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Coulson

(54) **HERMETIC SEALING AND ADJUSTABLE VALVE CONTROL, FLOW REGULATING, SELF VENTING, CLOSURE APPARATUS**

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(57) **ABSTRACT**

An improved closure apparatus comprising generally of cylindrical members and varied pourable cylindrical spout apparatuses The apparatus comprises an inner sealer ring assembly with a permanent tamper evident seal which mates directly on the neck of a container, the apparatus further comprises an optional spout, funnel, top stopper plug or a multitude of novelty apparatus mechanisms The closure has, but not limited to having a two-piece configuration The pieces of the closure are affixed together to form a one-piece solid construction in its basic form The inner sealer ring assembly hermetically seals and reseals containers during primary use During primary use, the apparatus remains is attached to its mated container so there is reduced throw away and containment of residual liquids and other viscous and pourable materials, condiments and dry goods, preventing splashing and spillage The apparatus further comprises a valve control which performs as an adjustable flow control mechanism that enables atmosphere in, as product is dispensed, reducing gurgling, burping and spitting.

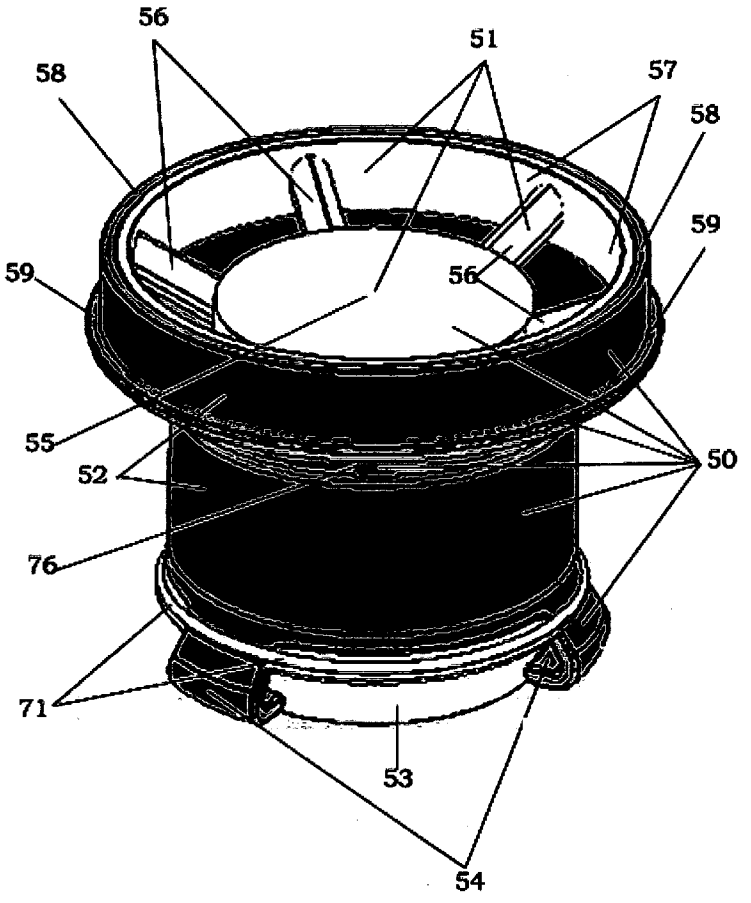


FIG. 1

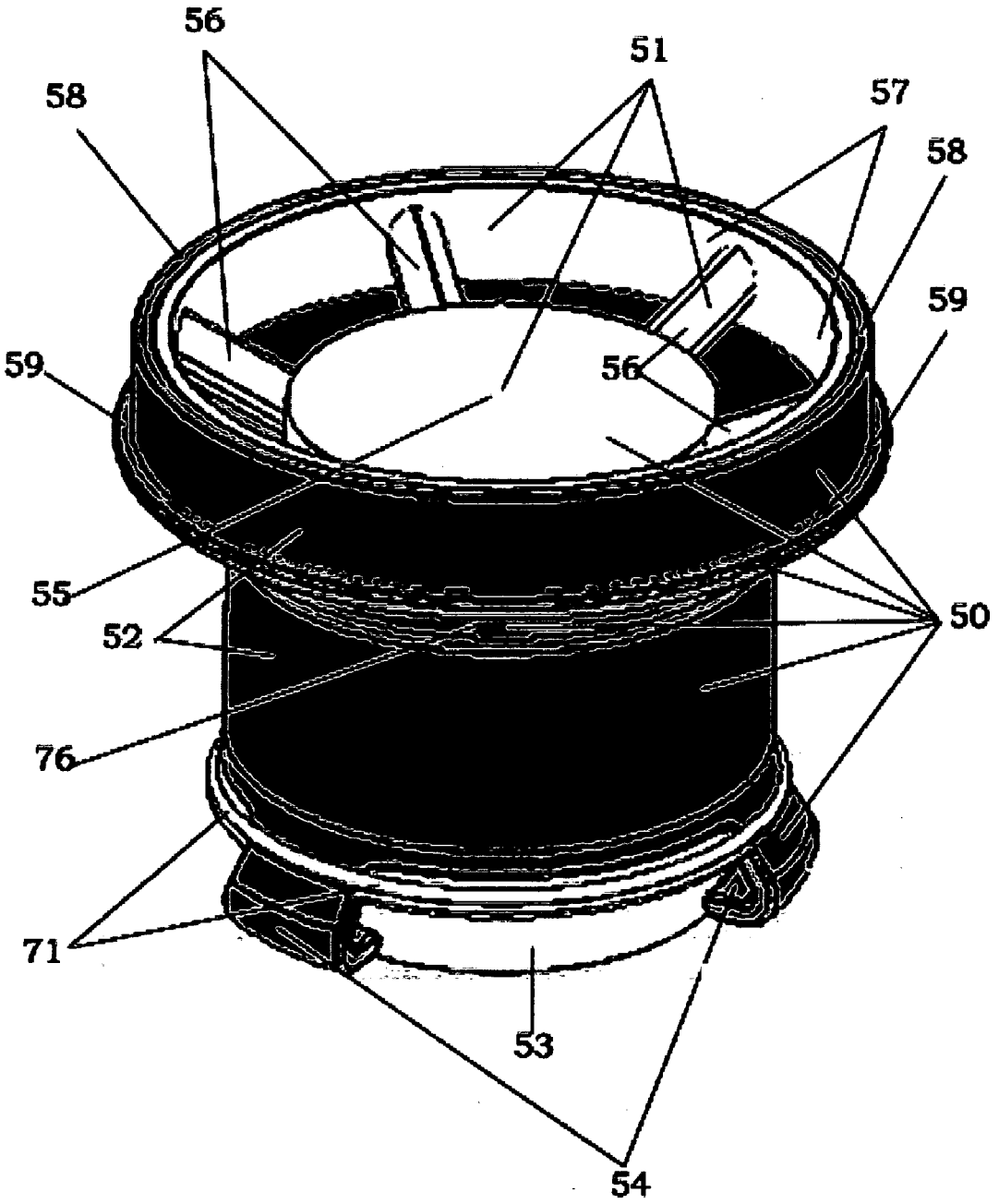


FIG. 2

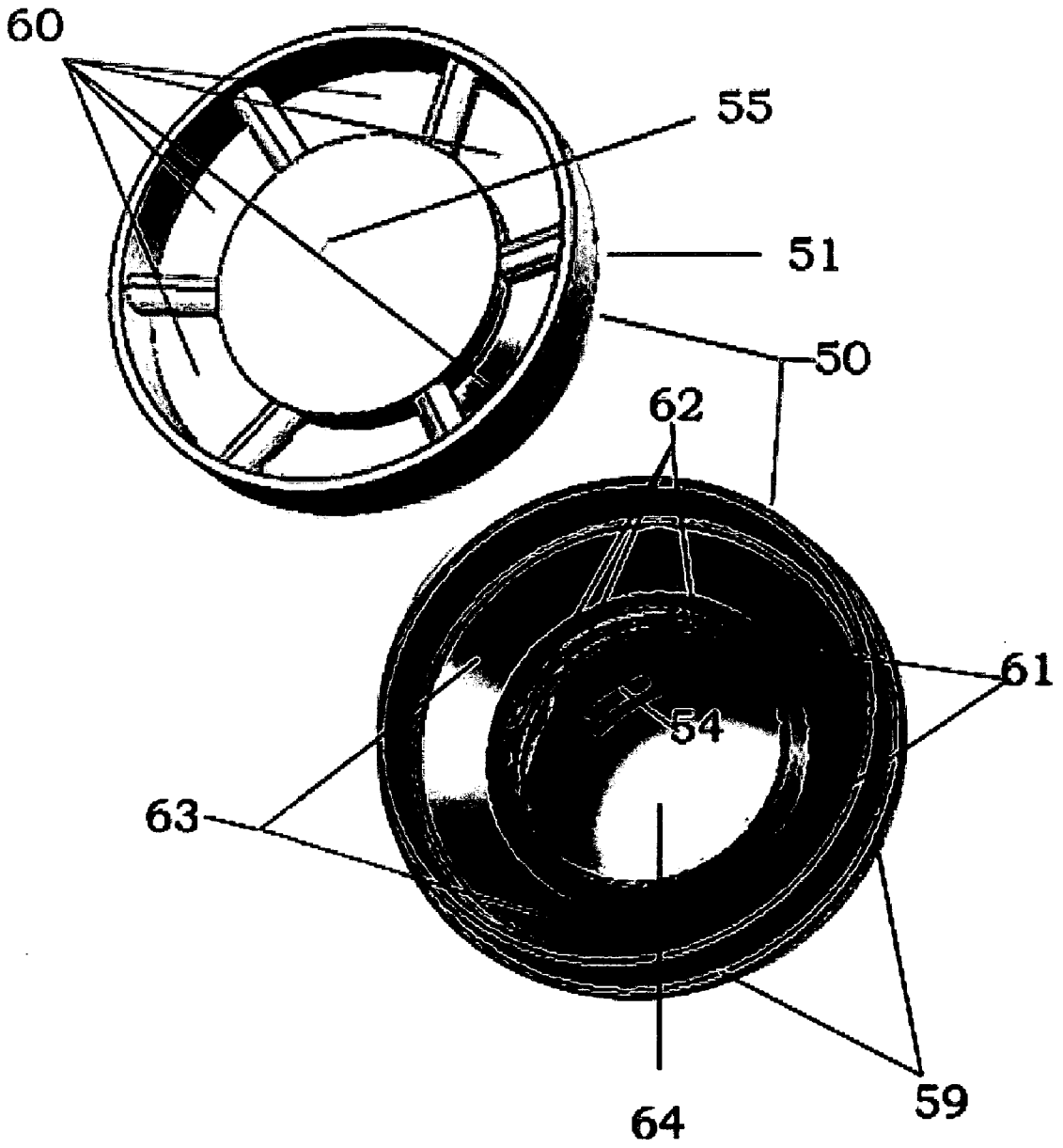


FIG. 3

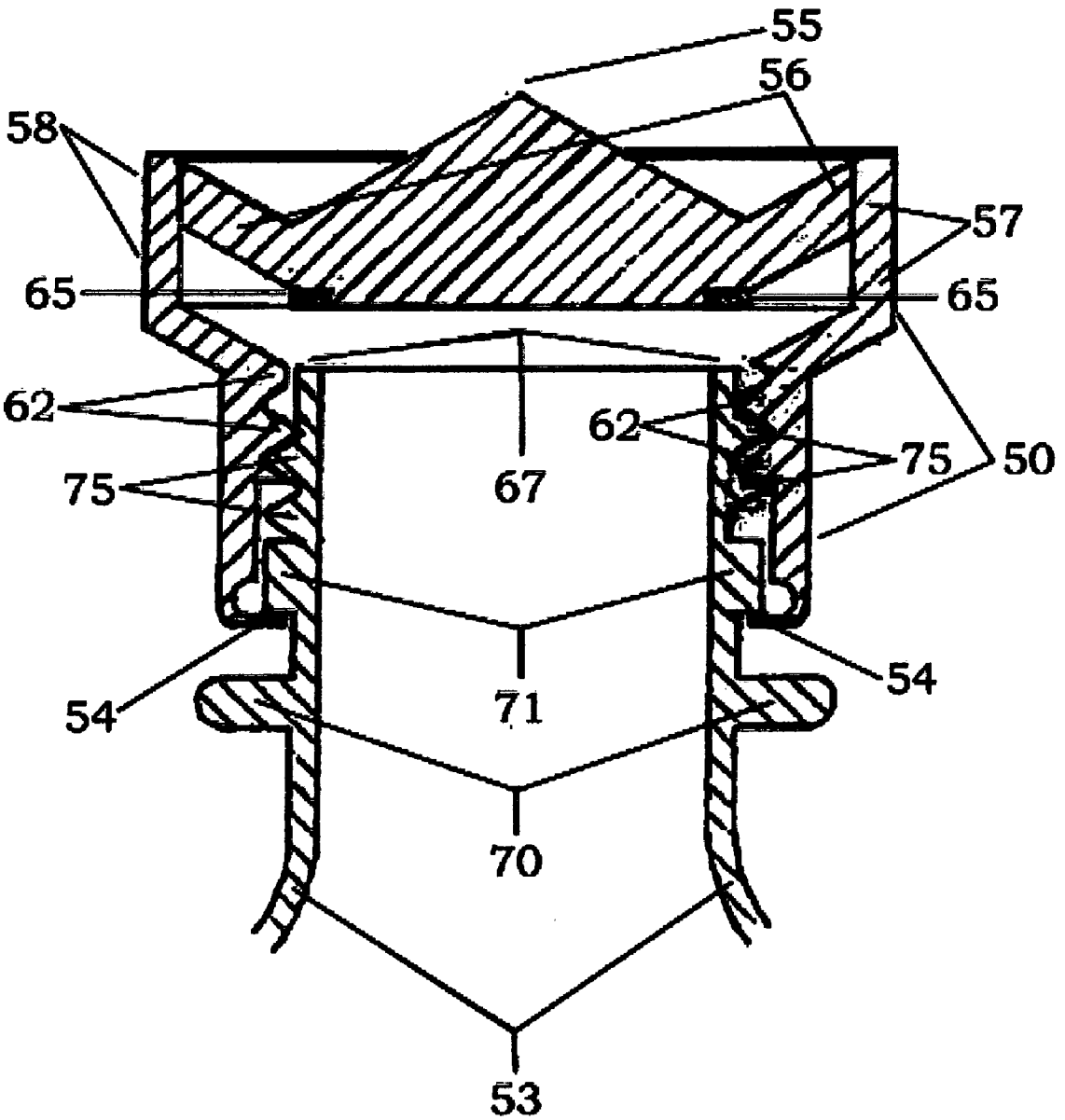


FIG. 4

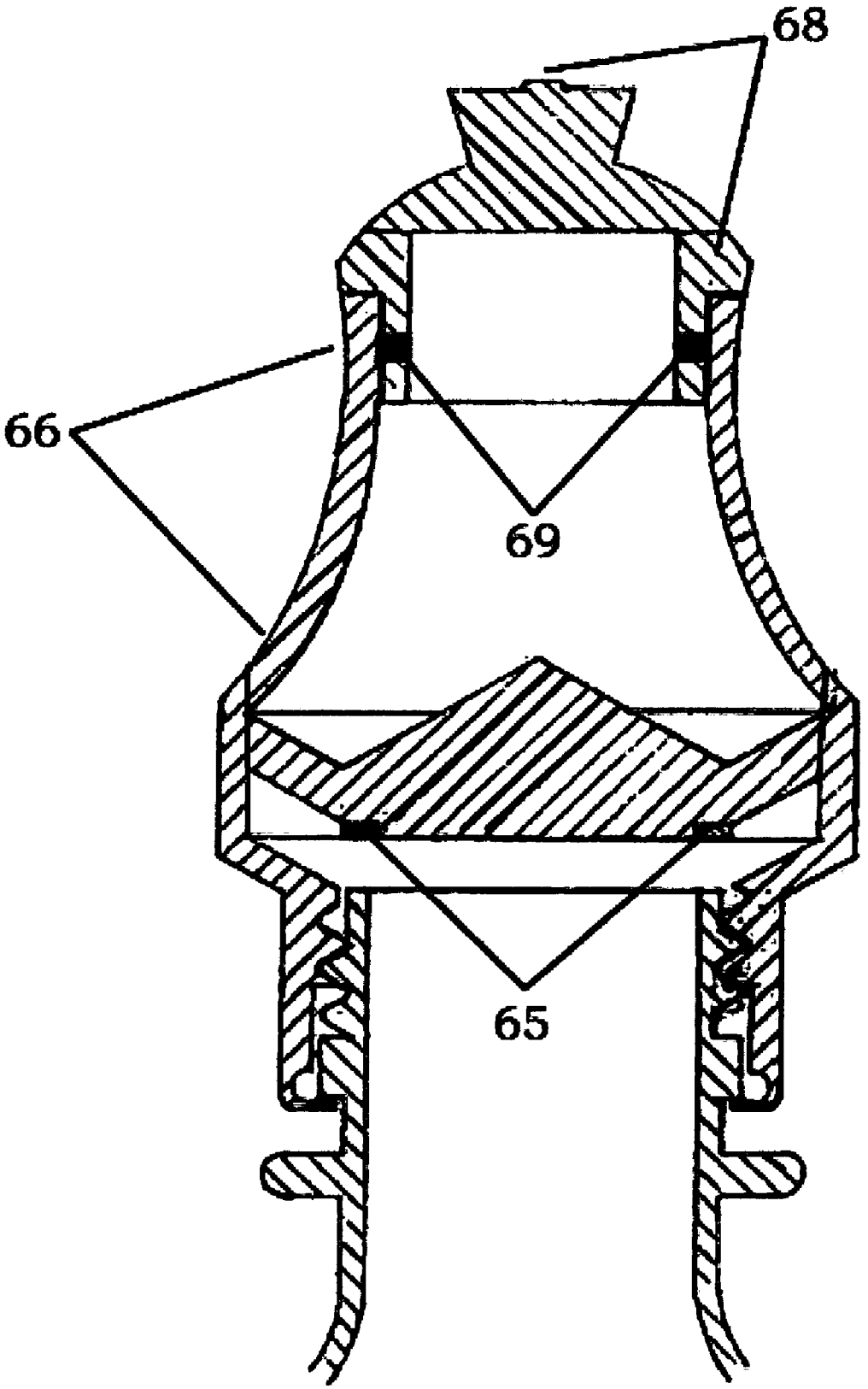


FIG. 5

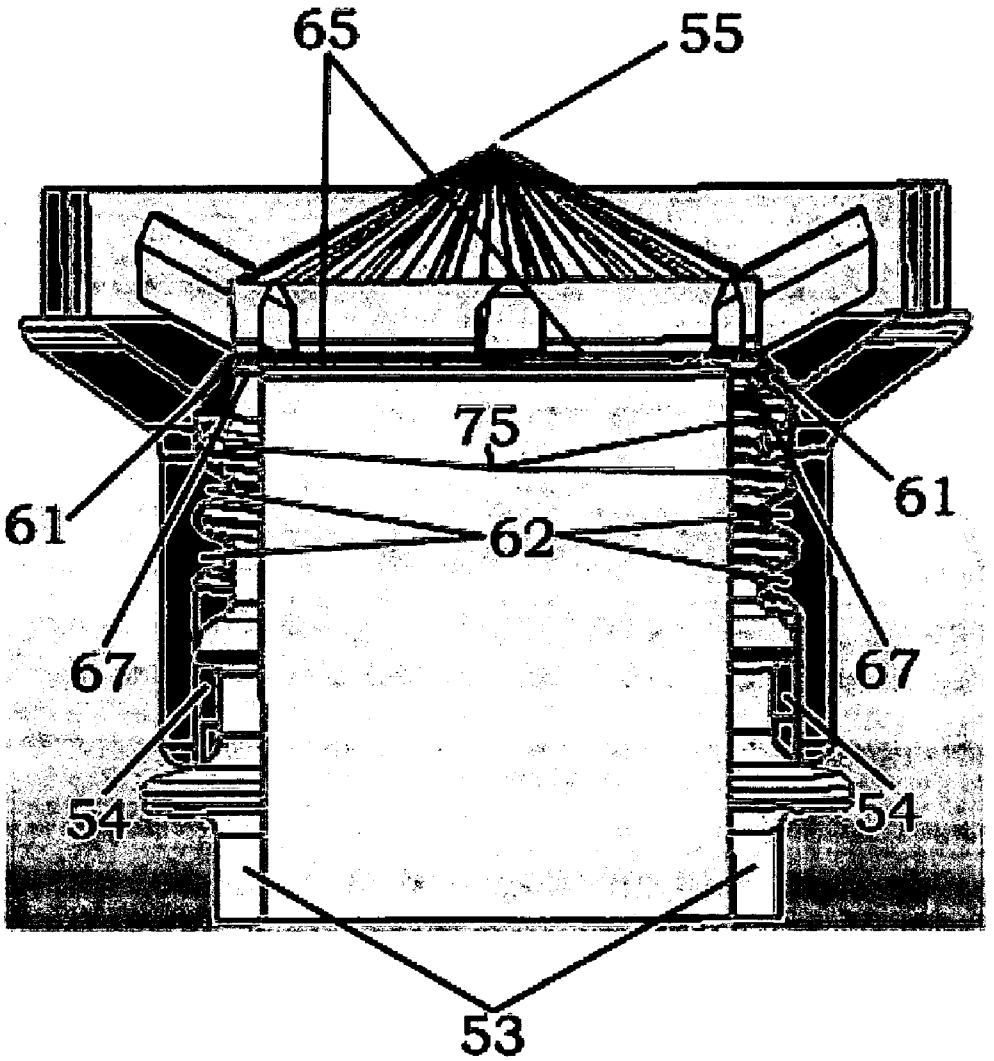


FIG. 6

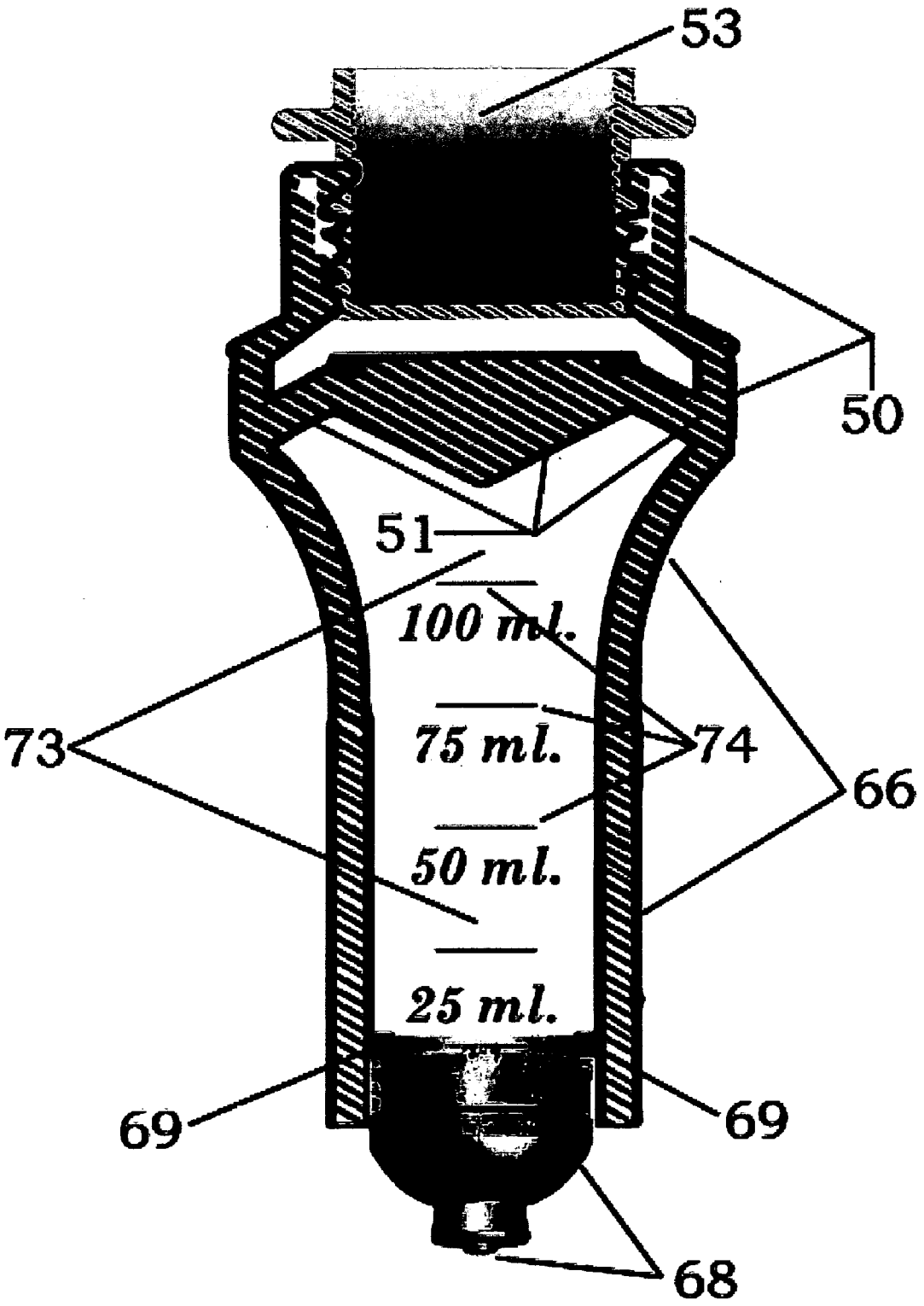


FIG. 7

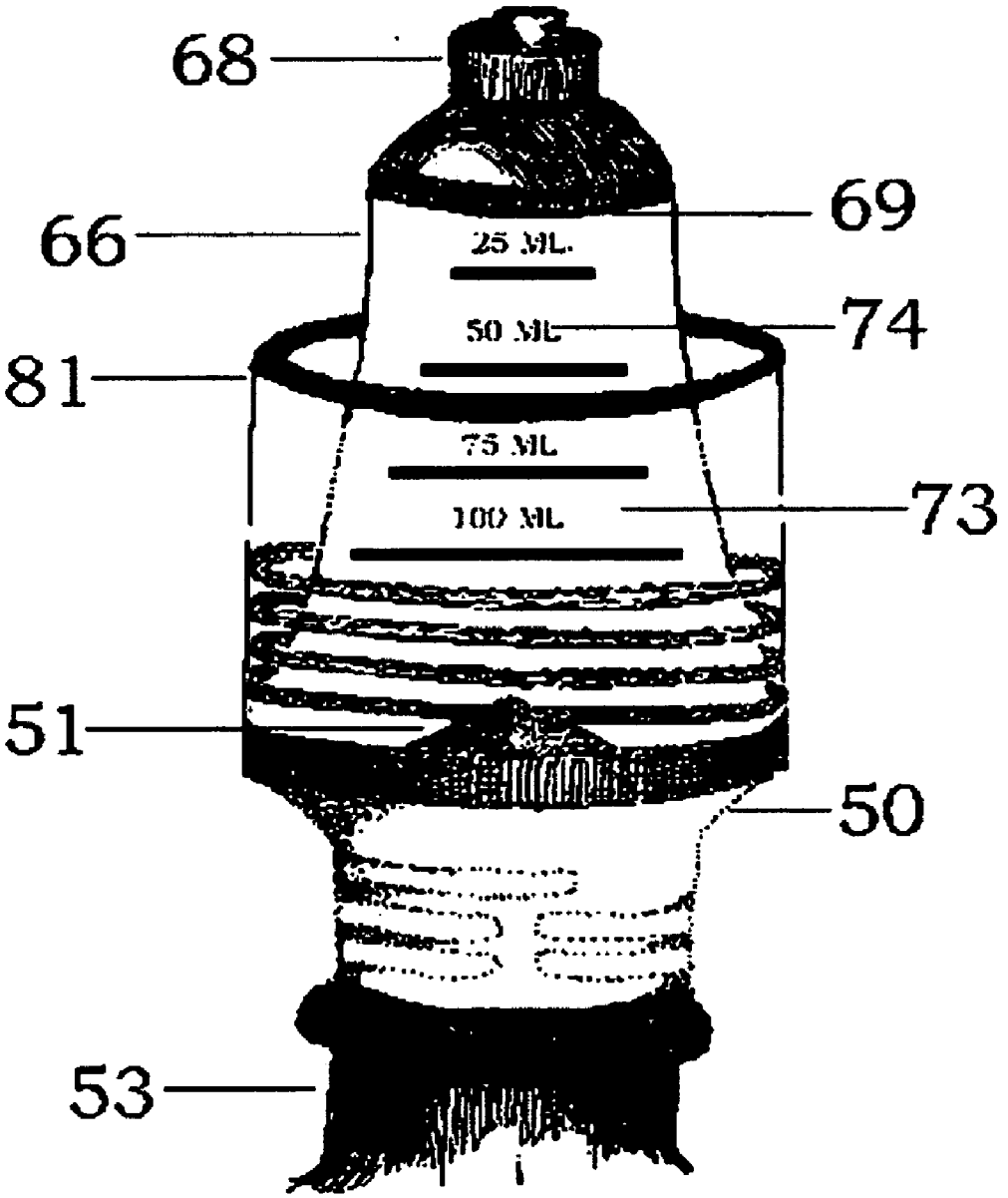


FIG. 8

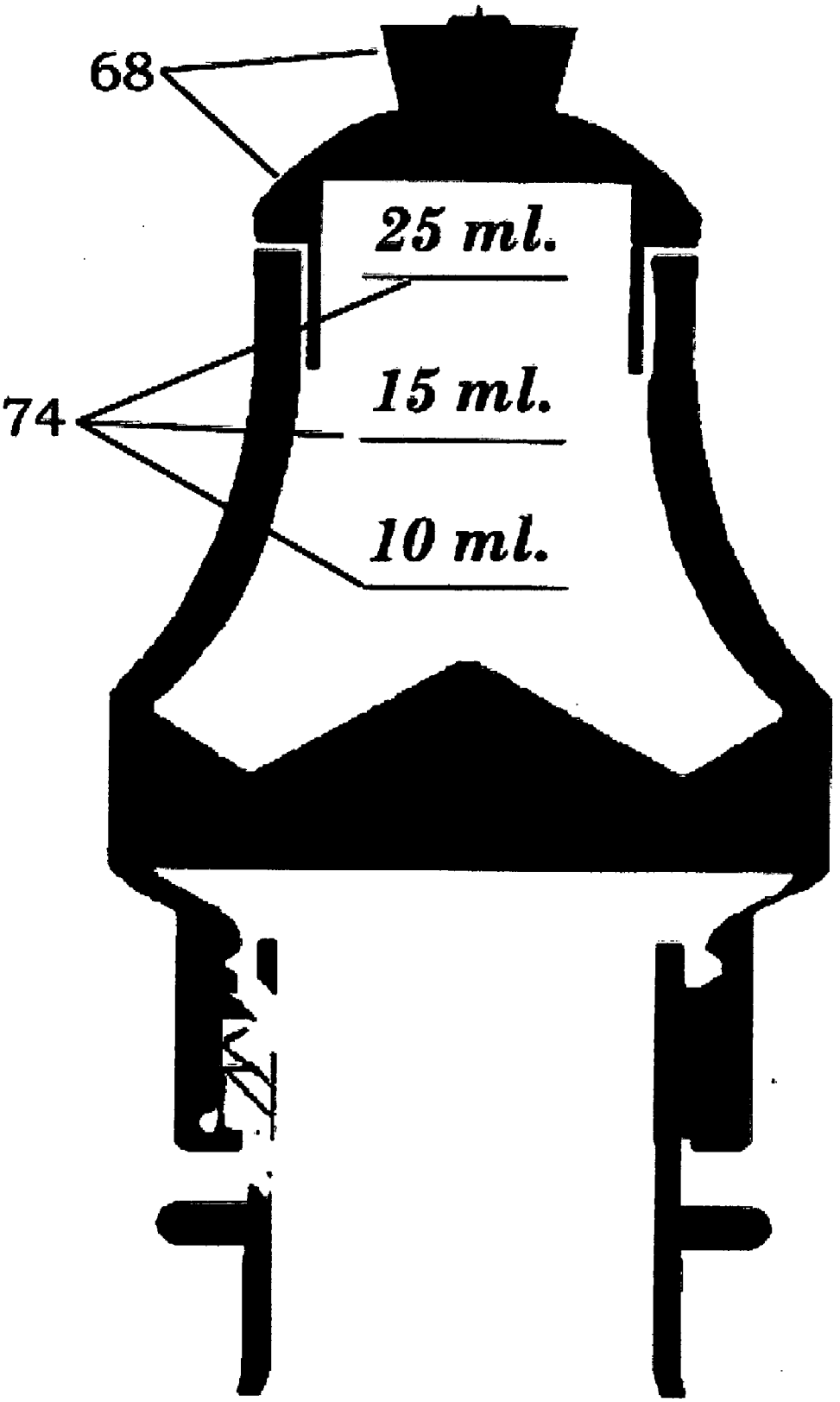


FIG. 9

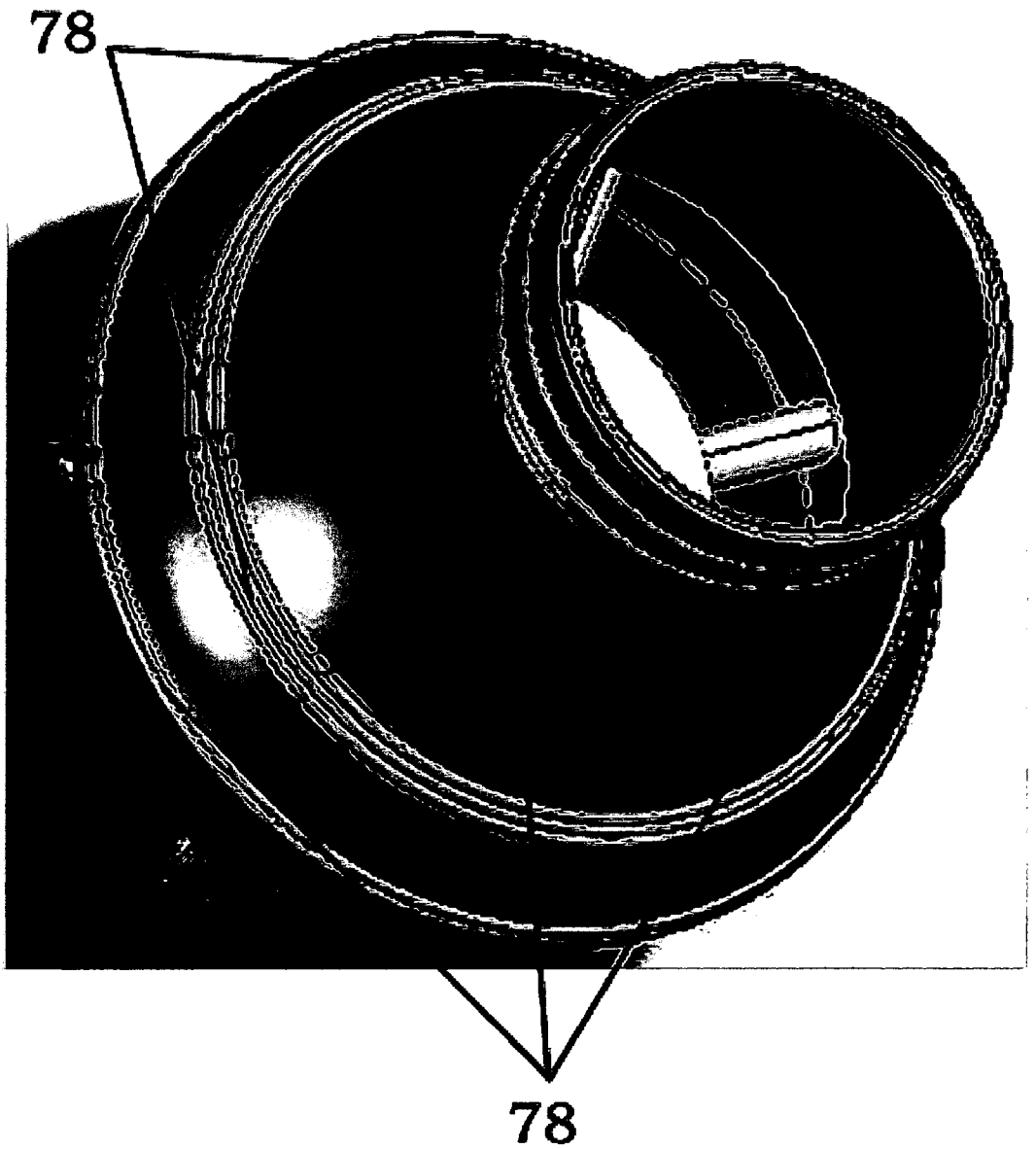


FIG. 10

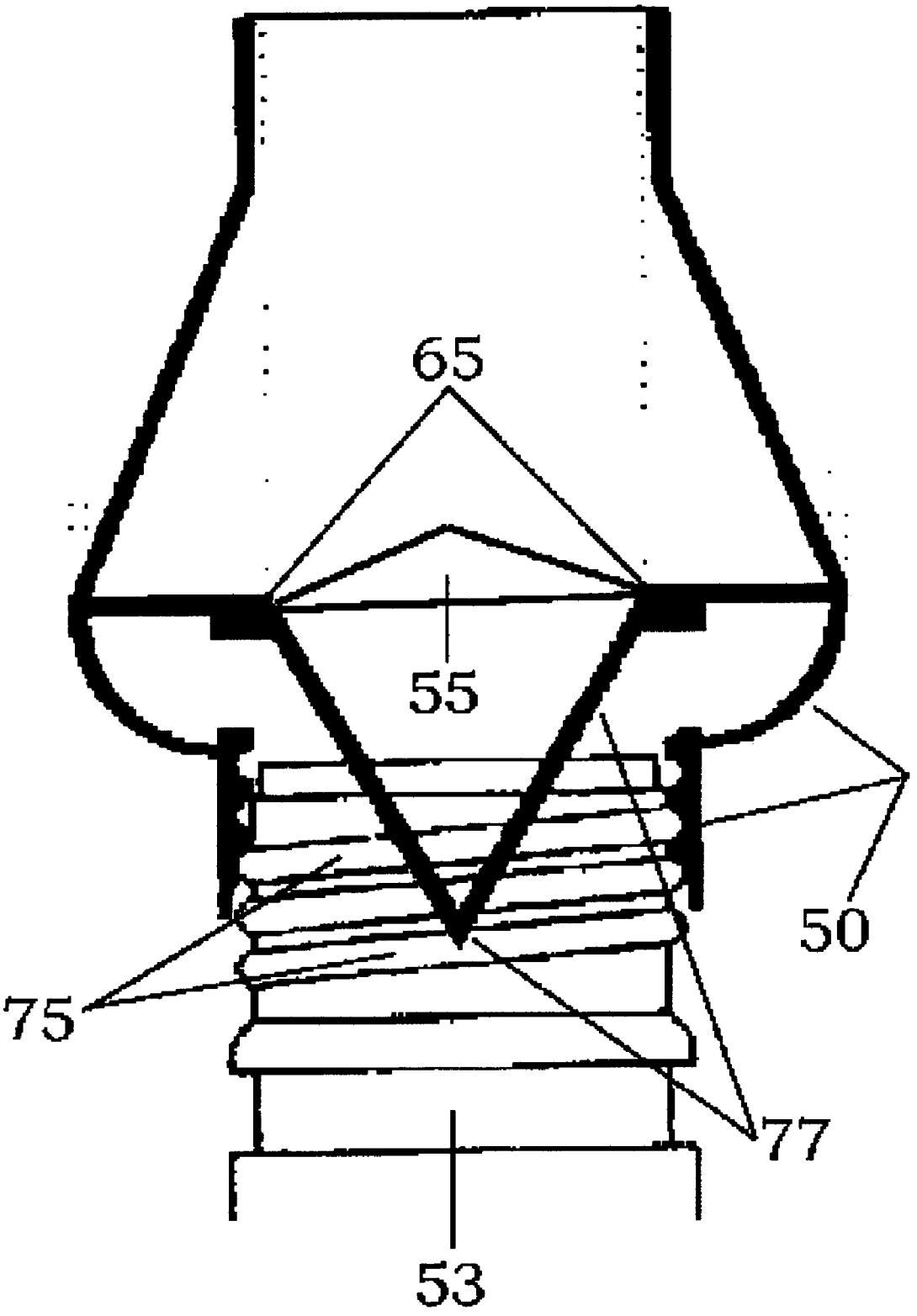


FIG. 11

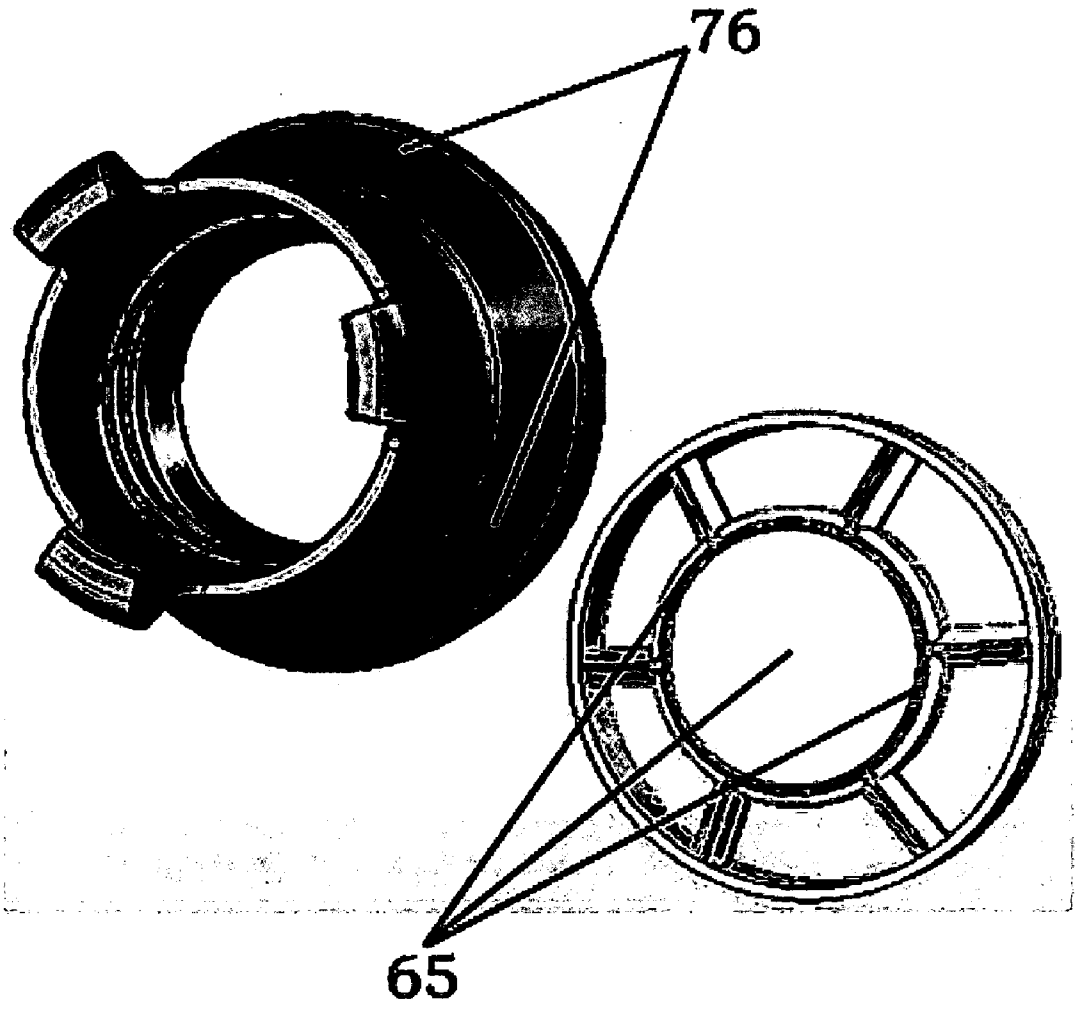


FIG. 12

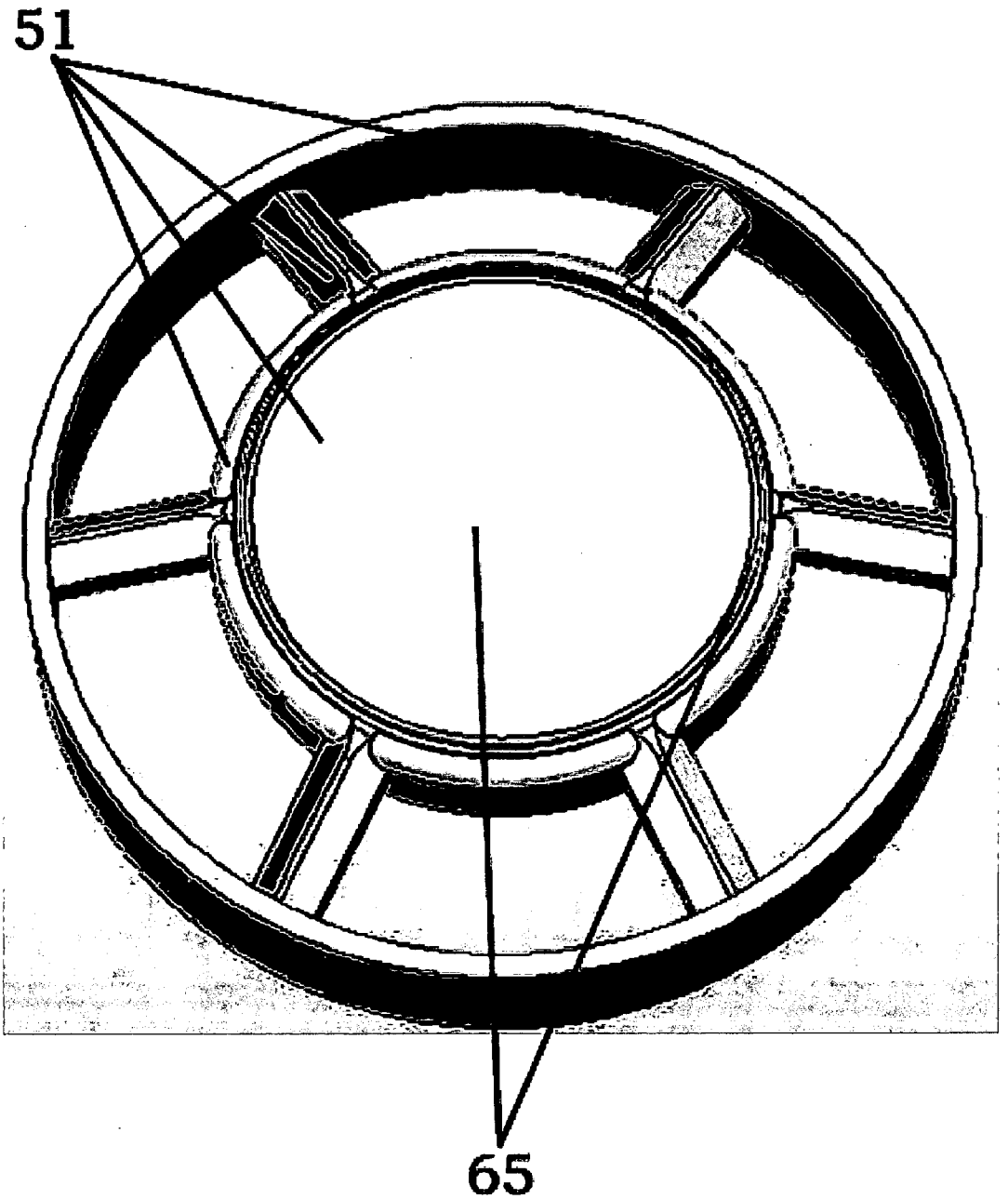


FIG. 13

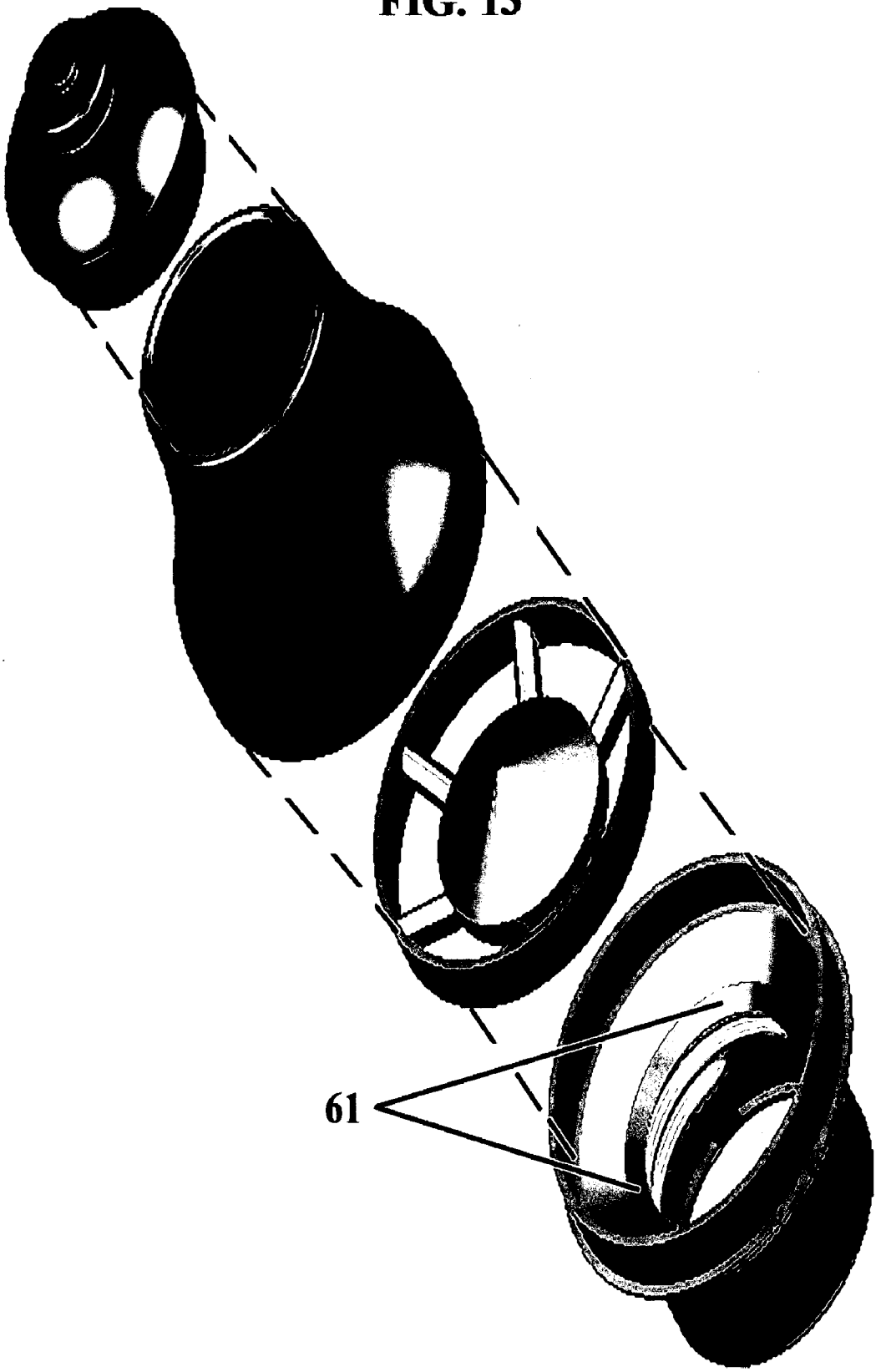


FIG. 14

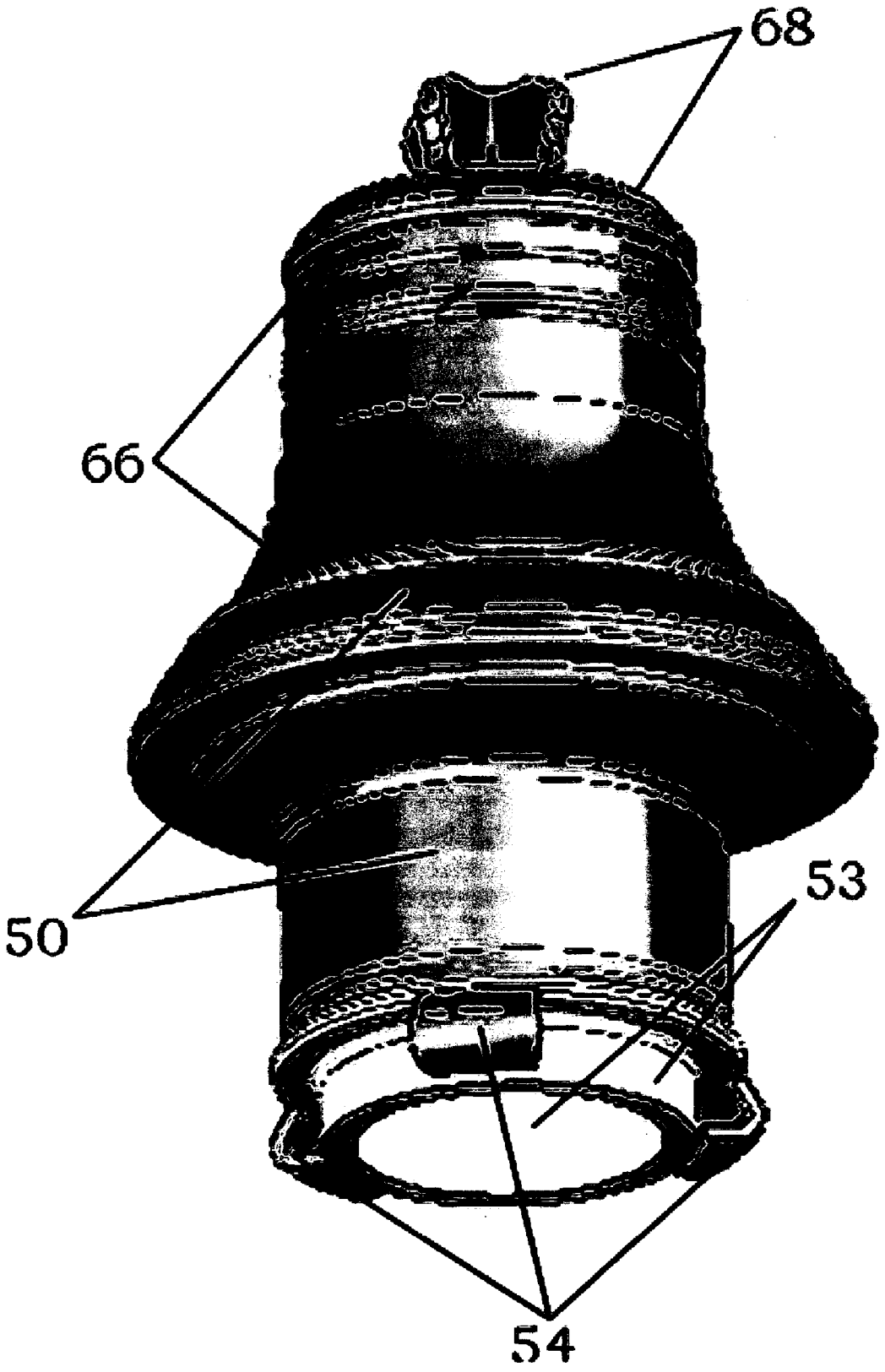


FIG. 15

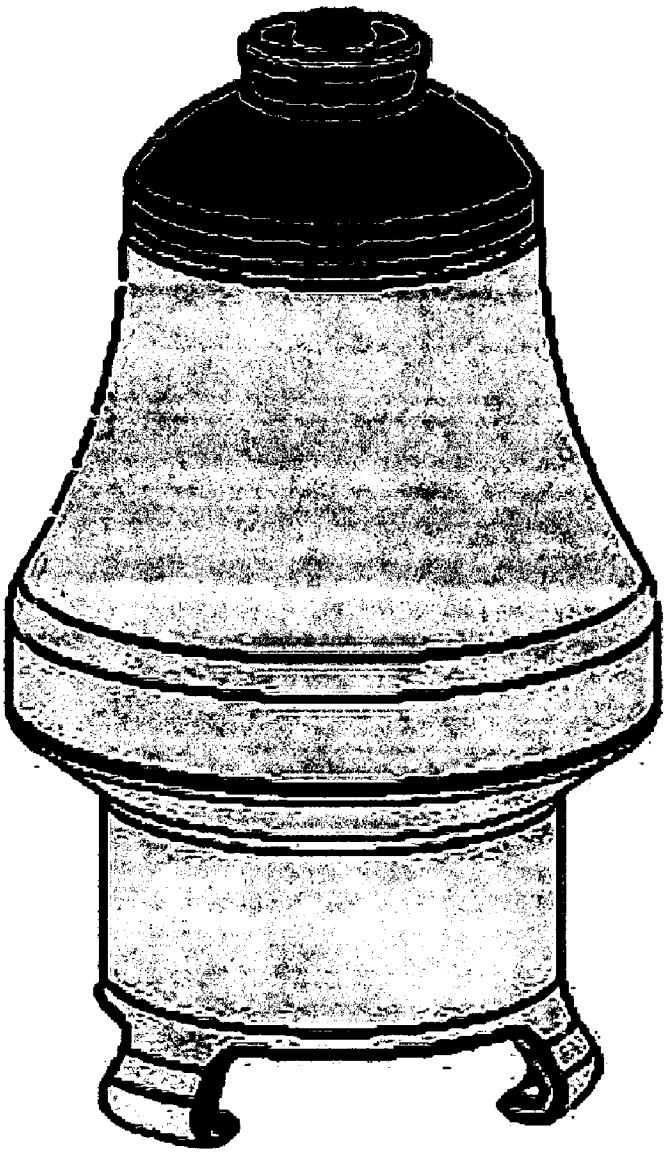
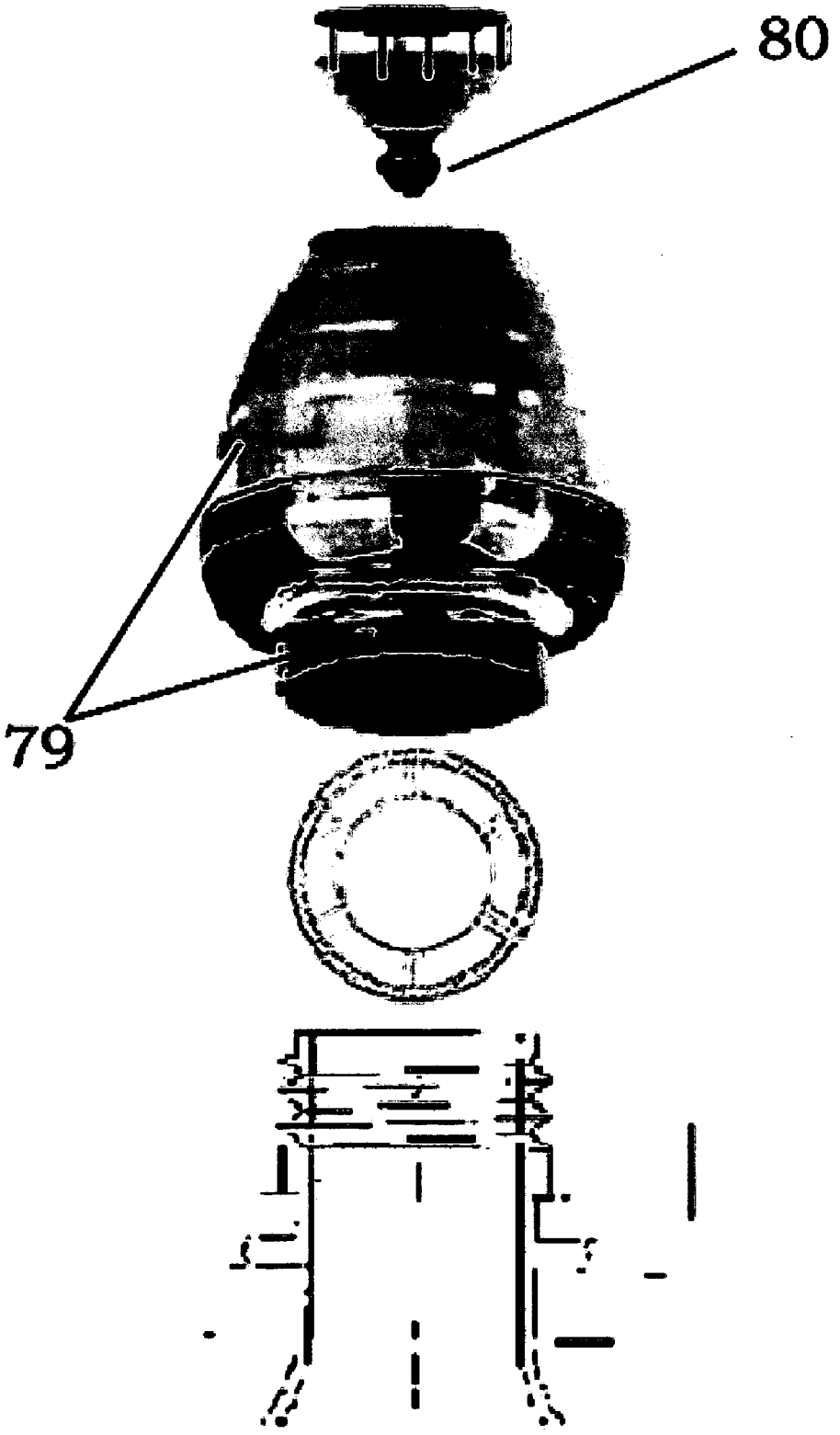


FIG. 16



HERMETIC SEALING AND ADJUSTABLE VALVE CONTROL, FLOW REGULATING, SELF VENTING, CLOSURE APPARATUS

BACKGROUND OF THE INVENTION

[0001] This invention relates generally to the field of closures, seals and caps for containers, vessels, bottles and the like and more specifically to an improvement for a container closure apparatus with valve control and flow regulation abilities that hermetically seals use after use that remains attached during primary use with a permanent tamper evident seal with options for a multitude of tamper resistant seals and interchangeable, re-usable, recyclable, edible, disposable and collectable parts that act as a drinking and or pouring spout and or a funnel for filling and or refilling.

[0002] The present invention further relates to a semi permanent closure mounted on, or packaged and sold separately, for use with but not limited to use with a container, bottle, vessel or hose mechanism that is not required to be removed from its mated container or hose during primary use.

[0003] Patent searching has revealed over two thousand bottle and container like closures. To date the present invention appears to be the only one that is made of two pieces in its basic configuration that seals and reseals hermetically use after use without the need to ever remove it from its mated container while simultaneously enabling the maximum flow rate a mated container enables for by its design. The present invention also enables the outside atmosphere to enter back into a pouring, upright or upside down container when mated to it which serves gently expel the product out through the closure thus greatly reducing bubbling and gurgling and spitting.

[0004] The following are examples of prior technology that we believe to be the closest comparisons to the present invention. Not one of them seals in the manner of the present invention nor have the many uses and novelty apparatus configurations and tool mechanisms available for use with them as does the present invention.

[0005] Pepsi Assigned U.S. Pat. No. 6,997,359 Twist Turn. A two piece closure that restricts flow rate and which does not enable air to enter as product, goods or liquids are dispensed and according to its issued patent, U.S. Pat. No. 6,997,359 is only for use on consumable drinks. This closure relies on a secondary collar that first affixed to a neck of a threaded containers neck and may be susceptible to leaking while containing pressurized products, goods or liquids.

[0006] Chung U.S. Pat. No. 7,128,245 A two-piece closure that restricts flow rate and which does not enable air to enter as product, goods or liquids are dispensed and according to its issued patent, U.S. Pat. No. 7,128,245 requires that the mated container must be squeezed by an external force in order for this closure to dispense its contents out through a small plastic membrane that severely restricts its flow rate.

[0007] Evian France U.S. D0454066 This mechanism features a flip Top construction attached to a circular ornamental hook. It opens and closes in much the same manner as does U.S. Pat. No. 7,128,245 Bellywashers from In-Zone Brands Inc. of Austel Ga. U.S. Pat. No. 7,189,134 They are similar only in the regards of an ornamental design incorporated as a designed part of a closure. The ornamental and novelty apparatuses of the present invention engineered to perform specific functions other than just lending their designs as a marketing tool for the present invention.

[0008] This closure opens and closes in the exact same manner, as does U.S. Pat. No. 6,769,575 Creative Packaging Buffalo Grove Ill. U.S. D405,693. Most commonly found on Gatorade products in Canada this closure is required to be removed prior to use as a dispensing apparatus. A foil hermetic seal first removed and then the closure replaced. The product it contains now has a limited shelf life and no long is capable of achieving another hermetic seal unless one to were remove it again and then physically glue the foil seal back in place on the mouths openings then replace the closure a third time. Three times if you include it was first put in place in the manufacturing stage.

[0009] Bericap Longvie France U.S. D530,611 S Thumb up For Vittel and Nestle Waters U.S. Pat. No. 480,305 Flip Top Removable. Both of these closures operate in substantially the same way as U.S. Pat. No. 7,128,245 and U.S. D454,066. Although not require to be removed prior to dispensing, both closures restrict flow and do not enable atmosphere to enter the container as product, goods or liquids are dispensed International Plastics and Equipment New Castle P.A. U.S. Pat. No. 6,769,575 Push Pull. The industry standards push-pull closure apparatus is the basis for many patented designs today including Bellywashers—In-Zone Inc. U.S. Pat. No. 7,189,134 This design does not hermetically seal also restricts flow by directing dispensed product through a small orifice Gateway Plastics Inc. Mequon Wis. U.S. D532, 298 Flip Top for spice dispensing, holes one side, large hole other side, parmesan cheese, does not hermetically reseal after initial opening, and features no valve for flow control

[0010] Loreal Creative USA Inc. U.S. D524,650 Flip Top for the Cosmetic Industry. A flip top for the cosmetic industry that does not seal hermetically and is constructed of more than two pieces Publication Number: O/2007/027709 International Application No.: PCT/US2006/033758 Publication Date: 8, Mar. 2007 International Filing Date: 29, Aug. 2006 Int. Class.: B65D 47/06 (2006.01), B65D 47/12 (2006.01), B65D 47/20 (2006.01) Applicants: GERBER PRODUCTS COMPANY [US/US]; 445 State Street, Fremont, Mich. 49413 (US) Flip Top, seals with a plug mechanism and not a twist open and twist close mechanical method like that of the present invention. Flow control is severely restricted and atmosphere is not able to enter the container as product is dispensed. Features permanent domed top dust cap limiting its use to just that of a closure mechanism

[0011] Publication Number: WO/2006/046721 International Application No.: PCT/JP2005/019939 Publication Date: 4, May, **2006** International Filing Date: 25, Oct. 2005 Int. Class.: B65D 51/28 (2006.01) Applicants: THE COCA-COLA COMPANY [US/US]; One Coca-Cola Plaza, N.W., Atlanta, Ga. 30313 (US) A multi piece closure like that of the present invention, which comprises of a sealed inner chamber. Features more working parts than that of the present invention to achieve less flow rate and the potential for a compromised failure of the seal between its independently moving parts. This closure unlike the present invention restricts a products flow rate by the nature of its design.

[0012] Publication Number: WO/2006/046725 International Application No.: PCT/JP2005/019944 Publication Date: 4, May 2006 International Filing Date: 25, Oct. 2005 Int. Class.: B65D 51/28 (2006.01) Applicants: THE COCA-COLA COMPANY [US/US]; One Coca-Cola Plaza, N.W., Atlanta, Ga. 30313 (US) A multi piece closure like that of the present invention which is comprised of a sealed inner chamber. Features more working parts than that of the present

invention to achieve less flow rate and less functionality and the potential for a compromised failure of the seal between its independently moving parts. This closure unlike the present invention restricts a products flow rate by the nature of its design.

[0013] Publication Number: WO/2006/101641 International Application No.: PCT/US2006/005941 Publication Date: 21, Feb. 2006 International Filing Date: 21, Feb. 2006 Int. Class.: F16K 1/30 (2006.01), F16K 17/04 (2006.01), G05D 16/06 (2006.01) Applicants: GLOBAL AGRICULTURAL TECHNOLOGY AND ENGINEERING, LLC [US/US]; A multi piece design not unlike the present invention in its ability to control flow rates but unlike the present invention in that it severely restricts flow rate by the nature of its design and multitude of pieces. Failure of more than one seal or joint looks probable and this design is likely not fail safe when used to seal containers filled with carbonated or pressurized product as is the present invention

[0014] Publication Number: WO/2006/027484 International Application No.: PCT/FR2005/002186 Publication Date: 16, Mar. 2006 International Filing Date: Jan. 9, 2005 Int. Class.: B65D 47/08 (2006.01) Applicants: Tetra Laval Holdings & Finance S.A. [CH/CH]; Avenue General-Guisan 70, PULLY (CH) A flip top closure very close in appearance and function as is WO/2005/058722—Alcoa Systems as below. Neither system seals in a manner like the present invention even though neither is required to be removed prior to a products dispensing.

[0015] Publication Number: WO/2005/058722 International Application No.: PCT/GB2004/005355 Publication Date: 30, Jun. 2005 International Filing Date: 20, Dec. 2004 Int. Class.: B65D 47/08 (2006.01) Applicants: ALCOA CLOSURE SYSTEMS INTERNATIONAL (EUROPE) [GB/GB]; Meco Division, Kelvin Way, West Bromwich B70 7JB (GB) (All except US). A flip top closure very close in appearance and function as is WO/2006/027484 Tetra Laval Holdings & Finance as above. Neither system seals in a manner like the present invention even though neither is required to be removed prior to a products dispensing.

[0016] Publication Number: WO/2007/026194 International Application No.: PCT/IB2006/000742 Publication Date: 8, Mar. 2007 International Filing Date: 31, Mar. 2006 Int. Class.: B65D 47/08 (2006.01) Applicants: GEFIT S.p.A. [IT/IT]; Via De Negri, 9, I-15100 Alessandria (IT) A flip top closure with small orifice used to pass liquids. This design must be removed prior to dispensing to remove a tamper evident sealed with possible toxic substances to the leading edge of a containers mouth opening. Upon the replacing of this closure to its mated container prior to dispensing, said closure then never hermetically reseals and leaves it contents susceptible to premature spoilage and or contamination.

[0017] Publication Number: WO/2005/044670 International Application No.: PCT/US2004/030476 Publication Date: 19, May 2005 International Filing Date: 16, Sep. 2004 Int. Class.: B65D 51/20 (2006.01), B65D 51/22 (2006.01), B65D 81/32 (2006.01), B65D 85/72 (2006.01), B67D 3/00 (2006.01) Applicants: PORTOLA PACKAGING, INC. [US/US]; 890 Faulstich Court, San Jose, Calif. 95112 A twist open, twist closed design similar in design and function of U.S. Pat. No. 6,997,359 Peps Cola Ltd. and PCT WO 03/004373, Beeson & Sons U.K. and WO/2006/046721 Coca-Cola Corp. and WO/2006/046725 Coca-Cola Corp. All closures feature a collar piece as an integral part of their similar function and general appearance.

[0018] The present invention engineered specifically to eliminate the need for the added expense of a secondary collar mechanism thereby reducing the overall cost of producing the present invention and reducing the potential for its failure while enabling the present invention to enable atmosphere in as product dispensed. All designs listed above severely restrict a products flow rate by the inherent nature of their engineered design. The present invention is the only one found that enables a higher flow rate than the container it is mated. Unlike the present invention all closures as listed above do not appear nor do they describe themselves as such or make provisions for use as a handling, carrying, and shelf space saving measuring and pouring chambered mechanism

[0019] Publication Number: WO/2006/083606 International Application No.: PCT/US2006/002322 Publication Date: 10, Aug. 2006 International Filing Date: 24, Jan. 2006 Int. Class.: B65D 41/16 (2006.01) Applicant: WALTERS, Lawrence [US/US]; 505 Amity Road, Woodbridge, Conn. 06525-1603 (US). Depicts two-piece closure design features a collar and snap top mechanism. It does not appear to seal hermetically nor does it appear to be re-usable after its main function as a closure has been achieved as do all embodiments of the present invention.

[0020] Beeson & Sons U.K. PCT WO 03/004373 Twist Turn. Two-piece closure that restricts flow rate and which does not enable air to enter as product, goods or liquids dispensed. This closure also relies on a secondary collar that first affixed to a neck of a threaded containers neck and may be susceptible to leaking while containing pressurized products, goods or liquids. This closure opens and closes and seals in much the same manner as does U.S. Pat. No. 6,997,359 To date and after many exhaustive patent searches, the present invention appears to be the only one of its kind that is made of two base pieces in its basic configuration that seals hermetically without the need to ever remove it from its mated container while simultaneously enabling for the maximum flow rate a mated container enables for by its design and simultaneously enabling the outside atmosphere to enter back into the container while in use which serves to gently force the containers product out through the present invention thus greatly reducing bubbling and gurgling and spitting.

[0021] Not one of the prior art that was searched revealed any closure or apparatus or mechanism that has as many if any of the secondary configurations and uses as does the present invention.

[0022] Many contemporary designs feature a seal glued to the mouth of the containers opening that are to be thrown away immediately upon removal from their mated container. This leaves a potentially toxic substance adhered to the mouth of the opening to be ingested by humans and in most cases is difficult to remove as many offer little material to grab on so that even a physically normal person cannot remove with ease for nothing more than throwaway. This present invention solves this problem by eliminating the need for this throwaway seal as it features its own permanent safety seal as described and depicted.

[0023] Many contemporary closures required removal from their mated containers prior to being able to dispense their containers contents. Many modern "Sports" caps, Oil containers, Bleach bottles, Anti-Freezes, brake fluid containers and the like also require the removal and then subsequent replacement of their mated closure prior to a product, goods or liquids dispensing. Many of these closure mechanisms

feature a foil safety seal glued directly to the container, and are removed and disposed of prior to consumption.

[0024] Once removed their closure must be replaced and never hermetically seals again. Their product now has a limited shelf life and is susceptible to contamination from outside sources such a dust and harmful microbes, moulds and bacteria's. The present invention solves this problem with an innovative permanent tamper resistant consumer safety seal mechanism and optional secondary safety seals.

[0025] As in most of the prior as a person puts their entire mouth over the mouth of containers opening and begins to suck the contents from the container, the atmospheric pressure inside is greatly reduced and the container begins to collapse from the higher pressure on the outside of the container. When the mouth removed from sealing the opening of the container, the outside atmosphere rushes back in to replace that which was sucked out. This enables the ambient air pressure inside the container to equalize with the outside environment. This causes the container to spit residual contents back out of the containers mouth and mainly on to the consumer. The present invention eliminates this problem.

[0026] Contemporary designs like those found on containers with contents being stored under pressure are often difficult to open and if shaken tend to leak or spill their contents outside of its desired destination. The shape of the invention serves to prevent this known problem.

[0027] Contemporary designs require that consumers lift larger containers with two hands. Often grabbing them in this manner to lift and pour causes these soft walled containers to collapse forcing their product out of the container, spilling in an undesired location.

BRIEF SUMMARY OF THE INVENTION

[0028] The present invention features no moving parts in its basic two-piece configuration and due only to the restraints of modern injection moulding and production capabilities can be produced with a minimum of two pieces which are then snapped, glued or welded to together to form the one-piece basic design prior to being mated with its intended container. A multitude of mechanisms added to this basic one-piece design to accommodate any number of applications.

[0029] The present invention enables one-handed operation and opened by placing firmly in the mouth or grasping firmly in the teeth and then simply turning the container to open which for consumer convenience and appeal, features a valve flow control mechanism that enables the controlled flow of containers contents.

[0030] The present invention enables maximum flow rate as the geometry of the inlet and outlet ports of the threaded base section and the inner disc section are always geometrically larger than the circumference of the containers opening. This simple & important feature enables a free, smooth flow of containers contents through the closure to the outside environment. The flanged top portion of the threaded base section which permanently houses the inner disc section is engineered to support the upper and lower lips of consumers while simultaneously enabling the outside atmosphere to enter the container as product is dispensed. For liquid products such as beer, wine, pop, sports drinks, milk, juice, water and the like this means reduced bubbling and gurgling and spitting of fluids that are associated with many contemporary designs.

[0031] The present invention features a permanent non-removable consumer safety, tamper evident seal that precludes the need to glue a foil seal to the containers mouth to achieve a re-usable hermetic seal. Unlike many contemporary designs this enables the present invention to hermetically seal and re-seal use after use. This is especially important in the application of containing perishable goods and products, contained under pressure, carbonated liquids or other liquids or substances that have had any type of gas diffused into their solution whether they are in a viscous, liquid, dry or gaseous state of existence.

[0032] The present invention when comprised of two parts is economical to produce and assemble and was engineered to meet industry standard leak proof seal specifications while in the closed position while always enabling a maximum flow rate in its fully opened position. The modular structure of the invention enables economical applications of the technology while also enabling for more elaborate examples of the technology to be produced and profited from.

[0033] Security features engineered into the bottom of the threaded base section restrict travel of the closure beyond a maximum opening position also serve to prevent premature removal of the present invention until such a time that it can be forcibly removed to be used in a secondary capacity as described and is of large enough size as to serve to prevent being swallowed by small children or animals. The travel restrictor mechanism enables for the present invention not to be misplaced or accidentally discarded. By permanently remaining attached to its mated container enables residual contents to be contained until such a time that proper disposal can be arranged.

[0034] The invention enables products, fluids and goods to be separated up as they leave the container through the inlet and outlet passages of the threaded base and inner disc sections thus reducing turbulence as a product, goods or liquid is being dispensed through the closure. This enables atmosphere to mix freely with the product, goods or liquid being dispensed. This further serves to prevent the inlet and outlet passages from becoming clogged by excess product, goods or liquids trying to escape all at once which in turn enables a smoother consistent flow rate.

[0035] The closure features a permanent non-removable safety seal and dependent upon its application it has a secondary safety seal placed on the top of the closure where it will serve to act as tamper evident safety seal and an advertising platform for consumer messages and education and extended brand exposure for advertisers. This seal is also intended to be a collectible piece that will feature famous people, things and places. It is intended to create a collectable safety seal series not unlike Pogs and the cardboard milk seals of glass bottled dairy fame still in use today. A collectible seal will serve to keep this disposable piece from garbage dumps and recycle yards.

[0036] The invention relates to a semi permanent apparatus mounted on to a hose apparatus and used as a nozzle mechanism that is not required to be removed from its mated hose during primary use. Other closures we have discovered do not close or seal hoses under pressure. The simplistic solid one-piece construction design of the present invention prevents the leaking that is sometimes associated with similarly shaped hose nozzles that consist of two or more working parts that move independent of each other. Many of these have an internal grommet that seals and separates their internal mechanisms which eventually wears or dries out and then cause them to fail and ultimately leak. With no such parts,

moving or otherwise inside of the present invention there is nothing to wear out and thus leakage is reduced if not eliminated.

[0037] The present invention features an inner sealer lip seats on and seals the closure to the mouth of the container whilst in its opened position. This provides seamless two-way access for atmosphere and product, goods or liquid to effortlessly pass each while the closure is in use while simultaneously preventing product, goods or liquids from leaking between and then passed the threaded sections of the mated container and the closure to the outside environment.

[0038] The present invention is non-removable during primary use also serves to keep many insects and other foreign materials from entering the container whilst the closure remains in the opened position and can be fitted with a screen mechanism to further serve this purpose.

[0039] Its larger flanged base and hermetically resealing disc with accompanied spout or funnel mechanism enables consumers to readily refill empty containers without the need to remove the present invention from its mated container. In an alternative embodiment, the closure is removed and inverted, then replaced prior to use. Mainly for use in the automotive spare fuel tank sector, this embodiment features an extendable funnel that seals as one solid piece against its mated container. This design serves to prevent failure and leakage.

[0040] Further embodiment's enable the closure to act as a simultaneous measuring and pouring device and except for its top stopper plug mechanism is not required to be removed from its mated container in its effort to perform the function of both a measuring and pouring device. A novel long neck clear configuration of the closure that features up to four moulded pieces features graduated measuring marks and is designed specifically to perform the function of a measuring device, pouring spout and funnel for refilling which precludes the need for an outside measuring apparatus. This serves to contain toxic substance until such a time as they need to be dispensed. This prevents the handling of dangerous and toxic substances in two stages. This prevents splashes and spillage while handling and dispensing dangerous products goods and liquids. This is especially important for handling toxic and corrosive substances such as 35% food grade H2O2, liquid or powdered bleaches, household oven cleaners, brake or transmission fluids or muriatic or sulphuric acids.

[0041] This apparatus requires little effort to open and close and its large flanged size accommodates both those young and old alike and especially those afflicted with physical disabilities and those with arthritic like medical maladies and enables a secure grip and provides much needed leverage that enables consumers to lift and drink from the container using only one hand to lift and drink and pour.

[0042] Originally conceived to replace a funnel mechanism from which to pour auto additives into motor vehicles it has progressed into the present invention with several uses and configurations. Its many secondary uses require its forced removal from its mated container mainly after a contained product has been dispensed and can be used as a drinking apparatus, measuring apparatus, funnel apparatus, pouring spout apparatus, toy apparatus, sports aid apparatus, emergency apparatus, collectible piece, advertising platform mechanism, hook apparatus and a multitude of other novelty apparatuses and mechanisms.

[0043] The present invention made from a multitude of materials like plastic, steel, aluminums, bubble gum, and chocolate and corn starch but is not limited to just these materials for its construction and manufacture. Edible and biodegradable configurations of the present invention serve to reduce waste and pollution.

[0044] The present invention is equally efficient when in use on carbonated, non-carbonated, dairy, water, soft drinks, sports drinks, juices. As the closure instantly reseals with a simple twist in the opposite direction in which it was opened a hermetic seal is formed use after use preserving freshness and extending shelf life of a multitude of products, goods & liquids.

[0045] Designed specifically to fit each individual, the dimensions of the present invention are ergonomically engineered and are of a sufficient diameter as to accommodate any size or shape of the human mouth.

[0046] The large angular flange section of the threaded base section serves to hook the closure to the lip of the vessel that its contents are being poured into. This serves to prevent the accidental slipping of the closure and its mated container and subsequent spillage of product, goods or liquids while dispensing their contents.

[0047] For the grocer's shelf, the flanged section is utilized to hang the closure and mated container from underneath shelves instead of on top. This makes available more valuable topside shelf space and enables retailers and wholesalers to make efficient use of their limited shelf space. More products stocked in smaller spaces means less space required to vend the product in turn equates to reduced operating expenses for retailers and wholesalers.

OBJECTS OF THE PRESENT INVENTION

[0048] The primary object of the invention is a closure that hermetically seals and reseals.

[0049] Another object of the invention is that it is not required to remove prior to dispensing a contained product.

[0050] A further object of the invention during primary use remains attached to the container so there is no "throw away" during primary use.

[0051] Yet another object of the invention is a hermetic re-sealing ability of the featured design which preserves product freshness especially for pressurized & carbonated beverages & perishable goods.

[0052] Still yet another object of the invention assists in extending products shelf life.

[0053] Another object of the invention is it serves to reduce waste.

[0054] Yet another object of the invention enables for multitude options for many tamper evident consumer safety seals to be added.

[0055] Another object of the invention serves to minimize clogging, burping and spitting normally associated with completive designs.

[0056] A further object of the invention comprises a flexible inner sealer lip that when the closure is in the open position, seats on the leading edge of the containers open mouth and when the closure is in the closed position the flexible inner sealer lip retracts down the side of the threaded container mouth where it remains in contact with the containers edge to form a leak resistant seal.

[0057] Still yet another object of the invention, engineered to be Eco friendly.

[0058] Another object of the invention, engineered ergonomically compatible.

[0059] Another object of the invention is engineered to perform in a multitude of configurations that include but are not limited to a sports & survival mechanism, magnifying glass, toy, novelty apparatuses & collectable piece, measuring device, funnel or spout for drinking from directly or pouring from.

[0060] Another object of the invention has engineered functions for industries which include but are not limited to the automotive additive & oil, home cleaning, chemical, gardening, medical, food, beverage, toy, novelty apparatuses, collectible, sex (disease prevention & pleasure), advertising, cosmetics, dairy, juice, alcohol & drinking water sectors.

[0061] Still yet another object of the invention featured is that it has engineered functions for hanging it and its mated container from the underneath of an overhead shelf or for tying down tarps used for storing.

[0062] Yet another object of the invention featured is that it has engineered functions enabling it to act as light source mechanism.

[0063] Other objects and advantages of the present invention will become apparent from the following descriptions, taken in connection with the accompanying drawings, wherein, by way of illustration and example, an embodiment of the present invention is disclosed.

[0064] In accordance with a preferred embodiment of the invention, there is disclosed a container closure apparatus that hermetically seals use after use that remains attached during primary use with a permanent tamper evident seal comprising: a valve control mechanism having a mated housing and inlet and outlet passages permanently affixed to the outlet passage of a threaded base section leading to either a married hollow funnel/spout or directly to the outside environment, a valve control mechanism having suspension legs permanently affixed to an outer support ring and inner sealer and product deflection disc section, a valve control mechanism having a permanent industry standard tamper resistant safety seal liner affixed to its underside, a valve control mechanism means non-movable in the housing between an on & off position, non-movable main valve control mechanism is permanently affixed to a threaded base section in the production process so that both pieces act as one and do not move independently of each other, non-movable main valve control mechanism moves in a synchronous motion with a threaded base section to perform an open & close function, a threaded base section housing a main valve control mechanism having both an outlet passage and an inlet passage from the first compartment leading into the main valve control mechanism, in its basic configuration a threaded base section is internally threaded but not limited to that to enable permanent attachment to a mated vessel or container and features security mechanisms preventing tampering and premature detachment of the mated threaded base section and main valve control mechanism from its mated container/vessel/bottle, a threaded base section features a back flow and leak resistant inner sealer lip section that forms a semi permanent seal on the top leading edge of its mated container while in the open position thus preventing any back flow or leakage to the outside environment by way of passing through the thread passage way located between the mated containers threads and the threads of the base section, a threaded base section features but is not limited to featuring an optional support lip section to accommodate a multitude of funnel/spout configurations, threaded base section housing a main valve control mechanism performs its open & close function by holding its mated container firmly and then turning the featured apparatus one way to open and the opposite direction to close, and threaded base section housing a main valve control mechanism and optional spouts or funnels or apparatus travels up & down the containers threaded neck as it is turned one direction to open and the opposite direction to close.

BRIEF DESCRIPTION OF THE DRAWINGS

[0065] The drawings constitute a part of this specification and include exemplary embodiments to the invention, which may be embodied in various forms. It is to be understood that in some instances various aspects of the invention may be shown exaggerated or enlarged to facilitate an understanding of the invention while other embodiments described have no visual reference contained herein.

[0066] FIG. **1** is a perspective view of a container closure in accordance with one of the embodiment of FIG. **1** of the present invention mounted atop a sample threaded container neck assembly

[0067] FIG. **2** is an exploded view of a container closure in accordance with one of the embodiment of FIG. **1** in its basic two piece configuration

[0068] FIG. **3** is a cross sectional view of the embodiment of FIG. **1** and FIG. **2** of the present invention with added sample mated bottle top mouth opening for perspective

[0069] FIG. **4** is a cross sectional view of a second embodiment of the present invention with added sample mated bottle top mouth opening for perspective and no optional novelty apparatus support ledge

[0070] FIG. **5** is a cross sectional view of the embodiment of FIG. **1** in its closed position mounted atop a sample threaded container neck assembly

[0071] FIG. **6** is a cross sectional view of a third embodiment of FIG. **1** of the present invention in the opened position mounted atop a sample bottle top mouth opening for perspective

[0072] FIG. **7** is a cross sectional view of the fourth embodiment of FIG. **1** of the present invention mounted atop a sample bottle top mouth opening for perspective in an invertible funnel/spout configuration

[0073] FIG. **8** is a cross sectional view of a second embodiment of FIG. **2** of the present invention in the opened position with added sample mated bottle top plug

[0074] FIG. **9** is a perspective view of a fifth embodiment of FIG. **1** of the present invention showing a novelty apparatus short neck funnel spout with grooved striations that produce a firm grip when grasped tightly

[0075] FIG. **10** is a cross sectional view of a sixth embodiment of FIG. **1** of the present invention depicting a diamond bottom stopper plug to assist in fluid flow

[0076] FIG. **11** is an exploded view of the embodiment of FIG. **1** of the present invention in its basic two piece configuration with a bottom up perspective

[0077] FIG. **12** is a perspective view of a critical component of the embodiment of FIG. **1** of the present invention

[0078] FIG. **13** is an exploded view of the second embodiment of FIG. **1** of the present invention

[0079] FIG. **14** is a perspective view of the fifth embodiment of FIG. **1** of the present invention stopper plug and added sample container neck assembly included to give perspective

[0080] FIG. **15** is a perspective view of the second embodiment of FIG. **1** of the present invention

[0081] FIG. **16** is a perspective view of a sixth embodiment of FIG. **1** of the present invention

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0082] Detailed descriptions of the preferred embodiment provided herein. It is to be understood, however, that the present invention may be embodied in various forms. Therefore, specific details disclosed herein not interpreted as limiting, but rather as a basis for the claims and as a representative basis for teaching one skilled in the art to employ the present invention in a multitude of appropriately detailed systems, structures or manners. In all embodiments of the first embodiment as depicted in FIG. **1** contained herein, this closure invention relates generally to the field of closures, seals and caps for containers, vessels, bottles and the like and more specifically to a container closure apparatus with a flow control valve that hermetically seals use after use that remains attached during primary use with a permanent tamper evident seal with options for a multitude of interchangeable, re-usable, recyclable, edible, disposable and collectable parts that act as drinking and or pouring spouts and or funnels for filling and or refilling and are further able to act, but not limited to acting, as a valuable advertising space for sale, lease or rent.

[0083] Turning now to the drawings of the said apparatus and relating to the present invention in detail and beginning with FIG. **1**, the closure **50** comprising of an inner piece or section **51** hereinafter, the inner piece **51** and having an outer piece or section **52** hereinafter, the outer piece **52**. Each inner piece **51** is permanently married to each outer piece **52** in the manufacturing process and is done so that a singular one-piece with non movable parts engineered design could be achieved as depicted in the first embodiment. Together the inner piece **51** and the outer piece **52** form the first embodiment for the closure **50** which is a one piece closure design with no internal moving parts, which is shown in FIG. **1** in the closed position mounted on an added for demonstration purposes only, sample of a container neck, mouth and neck support assembly hereinafter, the container **53** with a neck support **70** as depicted in FIG. **3** of the present invention. The neck support **70** of the container **53** serves to assist the user to lift and pour from the closure **53** which is mated to the container **53** in a semi permanent manner.

[0084] The outer piece **52** and the inner piece **51**, when married in the manufacturing process perform a synchronous function so that the closure **50** and the container **53** can go from the open position to the hermetically sealed closed position directly without the need for an added and separate inner sealer liner which has been replaced in the present invention with an inner lip **61** as depicted in FIG. **2** and which remains hermetically sealed until such a time that a user chooses to open the container **53** by manipulating the closure **50**. The closure **50** performs this function by moving independently of the container **53** from the open position to the closed and the hermetically sealed position.

[0085] It is intended that the closure **50** be re-usable and that the travel restrictor mechanisms **54** featured in FIG. **1** and FIG. **2**, hereinafter, the restrictors **54**, will prevent premature removal of the closure **50** until such a time that a consumer chooses to remove it forcibly and then to re-use it.

[0086] The inner piece **51** includes, but is not limited to a conical shaped central disc **55**, hereinafter, the central disc **55**. In FIG. **1** and FIG. **2** it is attached to both suspension legs **56**, hereinafter, the legs **56** also shown in FIG. **1** and the inner ring assembly **57**, hereinafter, the inner ring **57** of FIG. **1**. The legs **56** support the central disc **55** as being permanently attached to the inner ring **57**.

[0087] The inner piece **51** fits permanently inside the inner ring cup support housing assembly **58**, hereinafter, the cup assembly **58** of the outer section **52** and does not move once permanently mated with the outer piece **52** in the manufacturing process. The outer piece **52** comprises of the cup assembly **58** and an apparatus piece support ledge **59**, hereinafter, the ledge **59** which is not present in the embodiment of the basic design of FIG. **3** and FIG. **4**. The outer piece **52** also houses the restrictors **54** and is shown in the sealed position in FIG. **1** and FIG. **4** of the present invention.

[0088] As shown in FIG. **2** and in accordance to the closure **50** and to the open atmospheric space between the legs **56** of the inner section **51** is an inlet and outlet passage collectively known as inlet/outlet passage **60** hereinafter, the passage **60**, which enables product, goods or liquids to flow freely from the container **53** through the inside of the closure **50**, past the inner sealer lip **61**, hereinafter, the lip **6**, out to the outside environment or into a novel funnel spout section **66**, hereinafter, the novelty apparatus **66** of FIG. **4**. In FIG. **2**, the inner piece **51** is shown dissembled from the outer section **52**. This enables the viewer to see the inner sealer lip **61**, the outer piece inner threads **62** hereinafter, the inner threads **62** of FIG. **2** and the deflection ramp **63**, hereinafter, the ramp **63** of FIG. **2** and the outer piece inlet-outlet passage **64**, hereinafter, the outer passage **64** of the inner piece **51** of FIG. **2**.

[0089] Alternatively the closure **50** may have many interchangeable sections which include, but are not limited to novelties, hooks, top plugs, toy tops, advertising platforms, collectible pieces, foil tamper evident seals with consumer messages, cork seals, cardboard seals, plastic seals, metal seals, shrink wrap seals or hinged lid sealer configurations. The optional ledge **59** which is not always present as shown in FIG. **3** and FIG. **4** and FIG. **6**, supports a multitude of interchangeable novelty apparatus like sections.

[0090] In the embodiment of FIG. **2** of the present invention the topside of the central disc **55** is angled from a sharp point outward from its center and downward. The semi-diamond shape or conical shape of the top of the central disc **55** is designed to deflect product returning to the container in a gravitational manner down passed the legs **56** and through the inner passage **60** when the closure is in the opened position and the container **53** and the closure **50** are in the upright position. Product, goods or liquids deflected down past and over the edge of the central disc **55** and through the open spaces of the legs **56**.

[0091] The angled surfaces on the legs **56** both top and bottom serve to prevent product from attaching itself to the legs **56** whether it be going in or out of the container **53**.

[0092] The outer passage **64** of FIG. **2** of the outer piece **52** enables product to flow from the container **53** past the inner lip **61** then deflect away from and around the hermetic seal mechanism **65**, hereinafter, the hermetic seal **65** of FIG. **3** and FIG. **4** and FIG. **5**. Product, goods or liquids then pass through the central disc **55** then through the inner passage **60** and out by and over the legs **56** and the inner ring **57** which enables the containers contents to flow out of the closure **50** to be dispensed to directly to the outside environment or through a novelty apparatus **66** and then to be dispensed to the outside environment. The majority of returning product, goods or liquids is then deflected past the central disc **55** onto the inner surface of the ramp **63** of the outer piece **52** where the return-

ing contents then slide past and over the lip **61** returning back into container **53** by use of gravitational forces.

[0093] The ramp **63** of FIG. **2**, angled in such a manner as to serve to direct containers contents to freely flow in and out through the closure **50** and the container **53**. The ramp **63** has an angular surface which is not predetermined and will change from configuration to configuration, novelty apparatus **66** to novelty apparatus **66** and size to size. As the size of closure **50** increases or decreases to fit hermetically to any size container, vessel or bottle opening, the angle of the ramp **63** will increase or decrease as will its steepness dependent upon the closure **50**'s finished width. The shape and size of the cup support **58** also varies from configuration to configuration, novelty apparatus **66** to novelty apparatus **66** and size to size. In FIG. **2** the shape, size and height of the cup support **58** and the inner ring **57**, and which also depicts the ledge **59** will vary from configuration to configuration, novelty apparatus **66** to novelty apparatus **66** and size to size.

[0094] As depicted in the cross section, image of FIG. **3**, in the open position the inner threads **62** mate and work in consort with the container threads **75**, hereinafter, the container threads **75**. As the container **53** is held firmly and the closure **50** is turned by a consumer, the closure **50** travels along the path of the inner threads **62** and the container threads **75**. This action causes the closure **50** to raise and lower dependent upon the direction in which it is being turned. As the closure **50** comes open, the hermetic seal **65** is broken and the containers contents are ready to be dispensed. When the restrictors **54** reach their maximum open position as depicted in FIG. **3** and FIG. **4**, locked under container neck restrictor stop, hereinafter, the restrictor stop **71** of FIG. **1** and FIG. **2**, the inner lip **61** snaps downward and forms a semi permanent seal against the container **53**'s leading edge **67**, hereinafter, the edge **67**. The inner seal **61** used to guide the containers contents past the ramp **63**, the hermetic seal, the central disc **55**, the legs **56** and the inner ring **57** through the inner passage **60** and out to a novelty apparatus **66** or directly out to the outside environment. For incoming products, goods or liquids, the central disc **55**, the legs, **56** and the inner ring **57** guide the incoming contents down onto the ramp **63**, then down the ramp **63** over and past the inner lip **61** through the inner passage **60** and back into container **53**.

[0095] FIG. **4** depicts an optional top stopper mechanism **68**, hereinafter, the top plug **68** which is comprised with or without an o-ring seal **69** to provide a hermetic seal. This o-ring or other seal seats against the inside wall of a novelty apparatus **66**. The top plug **68** is removed by consumers prior to or just after opening and closing the closure **50**.

[0096] In accordance with the present invention, FIG. **5** depicts the closure **50** in a closed position with the inner lip **61** bent gently upwards and back causing it to take on energy and thus become spring loaded. As the central disc **55** comes down to seal the mouth of container **53** on edge **67** the flexible inner lip **61** follows the container threads **75** down the container **53**'s neck while maintaining a constant semi-permanent seal with container **53**. This serves to prevent leakage from any residual product that may remain in the closure **50** after hermetically sealing **65** the edge **67**. FIG. **5** depicts a cross section of inner threads **62** and the container threads **75**, the travel restrictors **54** and the inner lip **61** serves to create the hermetic seal **65** between the closure **50** and the container **53** and also serves to stabilize the closure further preventing side-to-side motion and thread pattern leakage while closure **50** is in its fully opened position.

[0097] In a clear or see through configuration of a novelty apparatus **66** with the top plug **68** firmly and hermetically in place and fitted with the graduate scale markings, hereinafter, the graduate scale **74** as shown in FIG. **6** and FIG. **8** is designed for pre measuring a containers contents prior to dispensing from the container **53** and the closure **50** with top plug **68** sealed in place in the mouth of the novelty apparatus **66** funnel or spout. The device sealed in this manner can then be inverted and while inverted a consumer firmly holds the container **53** and then gently turns the closure **50**. Upon opening the closure **50**, the containers contents can be released and poured directly into chamber **73** of FIG. **6** and FIG. **7** and FIG. **8** which is secured from spillage or leakage by the o-ring seal **69**. Using a graduate scale **74** of FIG. **6**, one simply fills the chamber **73** to the measured amount needed for their application of which ever containers contents they choose to dispense from it. Upon reaching the level of this measured amount, the user needs to simply twist the closure **50** in the opposite direction to close and to trap the containers contents inside of the chamber **73** between the top plug **68** and a the inner section **51**. To dispense the contents now trapped in chamber **73**, simply re-invert the still sealed container **53**, the closure **50** and the top plug **68** together as one unit. When fully righted then remove the top plug **68**, tilt to pour from the container **53** and the closure **50** to dispense containers contents. This serves to diminish the number of times that any given product needs to be handled or placed into extraneous containers prior to dispensing; especially for those potentially dangerous substances such as toxic house hold cleaners, fuels and fuel additives.

[0098] In accordance with the present invention, FIG. **7** depicts a fourth embodiment of FIG. **1** of the present invention with a novelty apparatus **66** in its invertible funnel and spout configuration. This fourth embodiment of FIG. **1** of the present invention comes in numerous lengths and circumferences and body configurations and is mainly used but not limited to use as a replacement mechanism for gasoline and water transportation containers, vessels or bottles and to enable consumers to mix and pour contents of containers such as those used in the gasoline additive industry without the need to use an extraneous funnel, pouring or measuring mechanism. This reduces the overall number of times a substance needs to be transferred from one vessel to another and then to its final intended destination. To use, remove the top plug **68** and pour the additives into the chamber **73** with the closure **50** in the closed position. After filling the chamber **73** to the desired level by utilizing the graduate scale **74**, simply replace and seal the top plug **68** into the mouth opening of chamber the **73**. Now by turning the closure **50** to the opened position, this will enable additives currently trapped in chamber **73** to freely pour back into container **53**. Viewing into the see through or semi clear chamber **73**, it is easily distinguishable when its trapped contents have passed through the closure **50** and down in, to mix with the contents of the container **53**. At this time simply return the closure **50** to the closed position. The container **53** is now ready to be shaken enabling the now semi mixed contents of the container **53** to thoroughly mix within the confines of the now sealed container **53**. After a satisfactory amount of time has passed in the shaking process, the consumer can now remove the top plug **68** and return the closure **53** to its opened position ready to pour the completely mixed contents of the container **53**. It should be cautioned that the sealed containers **53** contents, once shaken while sealed will tend to build up pressure and

then off gas as the closure **50** is re-opened. This off gassing effect for the most part will be contained within the confines of the novelty apparatus **66** as the top plug **68** is slowly removed from the novelty apparatus **66**. The added height of the novelty apparatus **66** serves to contain contents that bubble or froth after mixing, stirring, shaking, disturbing or leaving in a warm to hot environment. This serves to reduce spillage and environmental damage and possible toxic burns and or poisonings due to periodic spills and splashes normally associated with much of the prior art. When ready to store a container featuring this embodiment, simply remove the closure **50** with integrated threaded funnel apparatus **81** from the container **53** and invert the closure **50**. Place the inverted closure **50** with integrated threaded funnel apparatus **81** into the container **53** mouth with the top plug **68** hermetically sealed and in place. Screw the closure **50** down tightly using the integrated threaded funnel apparatus **81** into the container **53** to form a hermetic seal. The top plug **68** now sits deep into the containers **53** mouth and acts to seal the closure **50** and the container **53**.

[0099] The direct intention for inversion of the closure **50** in this manner and placement of the closure **50** in this embodiment is to reduce the overall height of closure **50** mainly for shipping, handling, stacking and storing purposes.

[0100] In accordance with the present invention, FIG. **8** depicts a cross sectional view of a second embodiment of FIG. **1** of the present invention in the opened position with the top plug **68**. This embodiment of FIG. **1** depicts the graduate scale **74** for measuring and pouring and works in a similar manner as to that of the third embodiment in FIG. **6**.

[0101] In accordance with the present invention, FIG. **9** depicts a perspective view of a fifth embodiment of FIG. **1** of the present invention showing a novelty apparatus as a short neck funnel spout with grooved striations **78** enables a firm grip and are useful for grabbing, holding, carrying, pouring or drinking from the closure **50** directly.

[0102] In accordance with the present invention, FIG. **10** depicts a cross-sectional view of a sixth embodiment of FIG. **1** of the present invention which features a diamond shaped contents deflection mechanism attached as a permanent component to the underside of the central disc **55** hereinafter, the diamond **77**, which utilizes the hermetic seal **65** placed just outside of the circumference of the diamond **77** to seal the closure **50** to the container **53**. Protruding deeper into the mouth of the container **53** than the embodiment of FIG. **1** of the present invention, this full diamond **77** enables thicker products like cold oils and condiments such as ketchup, relish and mustard to flow freely and continuously from the container **53** through the inner passage **60** between the legs **56**, through the novelty apparatus **66** and out the mouth of the closure **50** to be dispensed to the outside.

[0103] In accordance with the present invention, FIG. **11** depicts an exploded view of the embodiment of FIG. **1** of the present invention in its basic two piece configuration with a bottom up perspective and clearly depicts angular base **76** which is used to assist in the transporting of the closure **50** and a full or partially full container **53** of FIG. **1**. The angular base **76** is purposely shaped to assist in, but is not limited to the opening, closing, removing, lifting, pouring, storing of, stocking of, drinking from and handling of the closure **50** and the container **53** as in the embodiment of FIG. **1**. The angular base **76** is not limited to this shape and angle in future and existing embodiments of the present invention.

[0104] In accordance with the present invention, FIG. **12** depicts a perspective view of the under side of the inner piece **51**, which is the most critical and proprietary component of all embodiments of the present invention. FIG. **12** clearly shows the hermetic seal **65** that seats with and hermetically seals and re-seals the edge **67** use after use of the closure **50** and the container **53**.

[0105] In accordance with the present invention, FIG. **13** depicts an exploded view of the second embodiment of FIG. **1** of the present invention and a view of inner lip **61**.

[0106] In accordance with the present invention, FIG. **14** depicts a perspective view of the fifth embodiment of FIG. **1** showing a functional ornamental design for the top plug **68** and the novelty apparatus **66**. Originally designed for, but not limited to the oil and automotive added industry. In example, to dispense containers contents through this embodiment of the original invention, simply remove the top plug **68** and place the opened end of the novelty apparatus **66** into the filler receptacle of a motorized vehicle. Holding the closure **50** firmly, twist the container **53** to open the closure **50** and to dispense the containers contents into the motor or engine. Simply hold the closure **50** and twist the container in an opposite direction to seal the closure **50** and the container **53**. This serves to contain any residual content left clinging to the inside walls of the container **53** until the closure **50** and the sealed container **53** find their way to a recycle station or disposal yard. As with the prior art, this residual content may otherwise spill or leak out into the natural environment as many consumers simply open, remove and throwaway the standard closures and caps that adorn most manufactured automotive additive containers presently. FIG. **14** also depicts the travel restrictors **54** in the fully closed position atop the container **53**.

[0107] In accordance with the present invention, FIG. **15** depicts a full perspective view of the second embodiment of FIG. **1** of the present invention.

[0108] In accordance with the present invention, FIG. **16** depicts a perspective view of a sixth embodiment of FIG. **1** which features a child's toy spin top hereinafter, the spin top **79**. In this embodiment the top plug **68** is a spin pin mechanism hereinafter, the spin pin **80** that serves to act as an integral component of the closure **50** during and after its initial use which is to be re-used. When a product, goods or liquid is emptied from container **53** and the spin top **79** is removed from the container **53**, it is then restructured by the user to form a spin top **79**. This embodiment of FIG. **1** comes with a string and finger holding mechanism that enables the restructured closure **50** to be manipulated and then thrown by a user to create a spinning motion. The spin top **79** is not limited to the current embodiment and future embodiments of FIG. **16** may or may not include additional components and designs. During the shipping and pre-purchase the spin-pin **80** acts as secondary back up seal to the hermetic seal **65** and as a dust cover and tamper evident consumer safety seal. Dependent upon the level of security needed to be obtained and to avoid tampering of the closure **50** with the spin-pin **80** may also feature a shrink wrap safety seal.

[0109] Not depicted is a perspective view of a seventh embodiment of FIG. **1** which features a hook spout which serves to enable this embodiment to act as a hook mechanism that can support the closure and a full or partially full container. The hook is also a pouring spout and drinking from mechanism and is re-usable, recyclable and disposable. The hook is strategically placed along the shaft of spout but not

limited to being placed far enough down the neck of the hook as to not impede or make dangerous, pouring or drinking from the closure and the container.

[0110] Not depicted is a perspective view of an eighth embodiment of FIG. **1** which features a recyclable, re-usable, collectable and disposable hinged lid or hood mechanism The hinged mechanism serves to act as a secondary sealer device and dust cover and is mounted atop the closure during the shipping and pre purchase stage and also acts as secondary back up seal to the permanent hermetic seal and as a dust cover and tamper evident consumer safety seal. Dependent upon the level of security to obtain and to avoid tampering the closure and hinge mechanism may also feature a shrink wrap seal.

[0111] Not depicted is a perspective view of a ninth embodiment of FIG. **1** which features a pronged fastening system. In this ninth embodiment, we have replaced the inner threads as the mechanism which fastens to the closure to a container **53**. This embodiment offers a simple push pull mechanical action to open and close the hermetic seal of the closure and the container. Especially useful but not limited to use in the wine and condiment industries.

[0112] Not depicted, a tenth embodiment of FIG. **1** of featuring a novelty apparatus moulded as a collectable time piece. For advertising purposes, themes such as "It's time for a beverage" can be applied. An actual working timepiece mounted atop the present invention and during the shipping and pre purchase stage acts as secondary back up seal to the hermetic seal and as a dust cover and tamper evident consumer safety seal. Dependent upon the level of security needed to be obtained and to avoid tampering the closure with mated time piece may also feature a shrink wrap seal.

[0113] Not depicted is an eleventh embodiment of FIG. **1** that features a perspective view of a valuable advertising space for sale, lease or rent. As a dust cover and contaminant seal it is mounted atop the closure and during the shipping and pre purchase stage acts as secondary back up seal to the permanent hermetic seal and tamper evident consumer safety seal. Dependent upon the level of security needed to obtain and to avoid tampering the closure with mated time piece may also feature a shrink wrap.

[0114] Not depicted is a twelfth embodiment of FIG. **1** of the present invention that features a confectionery embodiment of the present invention as a collectible moulded piece in the shape of a flying saucer.

[0115] Not depicted is a thirteenth embodiment of FIG. **1**, which features a collectible moulded piece in the shape of what is commonly known as a Wine Fluke or Fluke. This fluke in this instance is depicted as but not limited to this size and shape and is generally but not limited to use as a vessel to fill with wine or drink and then to propose a toast and subsequently drink from.

[0116] Not depicted is a fourteenth embodiment of FIG. **1** in which a closure on top of a closure configuration is present. This configuration serves to act as ergonomically shaped spout from which to pour or drink from and may or may not contain two inner pieces.

[0117] Not depicted is a fifteenth embodiment of FIG. **1** of the present invention which features a top plug permanently mated to a novelty apparatus by way of a tether or string mechanism.

[0118] Not depicted is a sixteenth embodiment of FIG. **1** that depicts a lighthouse shaped novelty apparatus, with a small light emitter embedded into the top plug. The intention of this is to, but not limited to, the marketing of a light emitting closure that would be used to attempt to attract the attention of potential consumers by way of a flashing light atop a closure and that may have but is not limited to use as a beacon or flashing fishing lure device or flashlight or key and key holder finder.

[0119] Not depicted is a seventeenth embodiment of FIG. **1** featuring a inner section made of a clear material and shaped in the form of a magnifying glass for the purpose of safety and reading and magnifying of objects.

[0120] Not depicted is the eighteenth embodiment of FIG. **1**, which features a top plug made with a specific angular cut through its top surface to form a whistle baffle device for use in but not limited to sports, safety or novel use as a toy which is capable of producing varied musical notes.

[0121] Not depicted is a nineteenth embodiment of FIG. **1**, which features an engineered design comprised of a tire and wheel assembly formed in to a novel closure fashion by re-moulding the outer piece into an actual miniature food grade rubber or rubber like tire or racing slick tire and then mate it with an inner piece moulded into a spoke wheel assembly mechanism capable of enabling a containers contents to pass through to the outside environment.

[0122] Not depicted is a twentieth embodiment of FIG. **1** featuring an engineered closure design in a novel configuration as hose nozzle apparatus.

[0123] Not depicted is a twenty-first embodiment of FIG. **1** of the present invention which features an engineered design comprised of a screen placed inside the main housing of the design used for filtering purposes and entry prevention of larger particles and objects into the container through the closure.

[0124] Not depicted is a twenty-second embodiment of FIG. **1** which incorporates a foam or paper like sealer to act as a further sealant mechanism and is purposely and permanently attached to the inner threads in the form of a liner of the invention which serves to further secure the closure from tampering and possible leakage between the inner threads and the containers threads.

[0125] Not depicted is a twenty-third embodiment of FIG. **1** features a phallic novelty configuration designed to promote safe sex.

[0126] Not depicted is a twenty-fourth embodiment of FIG. **1** features a golf tee apparatus.

[0127] In accordance with the first embodiment of FIG. **1**, all configurations of the closure are designed to seat and sit as low as possible in respect to the height of the container to enable conformity to current industry shelving standards and requirements where applicable. While the present invention has been mainly described in connection with a preferred embodiment, it is not intended to limit the scope of the invention to the particular form set forth, but on the contrary, it is intended to cover such alternatives, modifications, and equivalents as may be included within the spirit and scope of the invention as defined by the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An improved mainly cylindrical closure apparatus for containers, bottles, vessel and the like that hermetically seals use after use that remains attached during primary use with a permanent tamper evident seal comprising a multitude of configurations for use with but not limited to use with spirits, beer, wine, pop, sport drink, milk, juice, water, oil and other automotive additives, chemicals, household cleaners, medi-

cines, condiments, cosmetics and personal hygiene containers that has uses as a drinking apparatus, measuring apparatus, funnel apparatus, pouring apparatus, toy apparatus, sports aid apparatus, emergency apparatus, collectible piece, advertising platform mechanism, hook apparatus and a multitude of other novelty apparatuses and mechanisms that work with containers, bottles, vessels and the like that contain products mixed with gas or that are packaged under pressure and other varied products in a viscous, liquid, dry, gaseous or gaseous mixed state of existence that comprises of a valve control mechanism and mated threaded base section that together control a products flow rate coming in and out of a container, vessel, bottle and like;

the valve mechanism for flow control regulation having a mated housing features an inlet and outlet passage permanently affixed to the outlet passage of a threaded base section leading to either a married hollow funnel/spout mechanism or leading directly to the outside environment;

the valve mechanism for flow control regulation having a number of suspension legs bevelled on all sides and permanently affixed to an outer support ring and inner central disc system that is manufactured as a solitary piece which is then permanently mated to the threaded base section and together serve to form a hermetic seal when in the closed position;

the valve mechanism for flow control regulation having a product deflection disc section that is angled or not both top and bottom that directs product past it whether incoming or outgoing and assists;

the valve mechanism for flow control regulation having a permanent industry standard tamper resistant safety sealing mechanism integrated to its underside which provides the hermetic re-sealing abilities the invention;

the valve mechanism for flow control regulation means non-movable after being welded in the manufacturing process to the main housing of the threaded base section so that both pieces act as a solitary unit and do not move independently of each other between an open & closed and in and out position;

the valve mechanism for flow control regulation moves in a synchronous motion with the threaded base section following in unison along the travel path of a mated containers threaded neck as the closure is turned in one direction and then the opposite direction to execute an open & close and in and out function;

the threaded base section housing a valve mechanism for flow control regulation having both an outlet passage and an inlet passage from the first compartment leading into the main valve control mechanism having its over all height adjustable to meet with varied shelving polices of global industry;

the threaded base section is internally threaded but not limited to that to enable semi-permanent attachment to a mated container;

the threaded base section features security mechanisms to prevent tampering and premature detachment of the mated threaded base section from the container that includes travel restrictor mechanisms for limiting the rotation of the closure to a pre-determined and maximum open and closed position until such a time that it can be forcibly removed to be kept by consumers then further act as a multitude of interchangeable, re-usable, recyclable, edible, disposable and collectable parts that perform as a drinking apparatus and or pouring spout and or funnel apparatus for filling and or refilling, hanging and playing with and is further able to act, but not limited to acting, as a venue that provides valuable space for sale, lease or rent;

the threaded base section features an inclined ramp surface that engages and guides outgoing and incoming product from the container through the closure and whose outside configuration of an angled surface provides a sure grip surface to aid consumers in pouring, drinking, carrying, hanging and handling of a closure and mated container;

the threaded base section features a back flow and leak resistant inner sealer lip section that forms a semi permanent seal on the top leading edge of its mated container in the open position preventing back flow or leakage to the outside environment by way of passing through the passage way located between the mated containers threads and the threads of the base section;

the threaded base section features but is not limited to featuring an optional lip and mouth support section to accommodate a multitude of funnel/spout or novelty configurations;

the threaded base section housing a main valve control mechanism performs its open & close function by holding its mated container firmly and then turning the featured apparatus one direction to open and the opposite direction to close;

the threaded base section designed to make for ease of use requires little effort to open and close as its angular flanged outer surface acts as a leverage mechanism for young and old and those afflicted with physical disabilities and arthritic like medical maladies;

the threaded base section with an etched or roughened outer surface acts as a gripping mechanism and provides much leverage that enables consumers to lift and drink, pour from the container using only one hand;

the threaded base section with or without etched or roughened outer surface acts as a gripping mechanism to provides a simple ergonomical carrying and lifting mechanism;

the threaded base section enables maximum flow rate through its interior as the geometry of its inlet and outlet ports and those of the valve mechanism section are consistently larger than the circumference of the containers opening enabling a smoother flow of containers contents through the closure to the outside environment;

the threaded base section which permanently houses the valve mechanism for flow control regulation is engineered to support the upper and lower lips of consumers while simultaneously enabling the outside atmosphere to enter the container as product is dispensed which causes an equalization of atmospheric pressure on the inside and outside of a collapsible container, vessel, bottle and the like reducing bubbling, frothing gurgling, splashing and spitting of fluids.

2. An improvement for a closure for containers as defined in claim **1** wherein said closure comprises of a cylindrical shaped funnel or spout mechanism for the pouring and dispensing of contained products mated with a hermetically sealing top stopper plug to enable for the inverting of an

opened container with out leakage or spillage for the said purpose of pouring a measured amount of product into a sealed chambered section, sealing it inside the chamber and then after re-inverting the container and removing the top stopper plug mechanism, then tilting the container to dispense and pour the product which reduces spills, burns and related maladies while simultaneously eliminating the need to engage an extraneous measuring, pouring or containment apparatus.

3. An improvement for a closure for containers as defined in claim **1** wherein said improvement comprises of a variety of add-on top mechanisms used to seal out dust, dirt and contaminants which include but are not limited to a hinge mechanism, a tether mechanism, a magnetic mechanism and a string mechanism designed to permanently attach a removable top cap sealer apparatus to the present invention.

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