface surrounding said cylindrically-shaped recess such that the center of gravity of the combined support means, container, and beverage is located along the longitudinal axis of the container being retained and supported.

2. A buoyant beverage container support in accordance with claim **1** wherein said support means is a piece of material selected from the group consisting of cellular polystyrene, polyvinyl chloride foam, and polyurethane foam.

3. A buoyant beverage container support in accordance with claim **1** in which the metacenter of the combined support means, container and beverage remains above the center of gravity when the retaining means has therein a beverage container containing beverage.

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