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BEVERAGE CONTAINING AND DISPENSING ENCLOSURE

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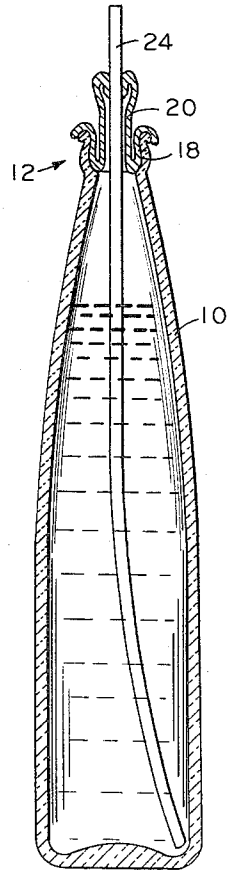



FIG. 2

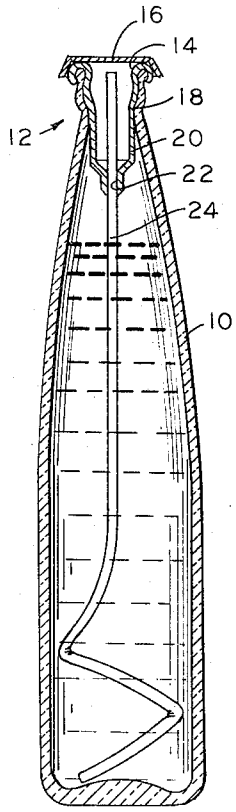



FIG. 1

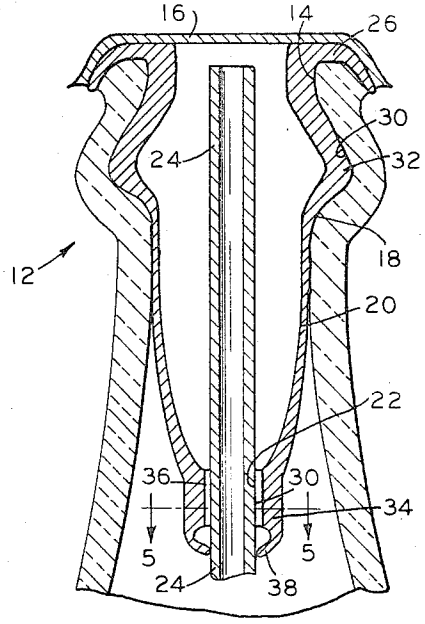



FIG. 3

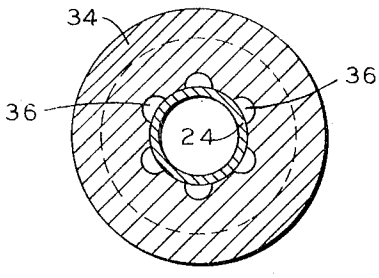



FIG. 5

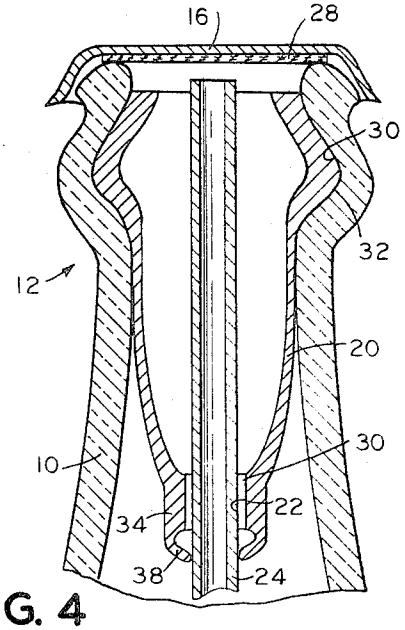



FIG. 4


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# BEVERAGE CONTAINING AND DISPENSING ENCLOSURE

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5 Claims. (Cl. 215—1)

This invention relates to a beverage containing and dispensing enclosure. More particularly, the invention relates to a bottle for use as a container of beverage, such as soft drinks, having a self-contained straw. Still more particularly, the invention relates to a capped beverage bottle having a self-contained straw arranged in a manner such that when the bottle cap is removed the straw automatically pops up for use.

Accordingly, an object of this invention is to provide a beverage container in the form of a bottle having a self-contained straw arranged in a manner such that when the bottle cap is removed the straw automatically extends for use for means of drinking the beverage contained in the bottle.

Another object is to provide a beverage containing and dispensing enclosure of the type described in the above set forth object and including means whereby gas pressure within the enclosure will move the straw into an upward position automatically when the cap is removed but in a means permitting air to freely enter the bottle as the liquid is drawn therefrom.

These as well as other objects will be understood with reference to the following description and claims, taken in conjunction with the attached drawings in which:

FIGURE 1 is a cross-sectional view of the beverage containing and dispensing enclosure of this invention showing the enclosure sealed by a cap in the form of which the enclosure would be utilized to retain and transport liquid until ready for use.

FIGURE 2 is a cross-sectional view of the enclosure of FIGURE 1 showing the internally contained straw extended after the cap is removed.

FIGURE 3 is an enlarged view of the upper reduced diameter neck portion of the beverage containing and dispensing enclosure of this invention showing the embodiment wherein the straw holder includes integral portions serving as the cap gasket.

FIGURE 4 is an enlarged cross-sectional view of the upper reduced diameter neck portion of a beverage containing and dispensing enclosure of this invention as shown in FIGURE 3 but showing the arrangement wherein the cap utilized includes a self-contained gasket.

FIGURE 5 is an enlarged cross-sectional view taken along the line 5—5 of FIGURE 3 showing the valving arrangement of the straw holder permitting air to flow into the enclosure as the liquid is removed therefrom.

Referring to FIGURE 1, the beverage containing and dispensing enclosure of this invention is illustrated in the form of a bottle **10**, which usually is of glass, but such composition is not a limitation of the invention. The bottle has a reduced diameter neck portion generally indicated by the numeral **12** providing a top opening **14** which is closed by a cap **16**. Positioned within the bottle **10** is a tubular flexible straw holder **18** having an upper portion of outside diameter snugly fitting the inside diameter of the bottle neck portion **12**. The straw holder **18** has a lower highly flexible invaginable portion **20** of reduced diameter having at the lower end thereof a small diameter axial opening **22**. Received in the opening **22** is a straw **24** in the form of an elongated small diameter tubular member, the major portion of the length of the straw extending below the holder **18**. The straw is arranged so that the upper end thereof is below cap **16** so that the holder and straw are self-contained.



In the arrangement of FIGURE 1 the straw **24** has a length greater than the interior axial length of the bottle **10**, the straw being flexible and bent.

FIGURE 2 shows the arrangement wherein the cap has been removed. Most beverages which are packaged for direct consumption have an inherent gas pressure so that when the cap is removed a certain amount of gas pressure is released which normally flows out the top of the enclosure. This is especially true of bottled soft drinks and beer, the two most common beverages which are consumed directly from the beverage containing enclosure.

Upon removal of the cap, gas pressure forces the straw and invaginable portion **20** of holder **18** upwardly, the invaginable portion **20** inverting and thereby presenting the straw extending above the bottle for immediate use.

FIGURE 3 is an enlarged view of the upper portion of the invention showing the arrangement wherein the holder **18** has an upwardly outwardly extending lip portion **26** covering the upper top surface of the bottle surrounding the opening **14**, the outwardly extending lip portion **26** forming a gasket between the cap **16** and the bottle.

FIGURE 4 shows an alternate arrangement wherein the cap **16** includes a separate gasket **28** of the type normally found with bottle caps in present use.

FIGURES 3 and 4 disclose an arrangement wherein the bottle reduced diameter neck portion **12** has a portion **30** thereof in which the cross-section in a plane of the bottle longitudinal axis is internally concaved outwardly and wherein the upper portion of the straw holder **18** has a portion **32** thereof the cross-section of which in a plane of the longitudinal axis is externally concaved outwardly, the portion being of semi-rigid material. In this arrangement the concaved straw holder portion **32** snugly fits the bottle internally concaved portion **30** to firmly but removably support the straw holder in the bottle.

An important element of the invention is the provision of means whereby gas pressure within the bottle will force the straw upwardly when the cap is removed but including means whereby as the user extracts the liquid from the bottle air can freely flow in so as not to impede the liquid extraction. This is illustrated best in FIGURES 3 and 5. A semi-rigid lower portion **34** is integrally provided at the lower end of invaginable portion **20** of the holder **18**. The semi-rigid lower portion **34** includes the axial straw receiving opening **22** and is configured to provide air passage between the opening **22** and straw **24**. The illustrated configuration providing air passage between opening **22** and straw **24** includes spaced air passageways **36**. The illustrated arrangement is preferred as it provides firm grasping of the straw **24** to insure that it is moved upwardly as the holder is inverted by internal pressure when the bottle cap is removed but at the same time such arrangement provides air passage between the straw and the holder.

Integrally formed with the lower portion of the straw holder **18** below the semi-rigid lower portion **34** is a downwardly and inwardly extending flexible annular valving lip portion **38** which resiliently engages the external circumferential surface of the straw **24**. Air pressure within the bottle causes the lip portion **38** to close against the straw **24** to force the straw **24** and lower portion of the holder upwardly. Air pressure exterior of the bottle, caused by extraction of liquid from within the bottle, moves the valving lip **38** away from the straw permitting easy flow of air downwardly through openings **36**. By the provision of this valving arrangement the automatic extension of the straw into position so that the liquid may be consumed therefrom when the cap is removed is assured and at the same time no restriction is imposed upon the extraction of the liquid.

While the invention has been described with a certain degree of particularity it is manifest that many changes may be made in the details of construction and the arrangement of components without departing from the spirit and scope of this disclosure.

What is claimed:

1. A beverage containing and dispensing enclosure comprising:

an upright bottle having an opening in the top and reduced diameter neck portion adjacent the opening;

a tubular flexible straw holder having an upper portion of an outside diameter snugly fitting the inside diameter of said bottle neck portion, and a lower flexible invaginable portion of reduced diameter having in the bottom thereof a smaller diameter axial opening;

a drinking straw received by said opening in the lower portion of said holder, the major portion of the length of said straw extending within said bottle below said holder; and

a removable cap closing said bottle.

2. A beverage containing and dispensing enclosure according to claim 1 wherein said straw is flexible and of a length greater than the interior axial length of said bottle.

3. A beverage containing and dispensing enclosure according to claim 1 wherein said holder has an upper outwardly extending lip portion covering the top surface of said bottle surrounding said opening, said outwardly extending portion forming a gasket between said cap and said bottle.

4. A beverage containing and dispensing enclosure according to claim 1 wherein said bottle reduced diameter neck portion has a portion thereof the cross-section of which in a plane of the bottle longitudinal axis is internally concaved outwardly and wherein the upper portion of said tubular straw holder has a portion thereof the cross-section of which in a plane of the longitudinal axis is externally concaved outwardly and of semi-rigid material snugly fitting the bottle internally concaved portion to firmly and removably support said straw holder in said bottle.

5. A beverage containing and dispensing enclosure according to claim 1 wherein said straw receiving smaller diameter opening in the bottom of said straw holder invaginable portion is configured to provide air passage between the opening and said straw and including an integral downwardly and inwardly extending tubular flexible annular valving lip portion resiliently engaging the external circumferential surface of said straw, said valving lip portion being resiliently outwardly flexible to permit air to pass into the bottle as liquid is extracted therefrom.


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