ABSTRACT

A beverage cup lid having means for facilitating the rapid identification of its drinking orifice and drinking straw aperture components by beverage servers as well as consumers of the beverage, especially by the visually or neurologically impaired, and especially by drivers of motor vehicles. In various embodiments of the subject beverage cup lid, the orifice (or drinking straw aperture) is circumscribed by an area characterized by a high degree of contrast relative to the remaining external surface area of the lid such that the two areas are visually discernible from one another. In other embodiments, the two areas are tactilely discernible from one another.
FIG. 1
BEVERAGE CUP LID

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Application No. 62/010,060, filed Jun. 10, 2014 and entitled, Beverage Cup Lid.

FIELD OF THE INVENTION

[0002] The subject invention relates to new and useful improvements to removably mounted lids normally used in combination with disposable cups or other drinking vessels provided for hot or cold “to-go” beverages. More particularly, the subject invention relates to such lids adapted to enable users to quickly and more easily discern the location of the drinking orifice thereof.

BACKGROUND OF THE INVENTION

[0003] The very earliest patent for a drink-through style lid, U.S. Pat. No. 2,003,657, was issued in 1935 to Stubbsfield for a “cup for drinking glasses.” Today, it is estimated that there exist over 500 varieties of drink-through lids with a myriad of patented designs. Twenty-six U.S. patents were issued in the 1980’s alone for refinements in disposable lids. Perhaps more impressive than how intricate and intensely designed these lids are is the volume with which they are consumed annually. It is estimated that Americans go through approximately one and a half billion plastic lids each year. This is no doubt driven by our on-the-go culture’s need to be able to walk, pedal, drive or otherwise commute while drinking beverages.

[0004] Most, if not all, disposable plastic lids of the prior art share in common the same basic construction. A typical lid intended for use with hot beverages is generally disc-shaped having a substantially round top to cover the cup opening, the cover being adapted with a downwardly depending flange adapted to frictionally engage or mate in a snap-fit fashion with the cup rim, and an off-center mouth or drinking orifice for enabling the user to drink the liquid without removing the cap or cover as is the usual practice. Together, the cover and the flange reduce spillage which might occur due to the inadvertent movement of the container, particularly when being used in a moving vehicle. In the case of cold beverages, a small circular aperture is often provided with a detachable or frangible closure so that a drinking straw may be inserted through the aperture after the closure has been pierced.

[0005] While much attention has been given to designing lids with such features as mouth comfort, splash reduction, lid-to-cup engagement, and one-handed opening of drinking-holes, very little if any attention has been given to facilitating the user’s rapid identification of the drink-hole such that the cup may be oriented in the user’s hand to accomplish proper alignment of the drink-hole with the mouth for consuming the beverage. It is not uncommon, for example, for to-go beverages to be served to consumers through fast-food drive-through windows. Most often, the purchaser first places the beverage in a cup holder before exiting the drive-through, and then, while driving, reaches for the cup to drink the beverage while driving. This requires the driver to look for the location of the small and often difficult to see drinking orifice, and then to rotate the cup using either the fingers and thumb of one hand, or using two hands to the aforementioned proper orientation. In either instance, the driver’s attention is off the road for an unsafe period of time. Failure to properly orient the cup in the user’s hand will result in spillage of what can be an extremely hot beverage causing burns and/or resulting in loss of control of the vehicle.

[0006] Challenges in readily identifying the drinking orifice of available beverage lids are not only encountered by drivers of vehicles on-the-go, but by individuals with visual or neurological impairments as well. In many cases, individuals with such impairments have difficulty seeing objects or discerning one object from another. Tasks which most would consider effortless, like discerning the drinking orifice from the remainder of the lid top such that the beverage can be consumed without spilling, can be an overwhelming task to those suffering from these impairments resulting in frustration, avoidance and diminished self-reliance.

[0007] Certainly there exists a longstanding need for an improved to-go type lid adapted to enable users to quickly and more easily discern the location of the drinking orifice thereof in order to obviate the heretofore described problems associated with lids of the prior art.

SUMMARY OF THE INVENTION

[0008] The subject invention more specifically relates to various embodiments of a lid for removably mounting on the rim of disposable cup or other drinking vessel used for hot or cold “to-go” beverages, the lid being adapted with means for facilitating the rapid identification of the drinking orifice thereof by servers and consumers of the beverage. In accordance with a first preferred embodiment of the invention, the lid comprises a center cover section and a peripheral cup engaging section, the center section comprising a panel which conforms substantially to the area defined by a cup rim, the peripheral section comprising an annular flange formed around the periphery of the panel and extending substantially perpendicular to the plane of the panel, usually but essentially downwardly. The panel is provided with a drinking portion comprising an off-center opening or “drinking orifice” disposed therethrough and through which a predetermined amount of the cup contents is permitted to flow when the cup is tilted away from its longitudinal axis in the direction of the opening. In at least one variation of this first embodiment, the opening is formed by removing or folding away a flap detachably formed in the panel. In order to facilitate the rapid location of the drinking orifice in each of the above described embodiments, the orifice is circumscribed by an area characterized by a high degree of contrast relative to the remaining external surface area of the lid such that they are rapidly and readily visually and/or tactiley discernable from one another.

[0009] There has thus been outlined, rather broadly, the more important characteristics and features of the invention in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are, of course, additional features of the invention that will be described hereinafter and which will form the subject matter of the claims appended hereto. In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of descrip-
tion and should not be regarded as limiting. As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be utilized as a basis for the designing of other structures, methods and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.

[0010] Further, the purpose of the foregoing abstract is to enable the U.S. Patent and Trademark Office and the public generally, and especially the scientists, engineers and practitioners in the art who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection the nature and essence of the technical disclosure of the application. The abstract is neither intended to define the invention of the application, which is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

[0011] It is, therefore, a primary object of the subject invention to provide a drink-through cup lid adapted to facilitate the location of the drinking orifice thereof.

[0012] It is another primary object of the subject invention to provide a new and improved stackable plastic cup lid for beverage containers, especially disposable cups, which lid includes a drinking area in high contrast to the remaining cover area such that the drinking orifice may be more readily and rapidly located, especially by the visually or neurologically impaired, and especially by drivers of motor vehicles.

[0013] It is another primary object of the subject invention to provide a drink-through cup lid for “to-go” style beverage cups, the lid being adapted to minimize the time and effort required to locate the drinking orifice thereof, especially when the cup is being used under adverse conditions, such as while occupying a moving vehicle or while operating the same.

[0014] Another object of the subject invention is to provide a new and improved stackable plastic cup lid for “to-go” style cups, the lid having a small circular drinking straw aperture with a detachable or integrable closure, the lid aperture being circumscribed by an area of high contrast relative to the remaining area of the lid surface to facilitate the location of the aperture for the purpose of straw insertion therethrough.

[0015] Another object of the subject invention is to provide a cup lid that may be produced in a variety of surface architectures and diametrical sizes.

[0016] It is a still further object to provide a beverage cup lid which is of compact, light-weight design and may be readily shipped or stored in bulk.

[0017] Another object of the subject invention is to provide a beverage cup lid that is relatively simple in design and therefore capable of rapid construction at relatively low costs.

[0018] These together with other objects of the invention, along with the various features of novelty which characterize the invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its advantages and the specific objects attained by its use, reference should be had to the accompanying drawings and descriptive matter in which there is illustrated a preferred embodiment of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] The invention will be better understood and objects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

[0020] FIG. 1 is a perspective view of a first embodiment of a drink-through cup lid of the subject invention shown removably mounted to a drinking cup;

[0021] FIG. 2 is a plan view of the cup lid of FIG. 1;

[0022] FIG. 3 is a plan view of an alternate embodiment of a cup lid in accordance with the teachings of the subject invention; and

[0023] FIG. 4 is plan view of another embodiment of a cup lid in accordance with the teachings of the subject invention and adapted for use with a drinking straw.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0024] At the outset, it should be clearly understood that like reference numerals are intended to identify the same structural elements, portions or surfaces consistently throughout the several drawings, as such elements, portions or surfaces may be further described or explained by the entire written specification, of which this detailed description is an integral part. Unless otherwise indicated, the drawings are intended to be read (e.g., cross-hatching, arrangement of parts, proportion, degree, etc.) together with the specification, and are to be considered a portion of the entire written description of this invention. In addition, certain terms are used throughout such as “top”, “upper”, “lower”, “bottom”, “lateral”, and the like. These terms are used in order to establish an effective frame of reference when referring to the accompanying drawings. These terms, however, should not be regarded as limiting with regard to the intended scope of the present invention, except where specifically indicated.

[0025] Reference is first made to FIG. 1 in which there is illustrated a perspective view of a first embodiment of the subject cup lid (hereinafter also referred to more simply as a “lid”), designated generally by reference numeral 10A and shown removably mounted to a drinking cup 12. The term “cup” should be construed in the broadest possible sense to mean any open-ended drinking vessel comprising a bottom having a periphery connected to an upwardly extending side wall, typically but not essentially cylindrically shaped or frusto-conically shaped, the side wall being either with or without a handle attached thereto, the side wall terminating upwardly in an opening defined by either a flat annular rim or a beaded or rolled rim onto which a lid 10A may be removably mounted by pressing lid 10A down securely upon the cup rim. To the extent not obvious, lid 10A is designed to cover cup 12 after the cup is filled with a liquid, normally a consumable beverage. Cup 12 may be manufactured from a variety of materials of construction. For instance, in the case of containers for hot beverages, cup 12 may be manufactured from a closed-cell extruded polystyrene foam, such as Styrofoam brand insulating foam. In the case of containers for cold beverages, cup 12 may be manufactured from one of the flexible polyethylene plastics. The subject lid 10A can, of course, be used in conjunction with cups made from other materials such as paper, cardboard, glass, biodegradable plastics or the like.

[0026] With continued reference to FIG. 1 and additional reference to FIG. 2, lid 10A is of a substantially disc-like shape and is generally comprised of two main sections, namely a center cover section 14, and a peripheral cup-engaging section 16 joined at the annular junction 18 of cover
section 14 and cup engaging section 16. Cover section 14 is comprised of a deck or panel 20 which is sized and shaped to cover the opening of cup 12, which is the area defined by the cup rim and typically circular in shape, when lid 10A is mounted thereon. Cup engaging section 16 is comprised of an annular flange 22 extending downwardly from the periphery of cover section 14, at junction 18. Annular flange 22 is substantially perpendicular to the horizontal plane of panel 20. Cover section 14 and cup engaging section 16 work in combination to reduce spillage which might otherwise occur if the cup were uncovered, particularly when being used in a moving vehicle which subjects the cup to inadvertent movement.

[0027] Annular flange 22 overlies the rim of cup 12 when lid 10A is mounted to cup 12 and includes an inner surface (not shown) sized and shaped to frictionally engage or mate in snap-fit fashion over the rim of cup 12 which may be flat, beaded or rolled. Snap engagement with cup 12 is typical in the case of plastic cups for cold beverages whereas frictional engagement is typical in the case of insulated cups for hot beverages. It should be noted that a myriad of different cup engaging means may be employed and this functionality is considered conventional and, therefore, not requiring further description.

[0028] Panel 20, or portions thereof, may be either above or below junction 18. In the embodiment illustrated, panel 20 is elevated above junction 18 via upwardly extending annular wall 24 which comprises a wide band-like portion of center cover section 14. Wall 24 provides a surface against which the lower lip of a person drinking from the cup can be biased to form an effective seal therewith thus preventing accidental dripping of the contents.

[0029] Panel 20 includes a drinking portion comprising an off-center drinking orifice 26 disposed therethrough (also known as a “mouth hole” or “drink hole”) and through which a predetermined amount of the cup contents is permitted to flow when the cup is tilted away from its longitudinal axis in the direction of the orifice. Accordingly, orifice 26 enables the user to drink a liquid through lid 10A without its removal from cup 12. Various embodiments of the lids of the subject invention are, therefore, of the “drink-through” variety. Drinking orifice 26 is off-set from the center of panel 20, and is either proximate to, in communication with, or entirely traverses flange 22. An air vent (not shown) is often provided spaced from the drinking orifice to prevent a vacuum effect inside the container when drinking from orifice 26.

[0030] Drinking orifice 26 may be pre-formed in panel 20, as shown in FIGS. 1 and 2, or may be initially covered by a removable or movable flap 28, as shown in alternate lid embodiment 10B of FIG. 3. Rather than being preformed, the drinking orifice 26 of lid 10B is manually created by the user or beverage server by tearing away a removable member 28 comprising a portion of central cover section 14 and a neighboring portion of peripheral cup engaging portion 16, along continuous score lines or die cuts 30. In at least one additional variation (not shown), opening 26 is manually created by the user or beverage server by tearing back a portion of flange 22 and panel 20 along a pair of opposing score lines or die cuts and folding the resulting flap either upwardly or downwardly along a fold line or other hinge mechanism.

[0031] In order to facilitate the rapid location of drinking orifice 26 in each of the above described embodiments, orifice 26 is at least substantially if not entirely circumscribed by (partially or entirely surrounded by) a first area 30 of high visual contrast and/or tactile contrast relative to a second area 32 comprising the remaining external surfaces of the lid such that first area 30 and second area 32 are readily discernible from one another visually and/or tactiley. First area 30 circumscribing drinking orifice 26 is also referred to herein as “drinking area 30” and second area 32 is also referred to herein as “cover area 32.” In a preferred embodiment, drinking orifice 26 is substantially centered within first area 30. As seen in other embodiments such as shown in FIG. 3, however, drinking orifice 26 may extend to and be in communication with the border 34 of first area 30. In one embodiment, first area 30 is approximately equal in size to that area around drinking orifice 26 that would normally be engaged by a user’s lips when drinking therethrough. In one embodiment, first area 30 extends outwardly from at least a substantial portion of the periphery of drinking orifice 26 a distance ranging from 2 mm to 20 mm with a preferred distance of between 5 mm and 15 mm. In one embodiment, first area 30 comprises the area around drinking orifice 26 that would normally be engaged by a user’s lips when drinking therethrough. The term “high visual contrast” as used herein may be interpreted broadly as the difference in visual properties that make an area, such as first area 30, distinguishable from another area, such as second area 32. In plain English contrast may also be described at its most basic level as “things which look different from one another” or as the definition taken from Merriam-Webster dictionary, “to be different especially in a way that is very obvious”. The ways to achieve visual contrast are endless: the simplest are the use of large/small, light/dark, horizontal/vertical, square/round, colored/plain design elements. Visual contrast, therefore, is the difference in luminance and/or color that makes an area, such as first area 30, distinguishable from another area, such as second area 32. Colors that are opposites on the color wheel, for instance, are highly contrasting. In another embodiment, either first area 30 or second area 32 (preferably the former) is comprised of a phosphorescent (i.e., glow-in-the-dark) material. Tactile contrast can be achieved through the employment of smooth vs. rough, or sticky vs slippery, surfaces, for instance, and is distinguished from the writing system, Braille.

[0032] Individuals suffering from some visual or neurological impairment have demonstrated an ability to more easily and quickly locate the drinking orifice by discerning the drinking area from the cover area of the lid, causing them less frustration and encouraging them to finish their beverages with an additional benefit of less spillage. Even if they are unable to see the actual orifice, they are able to see the drinking area which aids in properly orienting the drinking cup in their hand and for placing the drinking portion in juxtaposition with the mouth for drinking the cup contents. For those with relatively unimpaired or “normal” vision and neurologic function, such as the aforementioned vehicle drivers, visual identification of the larger, highly contrasting drinking area, as opposed to the relatively smaller and more obscure drinking orifice, can be accomplished with rapidity, thus reducing the time that their eyes are off of the road.

[0033] With continued reference to FIG. 1, each of the drink-through style lids of the subject invention may be used in combination with a cup 12 adapted with a first region 12a of high contrast relative to said second region 12b comprising the remaining external surface area of the cup 12 such that first region 12a and second region 12b are rapidly and readily discernible from one another visually and/or tactiley. First region 12a ranges from approximately 50% to 300% the
width of the drinking orifice 26 and is intended to be aligned therewith during mounting of the lid 10 to cup 12. In one embodiment first region 12a comprises a rectangular strip extending from or in close proximity to the rim of cup 12 downwardly to or in the direction of the bottom of cup 12. Other shapes may also be employed. In other embodiments, rather than a single strip as shown in FIG. 1, first region 12a may be comprised of a plurality of smaller "sub-regions" comprised of geometric shapes, letters or other indicia provided that as a whole they are together readily and rapidly distinguishable from second region 12b. As may be appreciated, first region 12a of cup 12 and first area 30 of lid 10A are aligned with one another to facilitate the rapid location of drinking orifice 26 by users. Preferably, but not essentially, first region 12a and first area 30 share in common the same color, luminance and/or tactile characteristic(s) such that they may be readily and rapidly distinguished from second region 12b of cup 12 and second area 32 of lids 10a,b and, more importantly, serve as an indicator of the location of drinking orifice 26.

[0034] Referring now to FIG. 4, panel 20 of lid 10C is adapted with at least two intersecting die cuts 42 to form flange closure 40 which may be opened to receive a drinking straw (not shown). In practice, an end of the drinking straw is commonly used to pierce the flange closure 40 to create a small relatively circular aperture through which the straw is inserted for withdrawing the fluid contents of the cup. Just as it is often difficult to locate the drinking orifice of drink-through lids, so is it challenging in many instances to see the die cuts 42 that comprise the flange closure 40, especially for the visually or neurologically impaired, or for vehicle operators who perform this task while the vehicle is moving (not recommended). Accordingly, in order to facilitate the rapid location of flange closure 40 for the insertion of a drinking straw therefrom, panel 20 of lid 10C includes a first area 30' circumscribing closure 40 and in high visual contrast and/or tactile contrast with second area 32' comprising the remaining external surfaces of the lid such that first area 30' and second area 32' are rapidly discernible from one another visually and/or tactilely. First area 30' circumscribing closure 40 is referred to herein as "perforation area 30'" and second area 32' is referred to herein as "cover area 32'."

[0035] All embodiments of the subject beverage lid may be constructed from a variety of materials including food grade plastics such as polyethylene, polypropylene or styrene, for instance, or from paper, cardboard, bio-degradable plastics or organic materials and the like. Plastics are most common given their utility in numerous methods of manufacture. The subject lids may be produced using the above materials by a variety of conventional processes. For example, lid 10 may be thermoformed, custom injection molded, vacuum and pressure molded, water jet cut or die-cut using a variety of methods each delivering a combination of results, tolerances, price and quality. In one embodiment, the subject lids may be vacuum-formed from a thin (e.g., 0.015") sheet of plastic material (e.g., styrene) which is inert to contents of the cup. Contrast elements such as those described above may be added to or integrally formed with first area 30 and second area 32 (and first area 30' and second area 32' for drinking straw embodiments) using a variety of methods and materials. In a preferred embodiment, high visual contrast is created by applying highly contrasting colors to the aforesaid areas such as through printing on their surfaces using inks. In other embodiments, areas 30,32 may be two separate physical components such as may be produced from a two-component combination injection molding process to produce a two-colored part, as opposed to a single component having two contrasting surface areas.

[0036] Although the subject lids are intended to be disposable, other embodiments may be constructed so as to be non-disposable or "ware-washable". Given that the subject drink-through lids will not only have contact with the liquid contents of the cups to which they will be attached, but to saliva, lipstick, lip gloss, lip balms, epithelial cells, bacteria and viruses, food and other solid matter as well, non-disposable versions must be constructed so as to be able to withstand repeated washing. When it comes to keeping surfaces sanitary, non-porosity is key. Using porous materials that can absorb liquid and subsequently hold onto it increases the chances of contamination from growing bacteria. Moreover, because the surfaces of the subject lids will be exposed to liquids and will require frequent cleaning, said surfaces shall be constructed of a corrosion-resistant, nonabsorbent, and smooth material. Such materials may not allow the migration of deleterious substances, change colors or absorb colors, and under normal use conditions shall be: safe; durable, corrosion-resistant, and nonabsorbent; sufficient in weight and thickness to withstand repeated washing; finished or treated to have a smooth, easily cleanable surface; and resistant to pitting, chipping, crazing, and decomposition.

[0037] Although the present invention has been described with reference to the particular embodiments herein set forth, it is understood that the present disclosure has been made only by way of example and that numerous changes in details of construction may be resorted to without departing from the spirit and scope of the invention. Thus, the scope of the invention should not be limited by the foregoing specifications, but rather only by the scope of the claims appended hereto.

What is claimed as being new, useful and desired to be protected by Letters Patent of the United States is as follows:

1. A beverage cup lid comprising, a center cover section sized and shaped to cover the opening of a beverage cup, said center cover section having a drinking orifice therethrough, said drinking orifice being at least partially surrounded by an area of high visual contrast relative to the remaining external surfaces of the lid, whereby said first area is readily discernible from said remaining external surfaces to facilitate location of said drinking hole.

2. A beverage cup lid comprising:
   a. a center cover section comprised of a panel sized and shaped to cover the opening of a beverage cup;
   b. a peripheral cup engaging section comprised of an annular flange depending from the periphery of said center cover section; and
   c. a drinking orifice disposed through said panel; said drinking orifice being at least partially surrounded by a first area of said lid, said first area being in high visual contrast with the remaining external surfaces of the lid such that said first area and said remaining external surfaces of the lid are rapidly discernible from one another.

3. A combination beverage cup and beverage cup lid, the combination comprising:
   a. a drinking vessel having a bottom, a tubular wall portion having an exterior surface, and an opening defined by a rim; said tubular wall portion comprising a first region of high visual contrast relative to the remaining external
surfaces of said drinking vessel such that said first area and said remaining external surfaces of the lid are rapidly discernible from one another; and
b. a lid comprising:
1. a center cover section comprising a panel sized and shaped to cover said opening of said beverage cup;
2. a peripheral cup engaging section comprising an annular flange depending from the periphery of said center cover section and in removable engagement with said cup rim; and
3. a drinking orifice disposed through said panel; said drinking orifice being at least partially surrounded by a first area of high visual contrast relative to the remaining external surfaces of said lid such that said first area and said remaining external surfaces of the lid are rapidly discernible from one another;
whereby said first area of said lid and said first region of said drinking vessel are aligned to facilitate the identification of said drinking orifice by a user.