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[54] **NON-AEROSOL CONTAINER WITH EXPANSIBLE BLADDER AND EXPELLING FORCE PROVIDING SHEATH**

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[52] **U.S. Cl.** **222/105**, 222/214, 222/386.5

[51] **Int. Cl.** **B65d 37/00**

[58] **Field of Search** .. 222/94, 105, 386.5, 394, 206, 222/211–214

[56] **References Cited**

UNITED STATES PATENTS

3,589,506	6/1971	Ford	222/394 X
3,067,810	12/1962	Mozic	222/105 X
3,234,737	2/1966	Hiland	222/94
3,407,968	10/1968	Fiquet	222/105 X
3,356,265	12/1967	Wiggins	222/105 X
3,169,670	2/1965	Hrebenak	222/387 X
3,672,543	6/1972	Roper	222/386.5 X

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[57] **ABSTRACT**

A container construction of the expansible member type wherein the substance to be packaged is contained within the expansible member in conjunction with an ensheathing member to provide the expelling force to expel the substance from the expansible member. The container construction is especially useful for the packaging of highly penetrative substances which heretofore caused permeability problems; and shelf life difficulties; all of which are now overcome.

14 Claims, 5 Drawing Figures

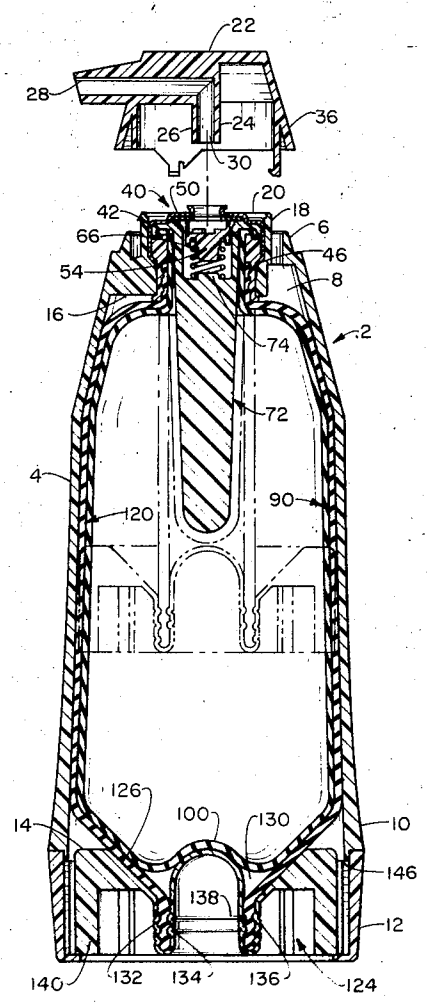


Fig. 1.

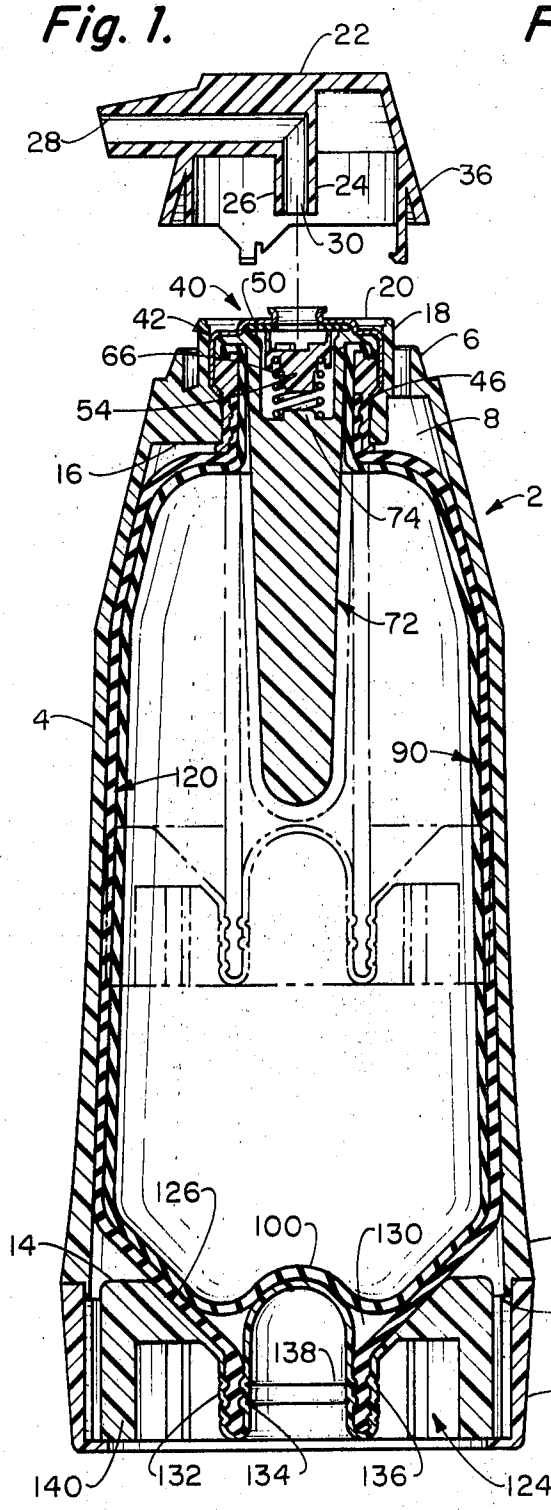

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Fig.2.

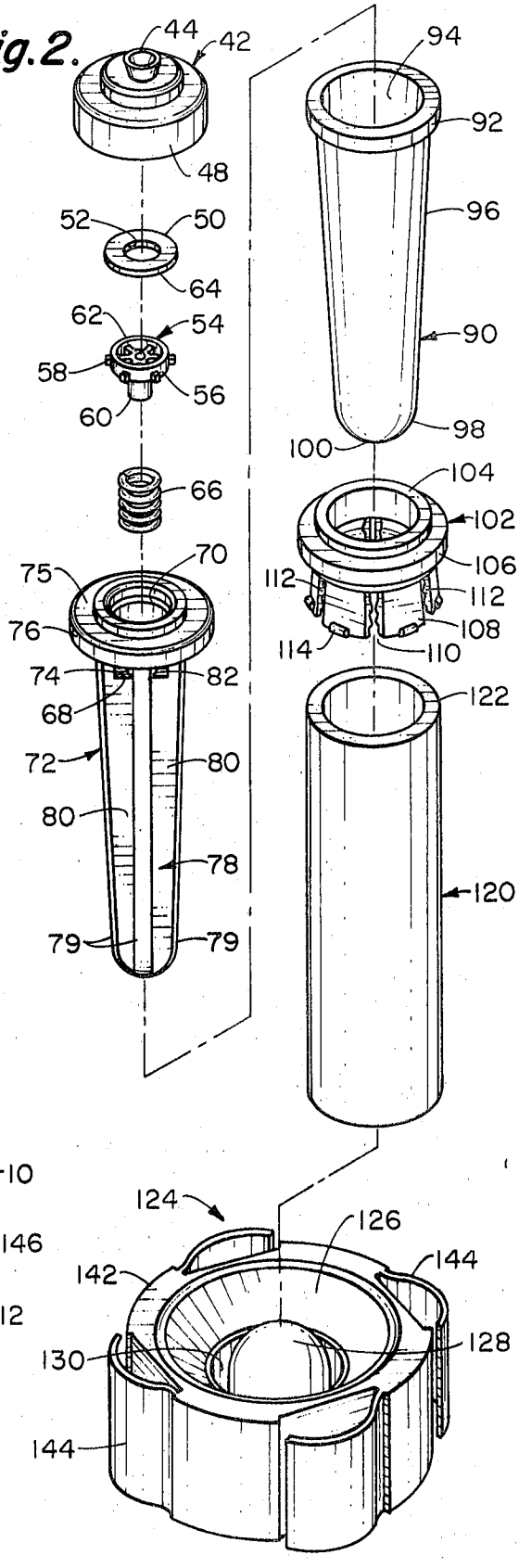

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Fig. 3.

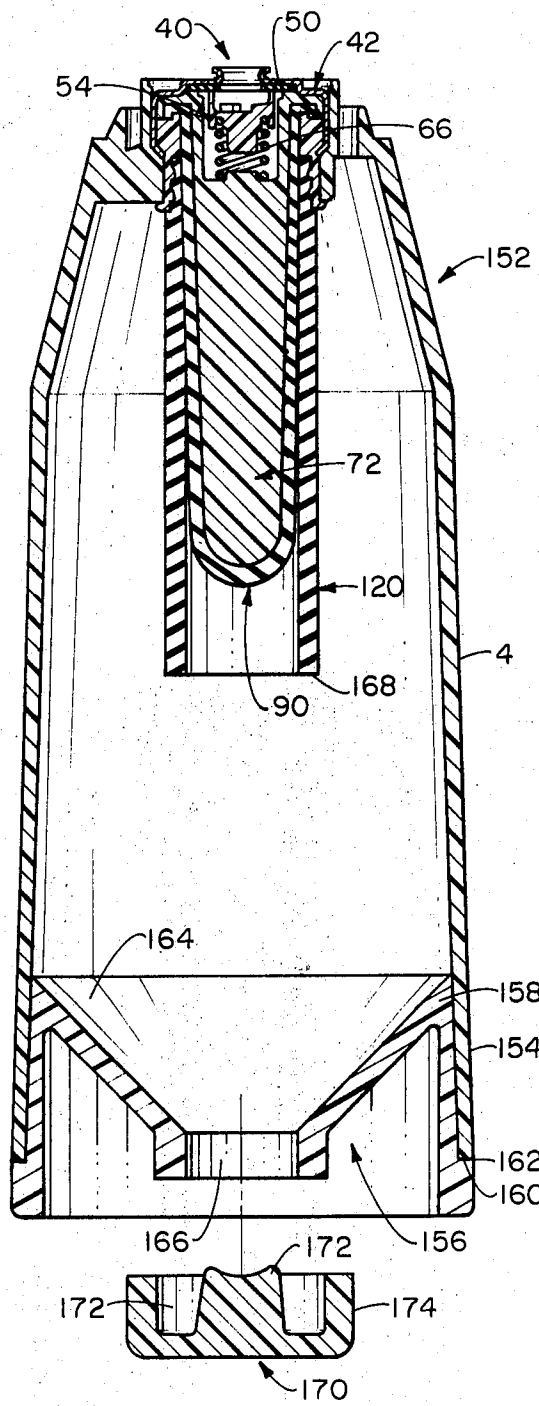


Fig. 4.

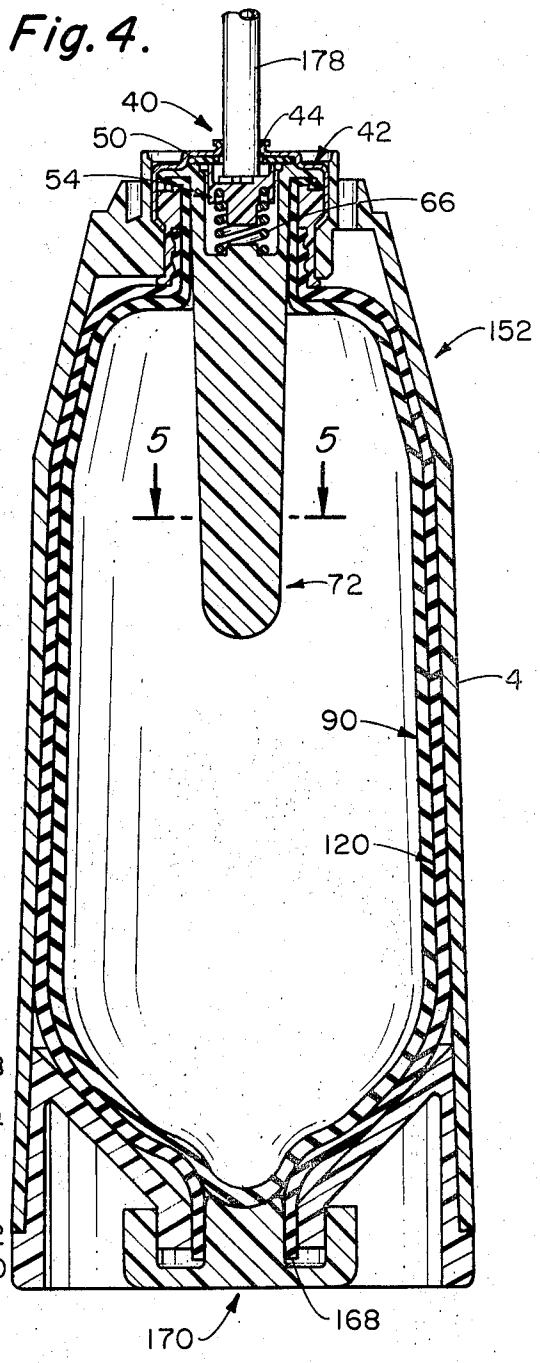
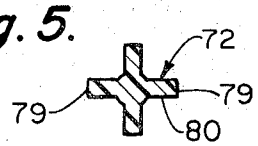


Fig. 5.



NON-AEROSOL CONTAINER WITH EXPANSIBLE BLADDER AND EXPELLING FORCE PROVIDING SHEATH

BACKGROUND OF THE INVENTION

This invention pertains to containers of the expansible member or bladder type wherein a flowable substance is contained within the expansible member and thereafter expelled without the use of gases or similar type propellents, such as the halogenated hydrocarbons.

More specifically, this invention pertains to containers of the expansible member type which have overcome permeability problems that have plagued similar type containers in the prior art. Additionally, the containers of this invention overcome certain manufacturing and assembly difficulties which have left containers of the general type lacking with respect to overall performance.

The prior art of containers of the expansible member type have heretofore utilized an expansible member which either required elaborate assembly procedures and/or the pretensioning of the expansible member prior to the filling thereof with the substance to be contained which necessarily imparted to the expansible member a material set which consequently interfered with the ability of the expansible member to expel all of the contained material particularly with the passage of a long period of time. Moreover, some of the prior art devices suffered in the respect that the expansible member was of a material which permitted migration of the stored substances, or some portion thereof, so as to have a deleterious effect on the shelf life or composition of the product stored in the expansible member or bladder. This permeability problem of necessity required selectivity with respect to the products to be packaged, curtailment of shelf life or similar such factors, all having a harmful overall affect on the utilization of such container.

With the herein disclosed containers of this invention, not only are most of the above alluded problems overcome, but certain definite advantages are obtained.

OBJECTS AND SUMMARY OF THE INVENTION

It is an object of the invention to provide a container of the expansible member type.

It is another object of the invention to provide a container of the expansible member type which is assembled in a manner which permits effective performance of the container.

It is another and further object of the invention to provide a container of the expansible type utilizing a sheath member to alleviate permeability problems.

It is still another and further object of the invention to provide a container of the expansible member type wherein a sheath member ensheathes the expansible member, wherein the sheath member is pretensioned prior to filling of the expansible member, but in the normal or unfilled condition is not so pretensioned.

It is still another and further more specific object of the invention to provide a container of the expansible member type wherein the container has an effective shelf life for the substances which it contains.

It is another further and more specific object of the invention to provide a container utilizing an ensheathing member with an expansible bladder, wherein the ensheathing member is substantially co-extensive with the expansible member and which is capable of being pretensioned at the time of filling the container so as not to adversely affect the dispensing of the container material by reason of the sheath member taking a preset due to the pretensioning.

It is another and further important object of the invention to provide a fluid dispenser utilizing an expansible member and cooperative components which is readily assembled and readied to receive the flowable substances to be contained within the expansible member, without imparting to the expansible member or an ensheathing member, prestressed factors that would cause either of the members to take a preset to interfere with the total expulsion of the material to be contained at a later time.

It is another and further specific object of the invention to provide a dispenser utilizing a sheath member which is initially about co-extensive with the expansible bladder or member in which the flowable substance is to be contained and which at the time of filling is pretensioned and retained in proximity to the bottom of the container.

It is another and further specific object of the invention to provide a container wherein pretensioning of a member making up the container is obtained by retention of the member in an end member making up the bottom of the container which is axially moveable with respect to the axis of the container.

It is another further and specific object of the invention to provide a container of the expansible member type wherein an ensheathing member of extruded tubing is positioned co-extensively with said expansible bladder and is pretensioned at the time of filling the container and retained in the bottom portion of the container by simple expedients.

These and further objects of the invention will become apparent from the hereinafter following commentary taken in conjunction with the drawings.

Generally in an exemplary embodiment, the containers of this invention pertain to a fluid dispenser of the expansible member type wherein an improvement comprises the combination of a sheath member overlying the expansible member within which flowable fluids are to be stored and from which they are to be dispensed. The sheath member is about co-extensive with the expansible member and ensheathes same when the expansible member is filled with a flowable fluid and exerts a dispensing force thereon with means to impart a prestressed condition to the sheath member.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a cross sectional view of one of the containers of the invention showing the cap in the unassembled position and illustrating the filled condition of the container with the unfilled condition being illustrated in phantom line;

FIG. 2 is an exploded view illustrating the interior components of the container shown in FIG. 1 for purposes of clarity;

FIG. 3 is a cross-sectional view showing another exemplary embodiment of the containers of this invention with the cap removed;

FIG. 4 illustrates a filling procedure for the container shown in FIG. 3; and

FIG. 5 is a cross-sectional view taken along the line 5—5 of FIG. 4 showing the mandrel construction which may be utilized in the containers of this invention.

DESCRIPTION OF THE BEST EMBODIMENTS CONTEMPLATED:

Referring to the figures of drawing, wherein like numerals of reference designate like elements throughout, and referring specifically to FIGS. 1 and 2, the dispenser 2 of this invention comprises container body 4, in the preferred form of molded plastic, wherein the walls thereof form a neck portion 6 and an interior cavity or chamber 8 with the lower portion 10 of body 4 being configured to receive base member 12 within which end member 14 is received. Bottom member 12 may be integrally molded with body 4 but for purposes of illustration, is shown as a separate member secured to the lower portion 10 as by adhesive, electronic welding or similar such methods, especially where, as herein, the base member 12 is of plastic.

The end member 14 comprising a portion of the bottom of container or dispenser 2 in cooperation with base member 12, is axially moveable within the chamber 8 into the phantom line position, but is securely retained in locked position in the full line shown in FIG. 1. More of this feature will be taken up as the description proceeds herein.

Supported from the neck 6 as by connection ribs 16, is innerset collar 18, integrally molded with the body 4 and forming a mouth opening 20, which receives the valve assembly, as will be described, in nestled relationship as shown in FIG. 1.

Cover member 22 is of the usual type having a fluid passageway 24 formed by the walls 26 thereof communicating the exterior 28 to the inlet 30 which is in communication with the valve assemblage received within the mouth 20 as will be described.

The cover 22 is also of molded plastic. The cover 22 fits onto collar 18 and is rotatable with respect to collar 18 to a locked position to prevent discharge of the flowable substances contained within the dispenser 2 as will become apparent. At this juncture suffice to say that to obtain operability of the dispenser 2 and more specifically actuation of the valve mechanism, the locked position prevents depression of cap 22 and more specifically, the communication of inlet 30 with the valve assembly received in nestled relationship within the mouth 20.

The valve assembly 40 received within the mouth 20 of dispenser 2, comprises (in the order of assembly shown in FIG. 2) ferrule member 42 of thin wall deformable metal, aluminum for example, of generally cylindrical design having an orifice portion 44 communicating to the inlet 30 of passage 24 of cover member 22. Ferrule 42 may be within the thickness of about 0.020 of an inch so that the lower portion may be crimped or bent as shown at 46 of FIG. 1 after assemblage of the valve assembly 40 as will become apparent.

An upper portion of larger cylindrical portion 48 provides an interior recess to receive the valve seat 50 in this instance, an annular disc of conformable rubber having a central aperture 52 to accommodate the inlet 30 of passageway 24. Ferrule 42 has a depending exterior wall which as indicated earlier, becomes crimped as at 46, in later assembly. The interior configuration of ferrule 42 is adapted to receive, in nestled, substantially tight relationship, the remaining members of the assemblage as can be seen in FIG. 1 and as will now be described.

A valve seating member 54 having an annular portion 56 with spaced protuberances 58 and depending portion 60, provides the manipulable component of the valve assemblage 40 to allow dispensing of flowable substances contained within the expansible member. The upper surface 62 of member 54, which member is axially shiftable, as will become apparent, into and out of fluid tight relationship with the under-surface 64 of valve seat 50 permits fluid or flowable substances to flow between the spaced projections or protuberances 58 peripherally spaced on the peripheral surface of annular portion 56. The under-surface of annular portion 56 and depending portion 60 are adapted to receive coil spring 66 which coil spring acts against the bottom surface 68 of the bore 70 in mandrel member 72. To effect proper positioning of coil spring 66, a button protuberance 74 is provided as a positioning means on the exterior of surface 68 of mandrel 72. It is obvious that the coil spring 66 normally positions and biases seating member 54 into the seated or closed position, thereby effectively blocking fluid flow to passageway 30.

Mandrel member 72 in this instance, has an annular upper configuration formed by a first collar 75 and a lower larger diameter collar 76, again of integrally molded plastic and having a depending elongate portion 78 of cruciform configuration in cross-section. The elongate portion 78 provides fluid flow paths 80 between adjacent ribs 79 or projections such that communication is established via communicating passageways 82 communicating to the bore 70.

The elongate portion 78 formed by the spaced ribs 79 is about as long as expansible member 90 so as not to induce any prestress in that member. The mandrel member is also formed of molded plastic.

The expansible member 90 within which the fluids or flowable substances are to be contained within the chamber 8, is provided with an upper flanged portion 92 forming a collar-like configuration to be received in nestled relationship within the annular portion 76 of the mandrel member 72. It will be noted that the general exterior configuration of the elongate portion of expansible member 90 is similar to the tapered configuration of the elongate portion 78 of mandrel member 72. The flange portion 92 forms a mouth opening 94 into the interior of expansible member 90 which in the unassembled and unfilled condition, is approximately the same length as the ribs 79 making up the elongate portion 78 of mandrel member 72.

The expansible member 90 is preferably made of an elastomeric type of material which is impermeable to and compatible (chemically) with the substance to be packaged. Materials, such as, for example, natural latex, silicone rubber, or the like may be suitable for some substances. Preferred, however, are butyl, nitrile and neoprene rubbers and mixtures thereof. Preferably, the membrane should be of suitable thickness depending upon end result desired and one which has an exceedingly high memory or resilient capability to permit the membrane or member from which it is made, after distortion as by the introduction of fluid to be contained, to exert substantially high forces upon the fluid contained therein and to aid in the dispensing of same therefrom, all consistent with impermeability. The interior diameter of extended portion 98 is slightly

smaller than the upper portion **96** but it is slightly larger than the cross-sectional width of the ribs **79** forming the lower elongate portion **78** of mandrel member **72.** The extreme terminus **100** of membrane or expansible member **90** may be of slightly greater thickness than the remainder thereof for reasons that will become apparent. The thickness of the expansible membrane or member **90** may be within a range of about **10** to **80** thousandths of an inch and in some instances more.

A snap ring member **102,** also of moldable plastic, has a first collar portion **104** adapted to be received in snug, nestled relationship within the annular portion **76** to retain the flange portion **92** of expansible member **90** therebetween. Lower annular portion **106** of snap ring member **102** is also adapted to be received in snug engagement within ferrule member **42** and more particularly the depending walls of the annular portion **48** thereof, as will be described.

Snap ring **102** has a plurality of spaced, locking legs **108** integrally connected to annular portion **106** and being spaced from one another and providing a flexing or springing force to retain the components of the assemblage in secured relationship. To aid in this retention, the interior surface **110** of each of the locking legs **108** is provided with spaced protuberances **112** so as to provide a snug, friction-fit force as will be seen. Each of the locking legs **108** has an exteriorly directed flange **114** adapted to abut the lowermost edge of collar **18** of dispenser **2.**

A sheath member **120** here shown as an elongate tubular member having an open top and bottom is of high modulus of elasticity, e.g. latex or natural rubber, or other materials which may or may not be highly impervious to the fluids which are to be contained within the dispenser of this invention. The member **120** has exceedingly high memory and is adapted to furnish most of the expelling force for fluids in the expansible member **90,** especially where the less elastomeric materials are employed. Sheath **120** is substantially positioned co-extensive in overlying relationship to the expansible member **90,** substantially as shown in FIG. **1.** The sheath **120** of about 60 to 70 thousandths thickness, may also form a fluid barrier and is of the type of material which, upon the filling of expansible member **90** with the fluids to be stored, exerts the primary propelling force to dispense the fluids from the dispenser **2.**

It will be noted that the locking ring member **102** positions the upper portion **122** and **92** of sheath member **120** and expansible member **90** respectively within the valve assemblage **40** substantially as shown. Again, the interior protuberances or ribs **112** and the tendency of the locking legs **108** to exert the frictionally engaging forces, assures assembled retention.

To complete the major components of the dispenser **2,** an end member **124** is provided. End member **124,** in cooperation with base member **12,** provides the bottom enclosure for dispenser **2.** The end member **124** is of cylindrical configuration adapted to be received within the chamber **8** at least to the extent shown in FIG. **1.** The length of the sheath member **120,** it will be seen, is slightly longer than expansible member **90.**

End member **124** also of molded plastic, or the like, is provided with a central, inclined wall portion **126** which extends into a central interconnected central portion **128** of somewhat spherical configuration forming therebetween, a retaining well **130.** Opposed walls surfaces **132** and **134** are either provided with preformed circumferential protuberances **136** and **138** respectively or these protuberances may be formed using plastic forming techniques during the assembly or crimping operation to provide greater retention capability for retaining the lower end of sheath member **120** as shown in FIG. **1.**

The exterior surface **142** of end member **124,** is provided with a plurality of spaced locking ribs **144** having a flexibility or resilience such that the end member **124** is received within the chamber **8** formed by body **4,** but upon positioning to the lower extent thereof as shown in FIG. **1,** securely retains end member **124** in this lowermost position. Locking by locking ribs **144** is obtained by reason of the fact that these ribs expand to engage in locked relationship, the circumferential shoulder **146** which prevents axial movement of end member **124** with respect to container body **4.**

Thus, in the unfilled state, the end member **124** is positioned as shown in phantom line in FIG. **1,** but upon the introduction of the flowable substance or fluid into flexible member **90,** the expansion thereof forces end member **124** with retained sheath member **120** into the locked position as shown in full line in FIG. **1.** To ensure adequate retention of sheath member **120** within end member **124,** a metal or the like, locking ring, or ferrule, not shown, may be positioned over the wall **132** and crimped or otherwise secured so as to bring opposed walls **132** and **134** into close proximity and rigidly retain the lowermost portion of sheath member **120.** It will be noted that the end member **124** acts to position the sheath member **120** in proximity to the bottom of the dispenser **2** formed by the cooperation of base member **12** and the end member **124** itself.

In assembling the dispenser **2,** the valve component **40** comprises the assemblage of the ferrule **42,** valve seat **50,** valve member **54,** coil spring **66** and mandrel member **72,** along with the flexible member or membrane **90,** and locking ring member **102** assembled as shown in FIG. **1** as a unitary structure. Obviously, after the assemblage of these components the lower portion of ferrule **42** is crimped as at **46** to provide a secure assemblage. Thereafter, sheath **120** is positioned between membrane **90** and locking ring **102.** The entire assembly may then be positioned within the mouth opening **20** of body **4** and thereafter the end member **124** positioned within the chamber **8** and the lower portion of the sheath member **120** secured as previously described, after which the base member **12** may be secured or formed to complete and ready the container for filling with the flowaBle substance or fluid which is desired to be packaged.

As those of ordinary skill in the art will recognize, the filling nozzle is introduced into the orifice **44** formed by ferrule member **42** to depress valve member **54** and to allow communication into the interior of flexible member **90.** Prior to introduction of flowable substances, the container assemblage is as shown in the phantom line of FIG. **1.** Upon the introduction of the flowable substances under pressure, the flexible member **90** and indeed the sheath member **120,** are forced outwardly in billowing fashion into the full line position shown in FIG. **1** while the end member **124** is forced downward into the locked position shown in full line. Upon filling of the flexible member **90** with a selected amount of the flowable substance, the cap **22** is positioned in a manner well known in the art, onto the neck **18** in friction-fit manner. Locking of cap **22** prevents accidental dis-

pensing or discharge of the flowable substance contained within the bladder or flexible member **90.**

As should be readily apparent, placement of the cap **22** into the unlocked position allows for the depression of cap member **22** and more importantly, the movement of valve member **54** from seating engagement with valve seat **50** to allow the flowable substance to flow through the flow paths **80,** through the flow communication ports **82,** through the bore **70,** through and around the coil spring **66** and past the valve member **54,** more particularly the protuberances **58** thereof, through the annular passageway **52** of valve seat member **50** and eventually into the inlet **30** and into the passageway **24** to the outlet **28** or nozzle formed by cap **22.**

As indicated earlier, the preferred material of construction for most of the components of the dispenser **2** are molded plastic, such plastics as the polypropelene and similar materials being satisfactory. It is of course, obvious that in some instances other materials of construction will be found to be satisfactory. Indeed, the ordinary worker in the art will at once appreciate what materials will be most desirable when considering the function to be achieved by the various components, and the combination of components working together as a satisfactory dispenser.

Likewise, other variations and modifications will suggest themselves and one such modification is shown in another embodiment of the invention as illustrated in FIGS. **3, 4** and **5.**

Herein, the same essential components as those earlier described for the dispenser **2** are utilized with the only differences being as hereinafter pointed out.

In this instance, the dispenser **152** likewise utilizes a body **4** and a valve assemblage **40** as well as all of the other components illustrated in FIG. **2** with the exception of the sliding end or base member **124.**

In this particular instance, the lower portion **154** of body **4** is fashioned so as to receive an end base member **156** having an exterior wall **158** to nestle within the cavity formed by body **4** and to engage in abutting fashion by means of shoulder **160,** the lower edge **162** of lower body portion **154.** Securement along abutting surfaces may be obtained by adhesive, electronic weld, or similar modes well known in the art, especially where plastic materials are utilized.

In cross section the member **156** has a central cuplike portion **164** having converging walls and terminating in a central annular opening **166** adapted to receive the lowermost portion **168** of sheath member **120** and to be retained therein by cap member **170** as illustrated in FIG. **4.**

Cap member **170** has a central plug portion **172** adapted to be received within the annular opening **166** and forms with the exterior wall **174,** a circumferential groove **176** of sufficient width to receive the terminus of the cuplike portion **164,** with the lower portion **168** of sheath member **120** securely retained therein. The outer wall **174** has some resilience for spring biasing towards and away from plug portion **172,** of cap **170.** Thus, tight friction-fit engagement is obtained when the lower portion **168** of sheath member **120** is positioned within annular opening **166** and the cap member positioned as shown in FIG. **4.**

As earlier indicated, the interior components of the container as earlier described, are assembled as a unit and the entire unit positioned into the cavity formed by the body member **4.** Thereafter, the base **156** is assembled and welded to the lower portion **154** of body **4** and the assemblage will take the form shown in FIG. **3.**

Referring now to FIG. **4,** an air conduit **178** is inserted into the orifice **44** of ferrule member **42** and introduced so as to open the valving mechanism as previously described and to inflate the flexible member or membrane **90** with air. In the inflating process, the lower end **168** of the sheath or outer sleeve member **120** is fed through the annular opening **166** because of the introduction of air into the flexible member **90** and because the expansion of the flexible member **90,** causes expansion and inflation of both the flexible member **90** and the sleeve or outer sheath **120** as a unit. Upon disposition of the lower portion **168** as shown in FIG. **4** the cap member **170** is positioned as shown to frictionally retain the end of sheath member **120** in proximity to the bottom of the dispenser **152.** The air within the flexible member **90** is subsequently removed and the flexible member **90** is now ready for reception of flowable substances, fluid or other product which is to be contained within the dispenser **152.** It will be noted that this retention of the sheath member **120** as described, imposes a prestress on the member which acts to provide a dispensing force for the product contained within flexible member **90.** This operation may also be done during the actual filling of the product, thereby eliminating the prestress until the actual filling operation, as the sliding base embodiment earlier described.

Thus, there has been disclosed a dispenser for storing and dispensing flowable substances without the use of a propellant such as the "Freons". There are many variations and modifications that will suggest themselves to those of skill in the container art. The specific shape and configuration of the components making up the dispensers of the hereindisclosed invention, are not particularly important, except as previously noted. A myriad of alternatives will suggest themselves and all such modifications are intended to be covered by the appended claims.

I claim:

1. In a fluid dispenser of the expansible member type, the improvement which comprises the combination of: a sheath member overlying the expansible member within which flowable fluids are to be stored and from which dispensed, said sheath member being about substantially coextensive with said expansible member and ensheathing same when said expansible member is filled with a flowable fluid and exerting a dispensing force thereon; and means to impart a prestressed condition to said sheath member, said expansible member being substantially impermeable to said flowable fluids for a sufficient time to provide an acceptable shelf life therefor, said sheath member being secured proximate the bottom of the container comprising said dispenser, said means to impart a prestressed condition to said sheath member comprising the coaction of the lower portion of said sheath member being frictionally retained in secure fashion proximate the bottom of said container; an end member comprising said container bottom and having a retaining well within which said sheath member is frictionally retained, said end member being movably retained within the walls of said container prior to filling of said expansible member with flowable fluids.

2. The dispenser in accordance with claim **1** wherein said container bottom comprises said end member hav-

ing an exterior configuration compatible with the exterior surface of the container body and at least a portion of the walls thereof are resilient to permit reception of said end member within at least the lower portion of said container body.

3. The dispenser in accordance with claim 2 wherein said end member is normally positioned upwards of the lowermost portion of said container body prior to the filling of said expansible member.

4. The dispenser in accordance with claim 3 wherein said end member is vertically, moveably positioned with respect to the longitudinal axis of said container body.

5. The dispenser in accordance with claim 4 wherein said end member is adapted to be moved into locking engagement with respect to the lowermost portion of said container body.

6. In a fluid dispenser of the expansible member type, the improvement which comprises the combination of: a sheath member overlying the expansible member within which flowable fluids are to be stored and from which dispensed, said sheath member being about substantially coextensive with said expansible member and ensheathing same when said expansible member is filled with a flowable fluid and exerting a dispensing force thereon; and means to impart a prestressed condition to said sheath member, said expansible member being substantially impermeable to said flowable fluids for a sufficient time to provide an acceptable shelf life therefor, said sheath member being secured proximate the bottom of the container comprising said dispenser, said means to impart a prestressed condition to said sheath member comprising the coaction of the lower portion of said sheath member being retained in secure fashion proximate the bottom of said container; an end member comprising said container bottom, said end member comprising a base having a central opening within which said sheath member is frictionally retained, the walls of said base peripheral of said central opening being flexible; and a retaining member cooperating with said central opening to captively retain said sheath member within said opening.

7. The dispenser in accordance with claim 6 wherein said retaining member is a cap adapted to be frictionally engaged over said opening.

8. The dispenser in accordance with claim 7 wherein said cap includes a central plug to be received within said central opening.

9. The dispenser in accordance with claim 8 wherein said base has an interior conical configuration.

10. A fluid dispenser comprising the combination of: a container body and cover therefor, including a fluid passageway communicating the exterior thereof to a valve member supported within said container body; a valve member; an expansible member having an open end and a closed end, the diameter proximate said open end being larger than the diameter of said closed end, said expansible member being adapted to be retained within said container body and store fluid therein; a valve seating member disposed in axially shiftable relationship within said valve member and adapted to open and close the communication between said fluid passageway and the interior of said expansible member; a mandrel within said expansible member forming dispensing flow paths for fluid to be stored within said expansible member; and a sheath member overlying said expansible member and being about coextensive therewith and ensheathing said expansible member when same is filled with a fluid and exerting a dispensing force thereon, said sheath member being adapted to be subjected to pretension when said expansible member is filled with said fluid, said mandrel and said expansible member being about coextensive in the unfilled state, said expansible member being substantially impermeable to said fluids to be stored within said expansible member for a sufficient time to provide an acceptable shelf life; and an end member, movable with respect to said container body, comprising said container body, said pretension of said sheath member being obtained by retaining same with said end member.

11. The fluid dispenser in accordance with claim 10 wherein said end member is axially moveable within said container body.

12. The fluid dispenser in accordance with claim 10 wherein said end member comprises a cap member frictionally engaging said sheath member in retained position.

13. In a fluid dispenser of the expansible member type, the improvement which comprises the combination of: a sheath member overlying an expansible member within which flowable fluids are to be stored and from which dispensed, said expansible member being substantially impermeable to flowable fluids stored therein for a sufficient time to provide an acceptable shelf life, said sheath member being substantially coextensive with said expansible member and ensheathing same when said expansible member is filled with a flowable fluid and exerting a dispensing force thereon; said sheath member being secured proximate the bottom of the container comprising said dispenser; and means to impart a prestressed condition to said sheath member comprising the coaction of the lower portion of said sheath member being retained in secure fashion proximate the bottom of said container, said sheath member being frictionally retained within a retainer well formed in an end member comprising said container bottom, said end member being vertically, movably retained and normally positioned upwards of the lowermost portion of the container body and movably positioned with respect to the longitudinal axis of said container body and within the walls of said container prior to filling of said expansible member with flowable fluid, said container bottom comprising said end member having an exterior configuration compatible with the exterior surface of the container body and at least a portion of the walls thereof being resilient to permit reception of said end member within at least the lower portion of said container body, said end member having locking means comprising flexible, spaced, peripheral locking ribs to engage said container body when moved into locking engagement with respect to the lowermost portion of said container body.

14. The dispenser in accordance with claim 13 wherein said container body comprises a base member at the lowermost portion thereof and said flexible locking ribs engage locking channels formed by the cooperation of said base member and the interior wall of said container body.

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