# United States Patent [19]

**Murray et al.**

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[54] **HYGIENIC DOUCHE SYSTEM**


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[52] **U.S. Cl.** ..... **128/225,** 222/397

[51] **Int. Cl.** ..... **A61m 3/00**

[58] **Field of Search** ..... 128/224, 225, 222, 128/272, 227; 222/396, 397



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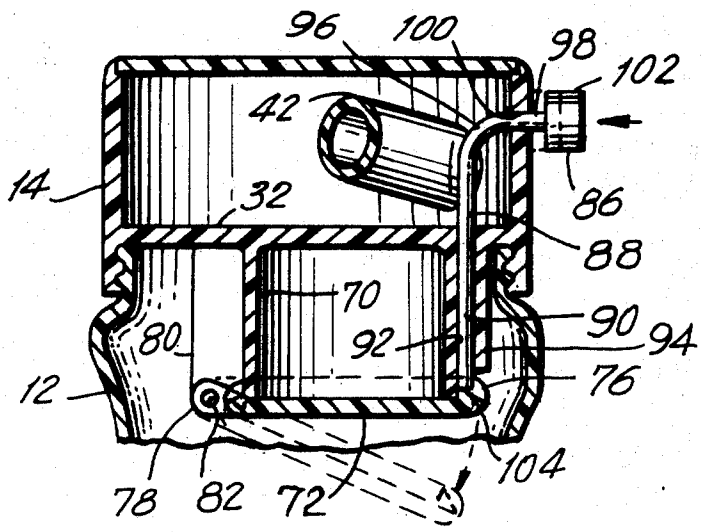
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[57] **ABSTRACT**

A hygeinic douche wherein a nozzle adapted for insertion into a vaginal passage and a cooperating fluid holding container are provided. The container includes a separate compartment therein to hold either a tablet or loose powder which is soluble in a fluid such as water and, when dissolved, forms a hygienic douching fluid. The compartment includes a separable lid releasible from outside the container and the tablet or powder includes an ingredient which reacts with water to produce a gas to pressurize the container to eject the hygienic douching fluid through the nozzle. The apparatus is also adaptable to be used with an enema-type nozzle to provide a convenient readily dispensible enema.


**8 Claims, 7 Drawing Figures**



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SHEET 1 OF 2

FIG. 1

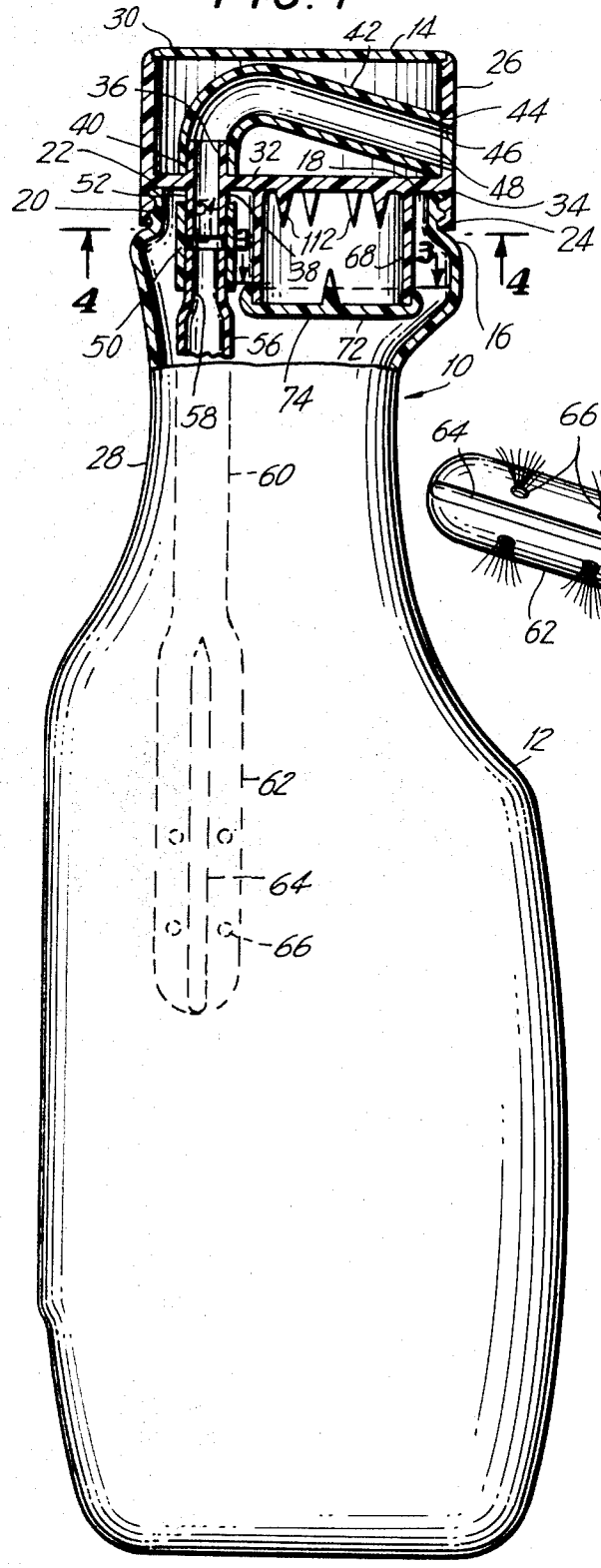



FIG. 2

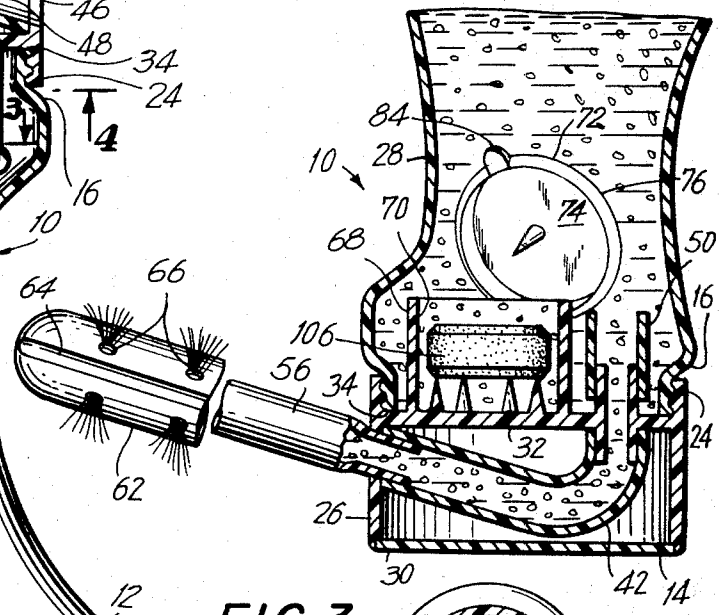



FIG. 3

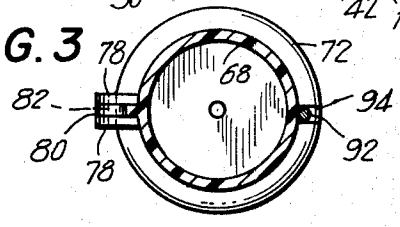
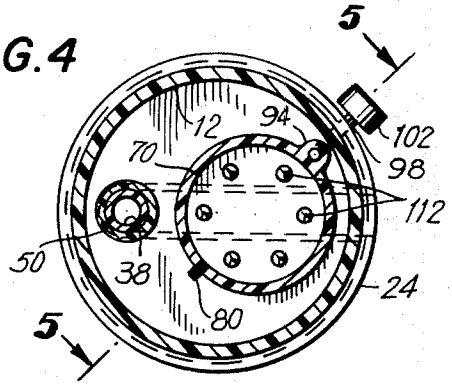



FIG. 4




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FIG. 6

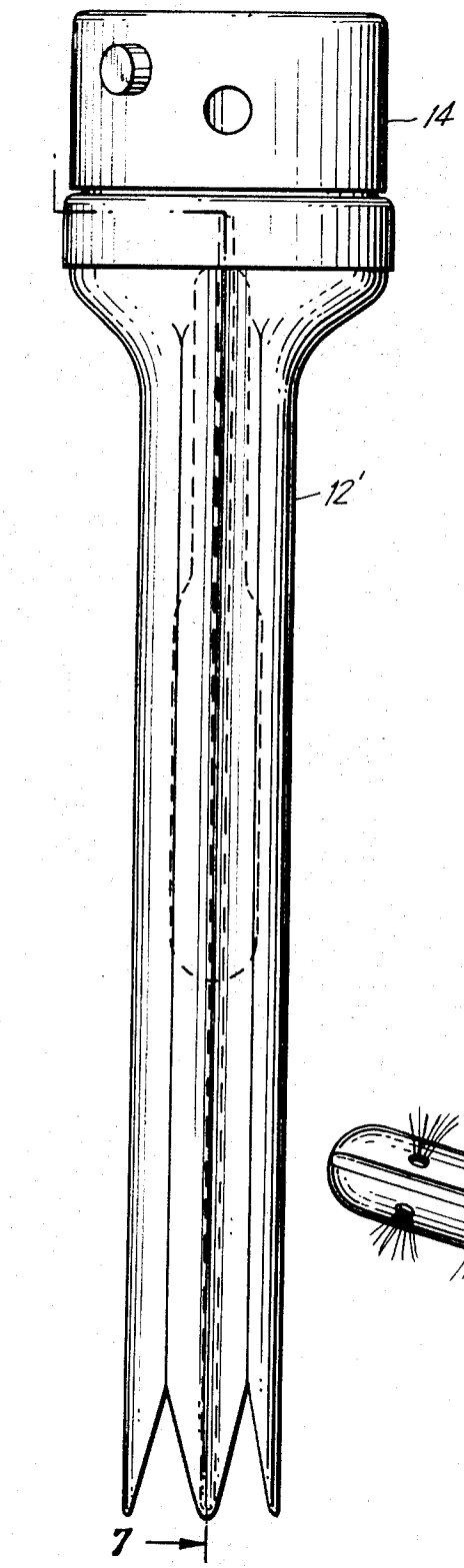
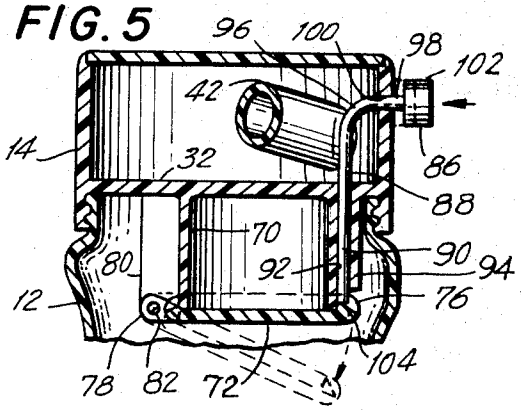



FIG. 5



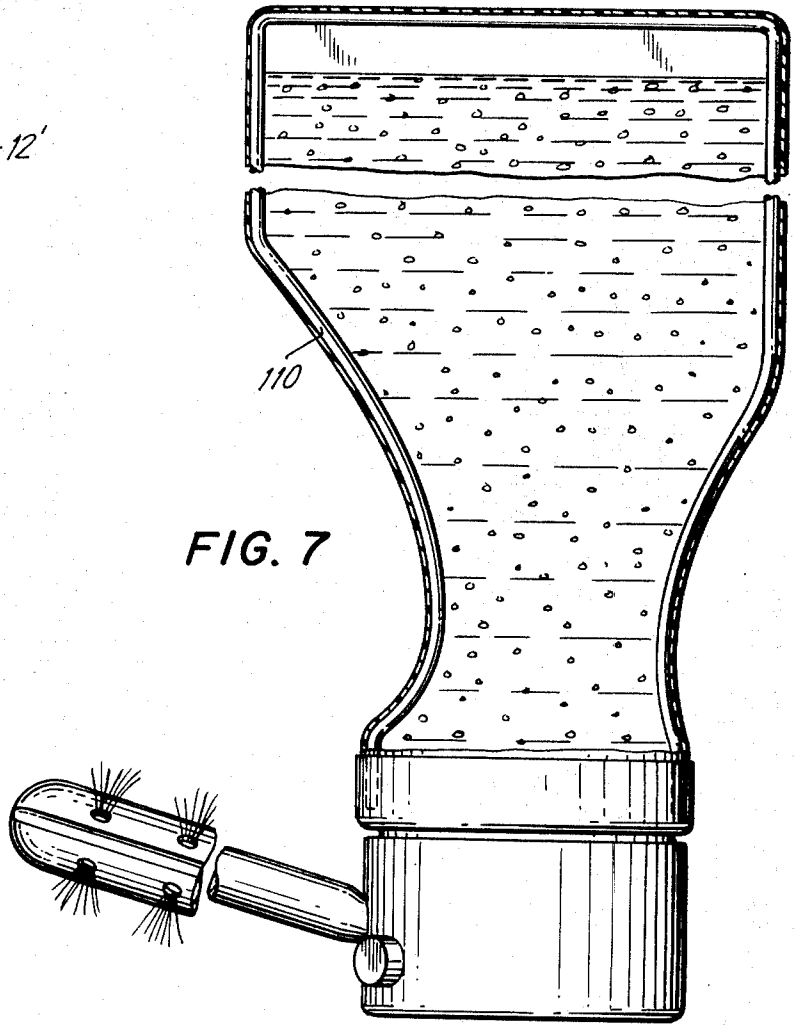




FIG. 7

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# HYGIENIC DOUCHE SYSTEM

The present invention relates to hygienic douche systems and more in particular to an improved hygienic douche wherein the douching fluid is ejected from a nozzle at a controlled pressure which is generated within the system itself.

It has been found that the ideal pressure from the douche nozzle for most effective and safe cleansing action during douching should be maintained below about 2 p.s.i. and more preferably about 1 to 1.5 p.s.i. Pressures in excess of this may cause harmful bacteria which may be present in the vaginal area to be flushed into the uterus and may increase the chance of infection. Too much pressure may also cause physical damage as well. Consequently, it is recommended, when using the most popular type of douche apparatus, i.e., a bag to hold a douche solution with a tube leading from the bag to a nozzle, that the bag be held at shoulder height, approximately 23–24 inches from the nozzle. This results in a pressure head of about 1 p.s.i. However, it has been found, that due to the inconvenience of holding the bag at shoulder height when using a device such as this, most users hang the bag from the most convenient place available which, for a bathroom would be a shower rod, and thus develop a pressure head at the nozzle in excess of 2 p.s.i.

Other types of douche apparatus utilize a collapsible bag which is manually compressed by the user to create sufficient pressure on the douche solution in the bag to eject the solution through the nozzle. With this type of apparatus, the same diffidulty is also encountered in that there is no control of the precise pressure which is developed and typically more than the desired 1 to 1.5 p.s.i. is developed by the user.

Similar problems are inherent in devices presently used to administer enemas in that enema administering devices also fail to provide any effective and safe method of controlling the pressure at which the enema solution leaves the enema nozzle.

In other types of douche apparatus, a pressurized container is utilized to eject the douche solution through a valve system leading to the ejection nozzle. While such devices are less cumbersome to use, no provision is made to control the pressure to a safe level and the valving systems are needlessly complex and more expensive to manufacture.

Accordingly, it is an object of the present invention to provide a convenient, safe and effective apparatus which is adaptable to administer both douches and enemas.

It is another object of the present invention to provide an apparatus to administer douches and enemas in which the release pressure of the douche or enema solution is carefully maintained at a safe and effective level.

It is a further object of the present invention to provide an apparatus to administer douches and enemas which is of simple and sturdy construction and of a convenient size for storage and ready use.

It is a still further object of the present invention to provide an apparatus to administer couches and enemas which is exceedingly simple to use and which does not entail complicated or difficult procedures.

These and other objects and advantages will be more readily apparent after consideration of the following specification and drawings:



FIG. 1 is an elevational view partly in section showing the apparatus of the present invention in a storage position;

FIG. 2 is an elevational view partly in section showing the nozzle in position and the apparatus ready for use;

FIG. 3 is a sectional view taken along line 3—3 of FIG. 1 showing the releasible cap of the tablet storage container;

FIG. 4 is a sectional view taken along line 4—4 of FIG. 1;

FIG. 5 is a sectional view taken along line 5—5 of FIG. 4 showing the storage chamber cap releasing mechanism;

FIG. 6 is an elevational view of an alternate construction of the present invention; and

FIG. 7 is an elevational view partly in section of the embodiment of FIG. 6.

With reference now to the drawings and particularly FIG. 1, there is shown the douche apparatus 10 of the present invention in a storage position including an open top vessel or container 12, preferably of a molded plastic material, closed by a removable cap member 14. The container 12 includes a neck portion 16 which is open as at 18 and which is provided with an external screw thread form 20 adapted to cooperate with an internal screw thread form 22 in the lower portion 24 of the depending skirt 26 of cap member 14.

The container 12 may be of any desired exterior shape for convenient storage and preferably includes a necked down portion 28 for easy grasping by the user. For the preferred embodiment of a douching or enema apparatus, dispenser container 12 is designed to have an internal fluid capacity of approximately one quart although it is to be understood that any fluid capacity from one-half to two quarts may also be provided if desired.

The cap member 14, see FIGS. 2 and 5 as well, is also preferably of a molded plastic material and includes a top wall 30 and an integral depending cylindrical skirt portion 26 provided with an internal screw form 22 as noted above. An intermediate wall portion 32 is also provided parallel to end wall 30 and spaced inwardly from the open end of cap 14. Thus, when the cap 14 is threadably engaged on container 12, intermediate wall 32 abuts against the upper edge 34 of container 12 to seal the open top 18 of the container and form a fluid tight barrier to retain liquid within container 12.

A fluid passage 36 is provided through intermediate wall 32 and is defined by a cylindrical segment 38 which is preferably molded integrally with intermediate wall 32. Fixed to the upper segment 40 of cylindrical segment 38 is a curved tubular member 42 which terminates with its end 44 secured to the internal surface of the skirt portion 26 of the closure member 14. An aperture 46 is provided through skirt portion 26 to afford fluid communication between the exterior of cap 14 and the interior of container 12 through the hollow interior 48 of tubular member 42 and the passage 36 through intermediate wall 32. A cylindrical collar member 50 which has an inside diameter of approximately equal to the outside diameter of cylindrical segment 38 is fixed to the lower segment 52 of cylindrical segment 38 and extends below the end 54 of cylindrical segment 38 to provide a convenient support for the douche nozzle 56 when the nozzle is in the storage position as shown in FIG. 1.

within container **12** is approximately 1 quart, it has been found that a combination of ingredients made up in the ratio of 5.88 g. of sodium bicarbonate to 7.35 g of citric acid provide a desirable and effective douche solution at the proper pressure range to fully dispense one quart of water and have sufficient gas pressurization to provide a gas "blow-by" after all the fluid has been ejected from the container.

With this combination of ingredients in either tablet form or loose powder it has been found that the total dispensing of a quart of liquid takes place in approximately 30 seconds. Initially, the pressure builds up gradually to a maximum and then decreased until all of the fluid is ejected. The maximum pressure build up can be controlled by selecting an appropriate aperture size for the apertures **66** in nozzle **56,** it being understood that if the apertures **66** are made larger a low maximum pressure is obtained so that pressure of the fluid ejected from the nozzle may be controlled by controlling the aperture size.

Preferably, chamber **68** is provided with means to break up the capsule **106** to permit a faster reaction once the tablet is placed in contact with the water. Accordingly, wall **32** and cover **72** are provided with a plurality of integral extending spike members **112** which are of such a dimension that after cover **72** is closed over a tablet **106,** the spike elements are forced into tablet **106** to pierce the tablet and crumble it. No excessive force is necessary to crumble tablet **106** as it is relatively brittle.

In use, screw closure **14** is removed and the nozzle **56** is insertd into aperture **46** in screw cap closure **14,** water is added to container **12,** lid **72** of chamber **68** is opened and tablet **106** dropped therein and the lid replaced to cause tablet **106** to break apart, screw cap closure **14** is then replaced on container **12** and the nozzle **56** is inserted into the user's vaginal passage. At this point, the user presses button **12** releasing cap **72** to allow the fluid to react with the tablet **106.** After a short initial period to build up sufficient pressure within container **12,** the dissolved bicarbonate of soda generates sufficient carbon dioxide to begin ejection of the fluid through the outlet apertures **66** in the nozzle.

It is thus seen that the present invention provdes an apparatus to administer a hygienic douche or enema which is simple, safe and convenient to use and which controls the maximum pressurization of the douche or enema solution to a predetermined level without requiring any attention of the user.

What is claimed is:

**1.** A hygienic douche apparatus comprising:

a container open at one end adapted to hold a quantity of liquid,

a closure member for sealing said open end of said container,

means defining a chamber open at one end within said container when said closure is in sealing relationship on said container,

said chamber sized to hold a predetermined quantity of a compound capable of generating sufficient gas pressure to dispel the said quantity of liquid from said contaner,

a cover member for sealing said chamber open end to preclude liquid contacting said compound in said chamber,

means operable from the exterior of said chamber to move said cover member from said chamber and cause liquid within said container to contact said compound and generate sufficient gas pressure within said container to dispel said quantity of liquid from said container,

a nozzle member adapted to be inserted within a passageway in said apparatus to direct the liquid dispelled from said container,

said passageway comprising an open and unobstructed fluid passageway between the interior of said container and said nozzle and constituting a means for the continuous non-interruptable discharge of liquid from said container after said compound is contacted by said liquid to create gas pressure within said container.

**2.** A hygienic douche apparatus as defined in claim **1** wherein said means defining a chamber open at one end comprises an upstanding wall member integral with said closure member and said cover member is pivotally mounted on said wall member pivotable by said operable means from a first position in sealing relationship over said open end and a second position affording fluid communication to said chamber.

**3.** A hygienic douche apparatus as defined in claim **2** wherein said means operable to release said cover member from said chamber includes a rod member slidably disposed along said chamber wall member having one end in contact with said cover member at an area opposite its pivotal mounting to said wall member and a second end disposed outside said closure member whereby when said rod member second end is depressed toward said closure said one end contacts said cover member and pivots said cover member away from said chamber open end.

**4.** A hygienic douche apparatus as defined in claim **1** wherein said closure member comprises an end wall adapted to seal said open end of said container, said end wall including said means affording a fluid communication between the interior of said container and the exterior and wherein said means defining a chamber open at one end comprises an upstanding wall member integral with said closure end wall and disposed within said container when said closure member is in sealing engagement on said container.

**5.** A hygienic douche apparatus as defined in claim **4** wherein said means affording fluid communication between the interior and exterior of said container comprises a cylindrical tube segment extending through said end wall defining a fluid communication passage through said end wall.

**6.** A hygienic douche apparatus defined in claim **5** including a tubular member having one end telescoped over said cylindrical tube segment to define a fluid passage to direct said liquid from said container and wherein the other end of said first tubular member includes means to sealingly retain the tubular end of a douche nozzle.

**7.** A hygienic douche apparatus as defined in claim **1** wherein said compound is in the form of a compressed tablet and said chamber includes means to break up said tablet when said cover member is in sealing relationship on said chamber open end.

**8.** A hygienic douche apparatus as defined in claim **7** wherein said means to break up said tablet comprises extending spike members fixed to the bottom wall of said chamber and said cover whereby when said cover is in sealing relationship said spike members are adapted to pierce said tablet to break it up.

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