United States Patent

Hart

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[54] **VAGINAL SYRINGE PACKAGE INCLUDING A SUPPLY OF DISPOSABLE DISPENSING CONTAINERS AND INTEGRAL MEANS FOR STORING SAME**

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[52] **U.S. Cl.**.....**206/17.5,** 128/232

[51] **Int. Cl.** **B65d 85/54,** A61m 7/02

[58] **Field of Search** 206/17.5, 63.2; 128/232

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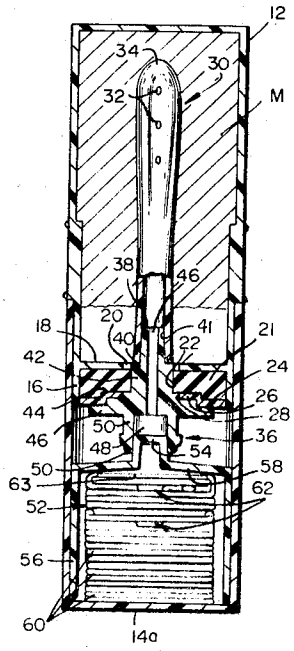
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[57] **ABSTRACT**

A two part housing that is small enough to be carried in a woman's handbag contains a plurality of compactly folded, disposable, concentrated-medicament-containing, thin-walled, flexible, limp plastic bags. The housing also contains a hollow elongated bone having a plurality of orifices at the distal end thereof. The concentrated medicament can dissolve or disperse in water. The housing further contains a viscous germicidal mass in which the bone is stored when not in use.

14 Claims, 6 Drawing Figures



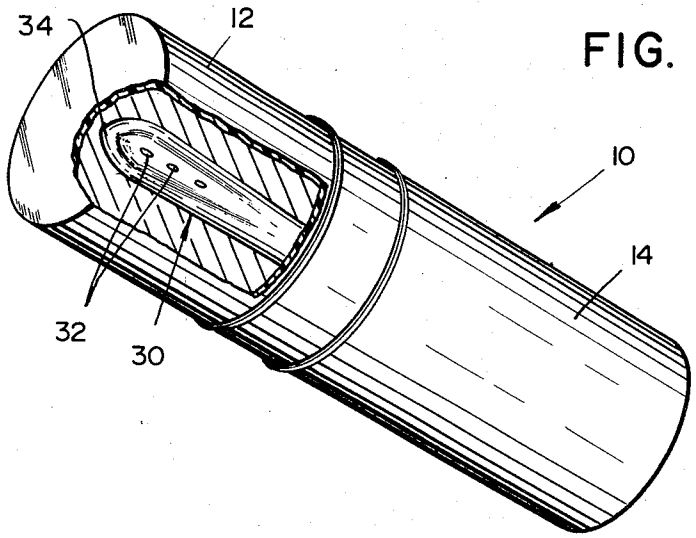
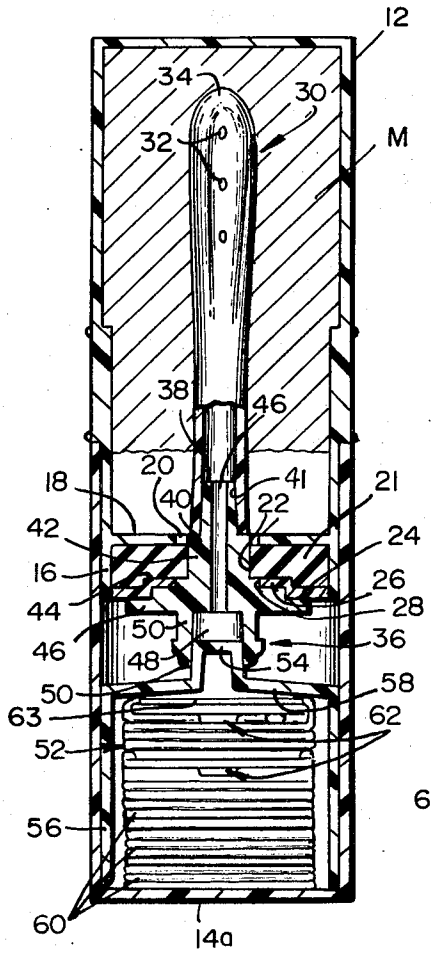


FIG. 1

FIG. 2



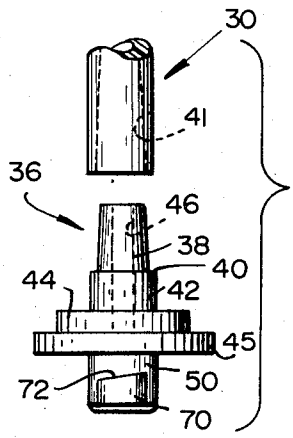


FIG. 3

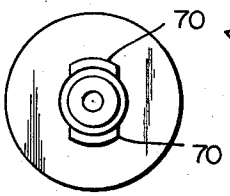


FIG. 4

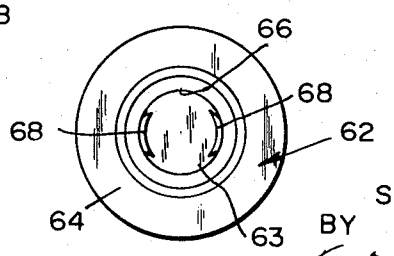
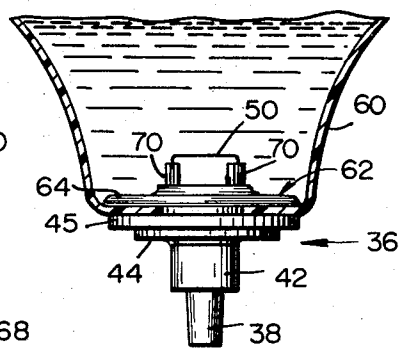


FIG. 5

FIG. 6



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VAGINAL SYRINGE PACKAGE INCLUDING A SUPPLY OF DISPOSABLE DISPENSING CONTAINERS AND INTEGRAL MEANS FOR STORING SAME

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to vaginal syringes and more particularly to a vaginal syringe package having a plurality of disposable compactly folded dispensing bags.

2. Description of the Prior Art

There are many products presently on the market that are intended for feminine hygiene. Syringes or douches in this category have, generally speaking, been rather bulky and have been primarily intended for use in the home so that they could be stored away when not needed. There are also many disposable syringes that are available in the prior art and which are intended for single usage only, after which either all or a portion of the syringe is discarded.

The prior art structure presently available suffers several disadvantages. As mentioned above many of the prior art structures are bulky and therefore inconvenient to carry in a woman's handbag. Generally speaking the disposable products in this art permit only a single usage. That is, the entire package can only be used once. This necessitates unnecessary costs, and in addition, requires frequent purchasing. Finally, none of the products presently available lend themselves to an attractive package that may be carried by a woman in her handbag without fear of embarrassment.

SUMMARY OF THE INVENTION

The present invention provides an attractive, two-part molded plastic housing which contains a supply of fluid-impervious, disposable dispensing containers as well as a single applicator bone stored when idle in a viscous germicidal mass and means for cleansing the surface of the bone as it is placed into and withdrawn from the mass. A dry or concentrated liquid germicidal medicament that can be dissolved or dispersed in water is packaged with each container the same being diluted to proper strength for use by the addition of water. The plurality of containers are compactly folded and are disposed within the housing in a magazine that also serves to support the bone at an end thereof.

In its broadest aspect, the present invention provides a housing in two parts that are coupled to each other, by a telescoping fit for example. A barrier member formed in one of the housing sections defines a magazine for storing a plurality of thin plastic disposable compactly folded bags which may include germicidal material. Each bag has a mouth with a strippable seal thereon. Means is also provided for lockingly coupling each of the bags to an elongated, hollow bone that is perforated at its distal end and is stored in a viscous germicidal mass. To use the present invention the housing sections are separated, the bone is removed by moving it axially through the cleansing wiper and a single folded bag is removed from its enclosure and the seal is opened. The germicidal medicament in the bag is then activated by the addition of water. The bone is locked to the dispensing bag by means of a disc that is integral with each of the bags and a cooperating, bayonet-type locking mechanism that is integral with the bone. The disc has a pair of spaced tabs that engage cam surfaces of the bayonet in a manner such that only a half turn is required in order to lock the bone and disc together.

Accordingly, is it the primary object of the present invention to provide an improved vaginal syringe package having a plurality of disposable dispensing compactly folded bags included therein.

Another object of the present invention is to provide an improved vaginal syringe as described above, that is contained within an attractive package of a size that may be conveniently carried in a woman's handbag.

Still another object of the present invention is to provide, in a syringe as described above, means for storing a plurality of disposable limp bags in a normally flat, compacted condition.

A further object of the present invention is to provide a syringe, as described above, that is relatively inexpensive to manufacture and purchase.

An additional object of the present invention is to provide an improved vaginal syringe package, as described above, that minimizes assembly procedures both in the manufacture and usage thereof.

Still another object of the present invention is to provide an improved syringe having means for containing a plurality of disposable bags in a hygienic condition and in a minimum of space.

A further object is to provide an improved vaginal syringe, as described above, where only the bags need to be replenished.

A further object of the present invention is to provide an improved vaginal syringe, as described above, wherein concentrated germicidal material is packaged with each container.

Yet another object of the present invention is to provide an improved syringe, as described above, wherein each bag includes its own integral locking means that cooperates with a locking means integral with the bone.

Still a further object of the present invention is to provide an improved syringe, as described above, wherein all of the parts that may engage a female body or liquids to come in contact therewith are maintained in hygienic condition when stored in the syringe package.

Other objects of the invention will in part be obvious and in part be pointed out hereinafter.

The invention accordingly consists in the features of construction, combination of elements, and arrangements of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings, in which is shown one of the various possible embodiments of the invention:

FIG. 1 is a perspective view of the present invention with a portion of the casing broken away;

FIG. 2 is a longitudinal, sectional, elevational view with a portion of one of the components shown partially in section;

FIG. 3 is a fragmentary, exploded, elevational view of the bone and its associated coupling member;

FIG. 4 is a plan view of the bone coupling member;

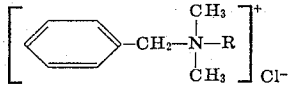
FIG. 5 is a plan view of the coupling member for a bag; and

FIG. 6 is a fragmentary, elevational view, partially in section, illustrating the bone and a liquid filled bag in coupled condition.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now in detail to the drawing, there is shown in FIGS. 1 and 2 the improved syringe 10 comprising this invention. The syringe 10 includes first and second plastic cylindrical housing sections 12 and 14, respectively, that are molded in a conventional manner. As shown particularly in FIG. 2, both housing sections 12 and 14 are cup-shaped and housing section 12 is provided at its open end with a reduced diameter 16 that is adapted to be telescoped within the open end of the housing section 14. The housing section 12 is further provided with a transverse wall 18 proximate and axially inward of its open end, the wall 18 having a central bore 20.

A foam rubber cleansing member 21 is seated in the recess defined by the transverse wall 18 and the inside diameter of the end portion of the housing section 12. A central opening 22 is provided in the cleansing member 21. An end cap 24, suitably secured to the extreme end of the housing section 12 by any suitable means such as an adhesive serves to retain the cleansing member 21 in place. For purposes to be described hereinafter the end cap 24 is provided with a shallow seat 26 and a central opening 28. The housing section 12 is more than half filled with a viscous mass M such as white petrolatum or a jelly of a mixture of water and vegetable gum, e.g., gum arabic, the mass also containing a germicide e.g., Benzalkonium Chloride, a mixture of alkyldimethylbenzylammonium chlorides of the general formula



in which R represents a mixture of the alkyls from C_8H_{17} to $C_{18}H_{37}$.

Referring particularly to FIG. 2 it will be seen that there is provided a rigid, hollow, elongated bone 30 having a plurality of discharge orifices 32 near the broad distal end 34 thereof. As is evident from the drawing, the end 34 of the bone 30 has a diameter that is smaller than the opening 20 in the central plate 18. However, the diameter of the end 34 is larger than the opening 22 formed in the cleansing member 21. Thus when the bone 30 is axially withdrawn in the manner described hereinbefore, the outside surface thereof will be wiped clean by the member 21 of all but a lubricant film of the germicidal viscous material in which the bone was stored when not is use.

The bone 30 is supported by a hollow coupling member 36 that is provided with a reduced diameter, tapered pilot 38 which may be permanently joined to the bone as with an adhesive, and a transverse seat 40 the first of which is adapted to be received in the open, tapered end 41 of the bone 30 and the second to limit the insertion of the pilot. Both the bone 30 and the coupling member 36 can be molded of a suitable plastic either as one piece or as two separate pieces with a snug fit between the pilot 38 and tapered end 41 of the bone 30. The coupling member 36 is further provided with a cylindrical portion 42 extending from the seat 40, the cylindrical portion 42 terminating in an enlarged diameter 44 adapted to be received in the seat 26 formed in the end plate 24. A flange (disc) 45 formed integrally with the coupling member 36 rests against the external surface of the transverse wall 24. Finally, the coupling member 36 is provided with a first axial bore 46 and a second, coaxial bore 48, both of which provide direct communication with the interior of the bone 30. The second bore 48 is of substantially larger diameter and is formed within an axially extending post 50.

Barrier means that is preferably in the form of a cup (magazine) 52 is shown positioned in the lowermost part of the second housing section 14 and with its open mouth in abutment with the bottom wall 14*a* thereof to define an enclosure. The cup 52 includes a central, axially outwardly extending boss 54 that is adapted to be slidingly received in the second bore 48 formed in the lower end of the coupling member 36. The cup 52 may also be molded in the conventional manner from any suitable plastic material. As shown in FIG. 2, the cup 52 includes a cylindrical side wall 56 that is arranged to be slidingly received within the inside diameter of the second housing section 14. One end wall 58 is formed integrally with the side wall 56 and the boss 54. The opposite end of the cup is open. The height of the cup is such that the cup fills the space in the housing section 14 between the post 50 and the end wall 14*a* when the two sections are fully interengaged.

A plurality of thin walled, fluid, flexible, limp impervious plastic bags 60 are disposed within the cup 52 each in a compact folded condition of such size that it can fit flatly in the cup. Typically three to four such bags are designed to fit into the cup. Each of the bags 60 preferably contain a concentrated germicidal compound either in powder or liquid form, either one of which is rendered sufficiently dilute for vaginal douching by the addition of enough water to fill the bag. The following materials have been found suitable for use as the germicidal material: Powders–"Massengill" powder composed of boric acid, ammonium alum, berberine salt, phenol, menthol, isomers, thymol, eucalyptol and methyl salicylate; and "Koromex" powder composed of lactose, dendritic sodium chloride, lactic acid, urea, menthol, thymol, oil of eucalyptus, methyl salicylate, benzalkonium chloride, and polyoxyethylenenonylphenol. Liquid Concentrates—"Vagisec," composed of a balanced blend of polyoxyethylenenonylphenol, sodium edetate, sodium dioctyl sulfosuccinate; and "Demure," constituting benzethonium chloride.

A bag 60 when opened contains about a quart of liquid. The germicidal material is present in an amount sufficient to exercise both a germicidal and a spermicidal effect when so diluted and to be at a pH when so diluted which is not harmful to the vaginal walls, all of this being well known in the art.

Each of the plastic bags 60 is provided with a plastic locking disc 62 sealed e.g., by adhesive or heat and pressure, to the open end thereof. The locking disc 62 includes an annular flange 64 that supports and is sealed to the open end of each bag as well as a central

aperture **66** and a pair of oppositely disposed locking tabs **68** as shown in FIG. **5** that extend into said aperture. The locking tabs **68** mate with bayonet means **70** formed on the post **50** of the coupling member **36**. It will be noted particularly in FIG. **3** that the bayonet means **70** include sloping cam surfaces **72** at the axially inner ends thereof. The locking tabs **68** have their mating surfaces similarly sloped. Thus, a wedging action is provided in order to securely hold the coupling member **36** to the disc **62** that is integral with each bag **60**, specifically the inturned lip of the mouth of the bag is thus squeezed between the flanges **45** and **64**. This arrangement is shown in FIG. **6**. Each locking disc has a wafer seal **63** overlying its otherwise open mouth to seal the same and maintain the interior of the bag sterile. The seal is lightly secured as by adhesive to the disc so that it can be stripped therefrom when any given bag is to be used.

In order to use the present invention the housing sections **12** and **14** are separated thereby automatically pulling the bone **30** axially through the cleansing member **20** as described above. The bone **30** is then removed from the boss **54** formed on the upper end of the cup **52** and then, using the boss **54** for gripping purposes, the cup **52** is removed from the second housing section **14** and one of the containers **60** is removed and its seal **63** is peeled off. The container **60** is filled with water through the opening **66** and the bayonets **70** formed on the coupling member **36** are inserted into the opening **66** formed in the disc **62**. The disc **62** and the coupling member **36** are then rotated relative to each other so that the cam surfaces **72** wedge against the locking tabs **68**. The syringe is then ready for use.

It will be evident from the foregoing that an improved, low cost travel syringe has been provided. All of the components comprising the present invention (except the medicament and viscous mass) may be made of plastic and may be made by conventional and well known techniques. An attractive two part package that may be decorated externally with longitudinal ribs and a central band is suitable for carrying in a woman's handbag. The package includes a plurality of single usage disposable sealed sanitary containers each of which may have a germicidal/spermicidal compound therein. A hollow bone which preferably is rigid and perforated at one end is provided with a part-turn locking member that cooperates with a similar locking member formed integrally with the open end of each container. Thus the syringe package may be used repeatedly and only the containers need replacement after the total supply has been depleted.

It thus will be seen that there is provided a device which achieves the several objects of the invention and is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein described, and shown in the accompanying drawing, is to be interpreted as illustrative and not in a limited sense.

Having now described the invention, there is claimed as new and desired to be secured by Letters Patent:

1. A vaginal syringe comprising the combination of:

a. a housing including first and second tubular sections and means for loosely longitudinally coupling said sections to each other;

b. barrier means positioned in one of said housing sections for defining an enclosure in combination with a wall of said section;

c. a plurality of compactly folded disposable, thin-walled, flexible, limp fluid-impervious, open ended bags stacked in said enclosure in a compacted condition;

d. an elongated, hollow bone having apertures through the wall thereof proximate the distal end, said bone being removably disposed in said housing; and

e. means selectively removable from said housing for detachably locking the proximal end of said bone to a bag, a first portion of said locking means being integral with the open end of each said bag, a second portion of said locking means being integral with the proximal end of said bone whereby a convenient vaginal syringe package including a supply of disposable dispensing containers is provided.

2. The syringe is accordance with claim **1** wherein there is further included a quantity of concentrated water-dilutable germicidal or spermicidal material within each said bag.

3. The syringe is accordance with claim **2** wherein said germicidal or spermicidal material is a dry powder that is adapted to be activated by the addition of water.

4. The syringe in accordance with claim **2** wherein said germicidal or spermicidal material is a liquid concentrate that is adapted to be activated by the addition of water.

5. The syringe in accordance with claim **1** wherein said housing sections each include an open end and a transverse end wall, the open ends of said housing sections being in confronting coaxial relationship whereby said transverse end walls are axially spaced from each other, one of said open ends having a reduced cross section that is dimensioned to be telescopingly received in the open end of said other housing section.

6. The syringe in accordance with claim **5** wherein said barrier means comprises a cup-shaped member nestingly positioned within one of said housing sections with the open end of said cup-shaped member being in confronting relationship with said transverse end wall of said housing section for defining the enclosure in which said bags are disposed.

7. The syringe is accordance with claim **5** wherein the end wall of said cup-shaped member further includes an axially extending boss for engaging the proximal end of said bone.

8. The syringe in accordance with claim **1** wherein one of said two portions of said locking means comprises at least one tab, the other portion of said locking means comprising at least one bayonet adapted to releasably engage said tab.

9. The syringe in accordance with claim **1** wherein said first portion of said locking means comprises a disc having a central opening and tab means positioned adjacent said opening, said second portion of said locking means comprising bayonet means, said tab means and said bayonet means releasably engaging each other upon relative rotation of said bone and said container.

10. The syringe in accordance with claim **9** further including cam means integral with said locking means whereby a wedging action is provided between the engaging surface of said bayonet means and said tab means.

11. The syringe in accordance with claim 1 further including resilient wiping means integral with said housing, said bone extending through an opening in said wiping means whereby when said housing sections are uncoupled said wiping means wipes the outer surface of said bone.

12. The syringe in accordance with claim 11 further including a transverse wall integral with said housing and axially spaced from one end thereof for supporting said wiping means, said wall having an opening larger than the largest diameter of said bone, the opening of said wiping means being smaller than the largest diameter of said bone.

13. The syringe in accordance with claim 1 further including a mass of viscous material in the housing in which the distal end of said bone is lodged when the housing sections are mutually coupled.

14. The syringe in accordance with claim 13 further including resilient wiping means integral with said housing, said bone extending through an opening in said wiping means whereby when said housing sections are uncoupled said wiping means wipes the outer surface of said bone, and wherein the mass of viscous material is lodged between the wiping means and the end of the section toward which the distal end of the bone extends.

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