# United States Patent

**Kelsen**

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[54] **VAGINAL APPLICATOR**


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[52] **U.S. Cl.** ..... **128/229,** 128/66

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

[58] **Field of Search** ..... 128/229, 66, 62 A; 137/610, 137/611, 801; 285/8; 239/428.5



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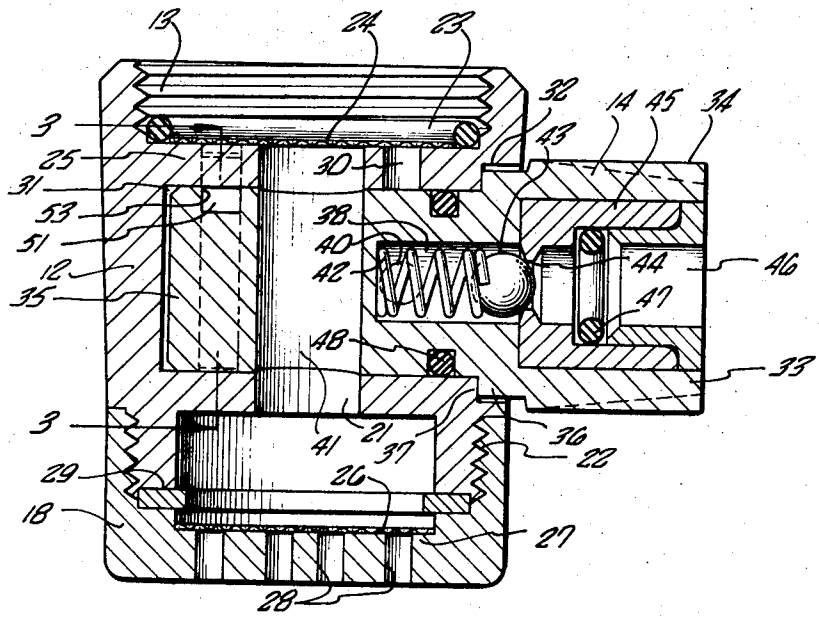
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[57] **ABSTRACT**

A vaginal applicator for feminine hygiene is disclosed herein having a diverter valve housing formed with a central passageway extending therethrough for conducting a pressurized main fluid stream. One end of the housing is adapted for detachably mounting to a conventional water faucet while its opposite end is arranged to provide an aerated discharge. A diverter fitting is provided with a rotatable shank having a bore therethrough adapted to coextend with the central passage or to block the passageway so as to divert the fluid stream past a check valve into a length of flexible hose. The opposite end of the hose is detachably connected to a syringe unit which incorporates a push-button valve means for controlling the flow of fluid introduced to an elongated syringe for ultimate discharge from a discharge orifice.


**1 Claim, 7 Drawing Figures**



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SHEET 1 OF 2

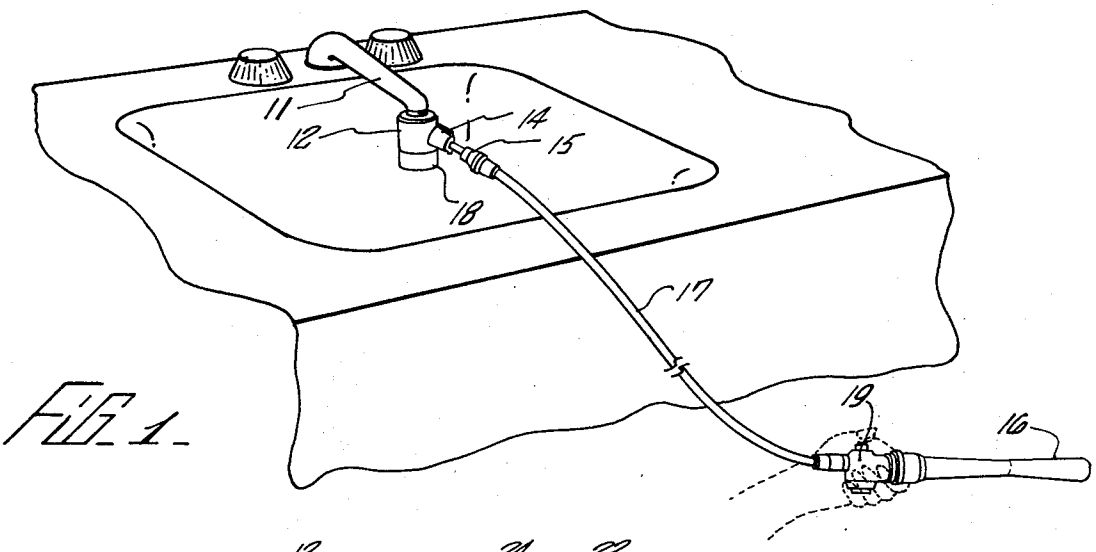



FIG. 1.

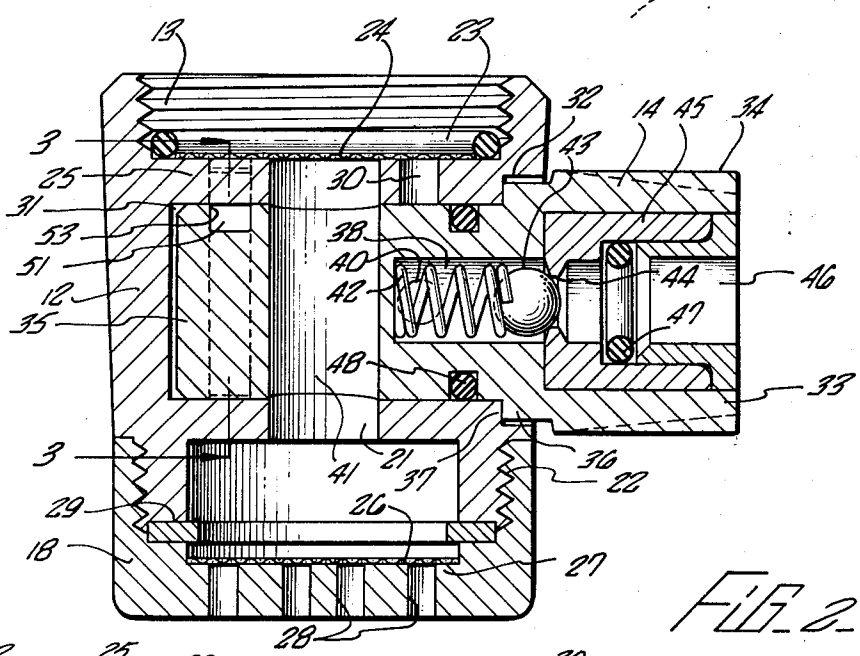



FIG. 2.

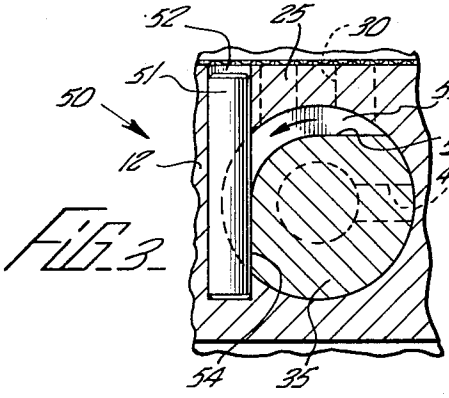



FIG. 3.

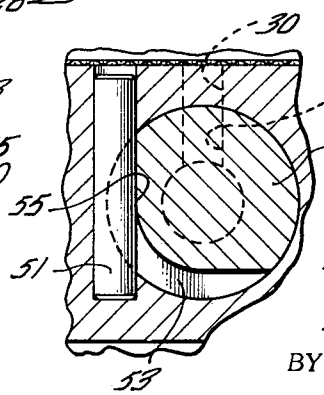



FIG. 4.

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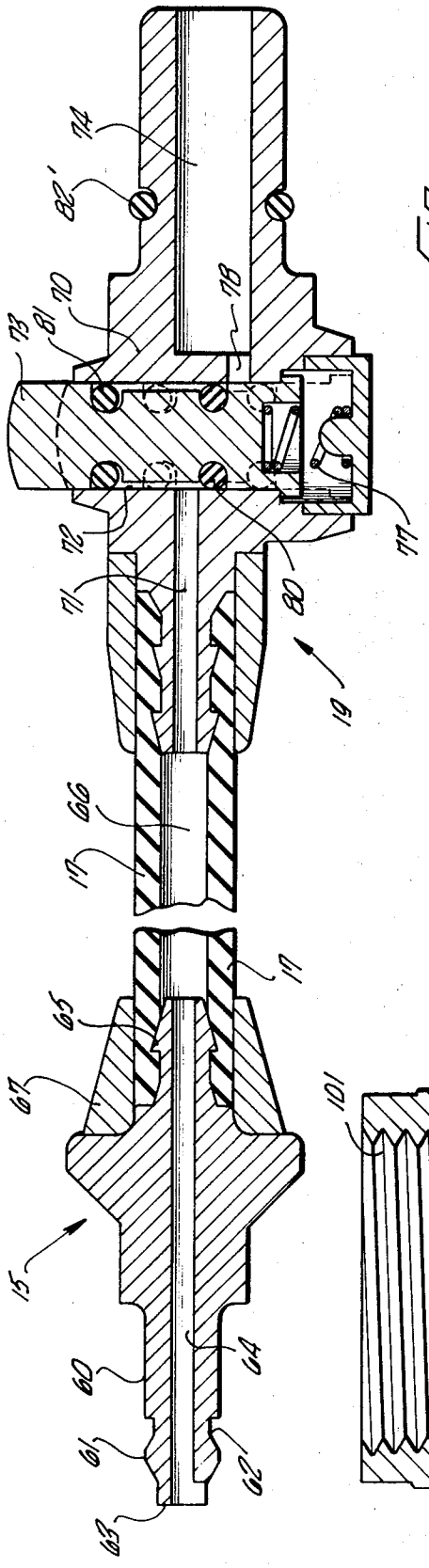



FIG. 5.

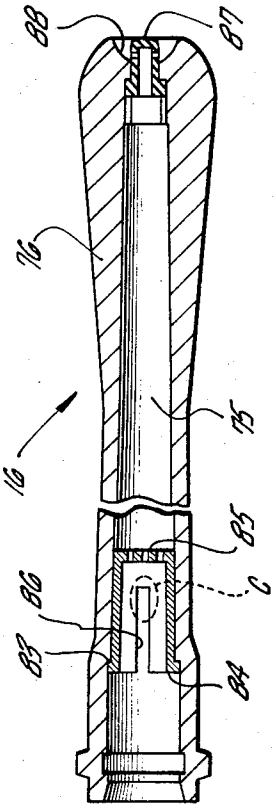



FIG. 6.

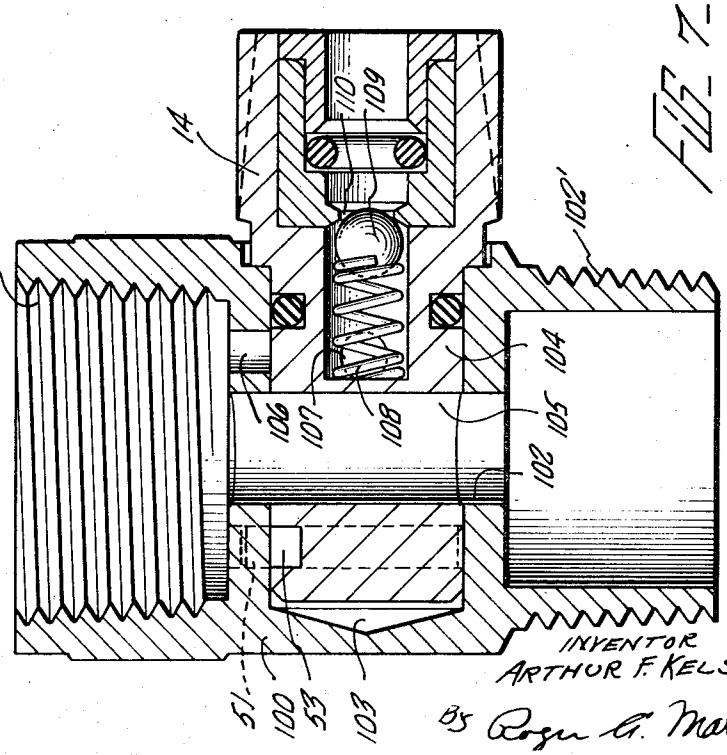



FIG. 7.

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# VAGINAL APPLICATOR

## BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to an apparatus for the promotion of feminine hygiene and, more particularly, to an improved vaginal applicator for obtaining penetration of the clysmic spray or discharge into the folds of the vaginal wall.

2. Description of the Prior Art

The therapy in common chronic vaginal disease and discomfort constitutes one of the main problems in feminine hygiene and represents one that is far from being satisfactorily resolved. Many physicians are presently advocating the usage of massage and douching as a preventative measure against disease and discomfort. Several attempts have been made to develop and use a variety of vaginal syringes to achieve beneficial results.

Heretofore, the utilization of vaginal syringes have been severely curtailed as a result of their complexity, costliness, and the fact that different people require different fluid or water pressures due to their age, health and delicate wall tissue condition. In addition, and perhaps of maximum importance, the applicator or syringe must be readily adaptable to being cleansed with a minimum of effort and should be capable of being attached and detached from the hydraulic pressure source with ease. Furthermore, the construction should not permit water to be left within the syringe apparatus and thus run the risk of becoming contaminated.

Numerous devices for this general purpose have been proposed in the past, but have fallen short of the accomplishment of the desired ends in various aspects. Many have been designed to become a permanent attachment to the pressure source or water faucet and do not permit its full utilization since the attached apparatus necessarily interferes with the normal operation and action of the faucet.

## SUMMARY OF THE INVENTION

The problems and difficulties encountered with conventional vaginal applicators are obviated by the present invention which provides, in one embodiment thereof, a novel syringe having a manually operated control for regulating the pressurized flow of fluid through its longitudinal passageway for discharge from one end thereof. The other end of the syringe is detachably coupled to a faucet attachment means via a length of flexible hose. This latter means includes a central passageway for conducting the pressurized fluid stream from the faucet to a discharge nozzle. A diverting means is rotatably carried on the valve means which includes a shank having a bore therethrough that is selectively coextensive with the central passageway or that is selectively disposed to block the passageway whereby the pressurized fluid stream is diverted through an annular passage and past a check valve for introduction to the hose and hence, to the syringe. The shank passes through the passageway transversely to effect the selective flow of fluid therethrough and incorporates a control means for limiting the extent of diverting means communication with the passageway so as to precisely control the rate and volume of fluid flow through the central passageway. By this construction, the syringe portion of the apparatus may be readily detachably coupled to the faucet attachment means for service and maintenance procedures and, when in use, the novel diverting means and fluid passageway permit metered control of the fluid intended to issue from the syringe portion.



Therefore, it is among the primary objects of the present invention to provide a novel vaginal applicator which includes an improved method of application to obtain penetration of the clysmic spray into the folds of the vaginal wall and an improved manner of treating the water flow by combined infusion and circulation about a medicated pill or cartridge effective to enhance the cleansing process.

Another object of the present invention is to provide a novel vaginal applicator in which the coupling portion is adapted to be secured to a faucet by hand and which will provide a tight seal against leakage and which cannot be inadvertently overtightened.

Another object of the present invention is to provide a novel vaginal applicator including a faucet attachment device and a syringe portion detachably connected thereto which may be readily secured to a universal type of fitting on a conventional water faucet.

Yet another object of the present invention is to provide a novel vaginal syringe which will prevent water from becoming trapped therein that may ordinarily stagnate and which is capable of being cleaned with a minimum of effort.

A further object of the present invention is to provide a vaginal applicator including a faucet attachment device and a vaginal syringe which is of relatively simple construction and which provides an easily operable pressure regulating means for the control of water pressure.

## BRIEF DESCRIPTION OF THE DRAWINGS

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. The present invention, both as to its organization and manner of operation, together with further objects and advantages thereof, may best be understood by reference to the following description, taken in connection with the accompanying drawings, in which:

FIG. 1 is a perspective view of the novel vaginal apparatus of the present invention including a faucet coupling means and a vaginal syringe incorporating the present invention;

FIG. 2 is an enlarged transverse cross-sectional view of the faucet coupling means shown in FIG. 1;

FIG. 3 is a cross-sectional view of the rotary valve means or diverter means employed in the faucet coupling means as taken in the direction of arrows 3—3 of FIG. 2;

FIG. 4 is a view, similar to the view of FIG. 3, showing the valve means rotated to divert the main stream to the syringe;

FIG. 5 is an enlarged longitudinal cross-sectional view of the syringe valve means shown in FIG. 1 illustrating the valve means thereof in its open position shown in broken lines;

FIG. 6 is a longitudinal cross-sectional view of the detachable syringe portion carried by the syringe valve means shown in FIG. 5; and

FIG. 7 is a cross-sectional view of a diverter valve means for controllably coupling the syringe means of FIGS. 5 and 6 into a conventional shower plumbing system.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1, a novel vaginal applicator apparatus incorporating the present invention is illustrated in the general direction of arrow 10 and is shown as being attached to a conventional water faucet 11 in communication with a pressurized source or supply of fluid, such as water, for example. The hydraulic vaginal syringe apparatus 10 includes a valve housing or body 12 which is detachably secured to the dispensing end of the faucet 11 by a suitable threaded arrangement 13, as shown in FIG. 2, a valve means or gate 14 employed to control the flow through the valve housing, and a connection fitting 15 releasably secured to the valve housing for coupling a syringe 16 thereto via a flexible hose 17. Aerator means may be incorporated into the housing 12 if it is desired to reduce the force of water passing therethrough and is indicated by the reference numeral 18.

The body proper of the vaginal applicator constitutes the douche tip 16 that comprises a hollow and desirably incurvate barrel of hard rubber or the like. The syringe 16 is detachably connected on the end of a manually operated valve means, indicated by numeral 19 which serves as an adjunct to the valve means 14 and the valves of the faucet for governing the volumetric flow through the hose 17 and syringe 16.

Referring now to FIG. 2, the valve housing 12 comprises a cylindrical body having a central fluid passageway 21 extending therethrough with threads 13 located at one end of the body for detachably connecting to the faucet 11 and having a threaded portion 22 located at the opposite end thereof for detachably connecting with the aerating means 18. The fluid passageway 21 is capable of carrying fluid under pressure and is formed in the housing 12 between threaded portions 13 and 22. The passageway 21 may be of such diameter that the pressure of the water passing therethrough may be maintained constant or may be increased, if desired, to facilitate a greater massaging and cleansing effect.

Sealing of the housing or body 12 with the faucet is readily achieved by means of a conventional elastomeric seal 23 disposed adjacent thread 13. A sediment screen 24 may be captured between the end of the faucet 11 and an annular shoulder 25 for catching or interfering with incidence of any foreign matter in the fluid stream introduced to the passageway 21. The aerator means 18 further includes a second screen 26 which cooperates with a plurality of openings 28 to provide a suitable softened or aerated discharge stream therefrom. The screen 26 rests against an annular shoulder 27 and a sealing washer 29, of the compressible resilient type, seals the connection of the aerator means 18 with the end of the housing 12 adjacent threads 22.

It is to be particularly noted that the annular shoulder 25 includes a secondary passageway 30 which interconnects the opening defined by annular threads 13 with an elongated recess 31 transversely located in the housing or body 12 so as to open at the side of the housing and progress perpendicularly to the passageway 21 so that it crosses the passageway to terminate in the opposite side of the housing 12 from its side opening, the side opening indicated by numeral 32. A diverter means 14 is detachably inserted or carried within the recess 31 and is employed to control the flow of fluid through the passageway 21 or, alternately, through the secondary passageway 30.

The diverting means 14 includes a body portion 33 projecting exteriorly of the housing 12 and which includes a plurality of integrally formed grips 34 adapted to be hand-held for rotation thereof. Integrally formed with the body portion 33, there is provided an elongated shank or stem 35 that is rotatably insertable into the recess 31 so as to extend in a transverse manner across the passageway 21. The abutment of a shoulder 36 with a base portion 37 limits the extent of insertion for the stem 35 within the recess 31. The stem 35 is formed with a cavity 38 adapted to be selectively communicated with secondary passage 30 via a hole 40. Also, the shank or stem 35 is provided with an open-ended bore 41 adapted to be coextensive and coaxial with the passageway 21 as shown in broken lines. However, when the diverting means 14 including the stem 35 has been rotated approximately 90°, the body wall of the stem defining the bore 41 will interfere with the continuity of passageway 21 and the passageway will no longer conduct fluid therethrough. The bore 41 is located on the shank 35 of the valve gate 14 which is rotatably mounted to the housing 12.

The cavity 38 includes a coil spring 42 which is compressed between the bottom of the cavity and a ball check valve 43. The check valve 43 selectively opens and closes with respect to an opening 44 carried by a member 45 so as to controllably close the opening to the cavity 38. As illustrated in solid lines, the check valve ball 43 is seated in the opening 44 so as to close it and therefore prevent the flow of fluid therethrough. However, when the end of coupling means 15 is inserted into the receptacle 46 against sealing ring 47, the terminating end thereof will force the ball 43 into the cavity 38 so as to permit the passage of fluid through opening 44 when the hole 40 is in fluid communication with the secondary passageway 30. An annular groove formed in the shank of the valve means seats a sealing elastomeric seal 48 which bears against the body shoulder 25 of the housing 12 to prevent leakage therebetween.

A stop means is provided for limiting the rotation of the diverter means 14 which includes a cooperative structure disposed to operate between the extreme end of the shank or stem 35 and its adjacent portion of the housing. As shown more clearly in FIG. 3, the stop means is indicated in the direction of arrow 50 and includes a vertical pin 51 disposed within a hole 52 formed in the housing 12. A portion of the pin 51 resides within an arcuate cutout portion 53 which is formed in the shank 35. As indicated in FIG. 3, the shank 35 cannot be moved in a clockwise direction because of the flat portion 54 terminating one end of the arcuate groove 53 butting against the pin 51. However, as the valve means or diverter means 14 is rotated in a counterclockwise direction, a flat portion 55 associated with the opposite end of the arcuate groove 53

will engage and butt against the pin **51**. This relationship is shown more clearly in FIG. **4**. It can be seen that when flat portion **55** bears against the pin **51**, that the secondary passageway **30** is in communication with the hole **40** so that the water is diverted from the faucet into cavity **38** and, if the coupling means **15** is inserted within the receptacle **46**, the fluid will be conducted through the hose **17** to the syringe **15**. Conversely, as shown in FIG. **3**, the bore **41** is coaxial with respect to the passageway **21** so that the pressurized stream is conducted to the aerator **18** for discharge via the opening **28**.

Referring now to FIG. **5**, it can be seen that the coupling means **15** includes an elongated stem **60** that is formed with an enlarged, annular bead **61** so as to define an annular channel **62**. The extreme end **63** of the stem is adapted to be inserted through the central opening of the O-ring **47** so as to butt against the ball **43**. As the stem is further inserted into the receptacle **46**, the ball is forced into the cavity **38** against the expanding pressure of spring **42**. However, once the O-ring **47** seats within groove **62**, the end surface **63** displaces ball **43** to an extent permitting opening **44** to be in fluid communication between cavity **38** and a central bore **64** formed in the coupling means **13**. The snap action of the O-ring **47** into the groove **62** is sufficient to sealingly hold coupling **15** in place. The opposite end of the coupling includes an attachment stem **65** including a barbed end for grippingly engaging with one end of a length of hose **17** so that the central bore **64** is in fluid communication with the enclosed passageway **66** of the hose. A fitting **67** may be employed to be press-fitted over the end of the hose so as to force material of the hose into securement with the barbed end **65**.

FIG. **5** further shows a cross-sectional view of the manual control means **19** for connecting hose **17** to the syringe portion **16**. The manual control means includes a body **70** having an inlet passageway **71** in fluid communication with the passageway of hose **17** and which includes a central chamber **72** for slidably mounting a manually operated push-button **73**. An outlet conduit **74** is in fluid communication with a central longitudinal passageway **75** formed in the barrel portion **76** of the syringe element **16**. A portion of the button **73** projects above the body surface **70** in response to the forcible urging of an expansion spring **77**. One end of the spring bears against the bottom of chamber **72** while the opposite end of the spring bears against the enclosed end of the button **73**. Chamber **72** is selectively placed in fluid communication with outlet conduit **74** by an intermediate conduit **78**. As illustrated in solid lines, the push-button **73** is arranged in sealing engagement with the sidewalls of the body **70** defining cavity **72** so that lower seal **80** prevents the pressurized fluid from entering intermediate passage **78** and an upper seal **81** prevents the pressurized fluid from discharging out of the body **70**. As shown in broken lines, the button **73** is depressed so that the lower seal **80** is positioned below the intermediate passage **78** whereby fluid communication is established between cavity **72** and the outlet passageway **74**. Once the button has been released, the tension of spring **77** will force the repositioning of lower seal **80** to that shown in solid lines which is above the intermediate conduit **78**. The discharge end of body **70** is provided with a resilient O-ring **82'** which is adapted to be received within an annular groove **83** formed at the entrance to passageway **75** in the syringe barrel portion **76**. As illustrated, the barrel portion **76** is in reduced scale as compared to the relatively enlarged scale of the drawing shown in FIG. **5**. Additionally, the barrel wall defining passageway **75** is formed with an annular shoulder **83** adapted to be seated against by an annular flange **84** carried on one end of a basket **85**. The basket is hollow and the sidewall of the basket is provided with longitudinal cuts or slots **86** to permit resilient expansion of the body of the basket to cling to the inside wall surface of the passageway **75**. The bottom of the basket **85** is provided with a plurality of holes or apertures so as to permit the flow of fluid within passageway **75**. The basket or cage **85** is employed for holding a water-soluble pill or capsule that may contain chemical ingredients for deodorizing or other female hygienic compositions. It is to be noted that the extreme end of the barrel **76** includes a spray jet **87** for issuing pressurized streams of water from passageway **75** against a semi-circular surface **88** whereupon the deflected stream will issue from the enlarged end of the syringe portion.

Referring now to FIG. **7** in detail, another embodiment of the present invention is shown whereby the coupling means **15** including hose **17**, control means **19** and syringe portion **16** may be operably connected to a conventional stall shower head. In this application, a body portion **100** is provided which includes internal threads **101** for detachably connecting with a conventional shower pipe in sealing relationship. The opposite end of body **100** includes external threads **102'** for receiving a conventional shower head (not shown). Body **100** is further formed with a central passageway **102** and a transverse recess **103** which crosses through and is normal to the passageway **102**. Recess **103** operably receives a shank **104** identical to the shank or stem **35** shown in FIG. **2** which incorporates an identical construction with respect to a central bore **105** and a secondary conduit **106** which selectively mates, in fluid communication, with a hole **107**. The mating or aligning of hole **107** with secondary conduit **106** depends on the rotative position of the coupling or diverting means **14**. Spring **108** and ball **109** are identical to spring **42** and ball **43** shown in FIG. **2**. Also, the stop mechanism indicated by pin **51** and channel **53** including flat portions **54** and **55** are similarly identical to the structure shown and corresponding therewith in FIG. **2**. The end tip **63** of the coupling means **15** operate against ball **109** in a similar fashion as previously described with respect to ball **43** so that water from the shower may be diverted through the secondary duct **106** and into the cavity housing ball **109** via opening **107**. The ball will be forced out of its seating engagement with opening **110** so that fluid under pressure will pass therethrough into passageway **64** of the coupling means and, eventually, into the passageway **75** for issuance via the water jets **87** of the syringe portion **30**. Therefore, it can be seen that the vaginal applicator of the present invention may be readily coupled to a conventional water faucet or may be readily attached to a conventional shower head arrangement. In either instance, a source of pressurized water is diverted from its normal passageway into the applicator and is under the control of an ON/OFF push-button controller **19**.

In use, the combination valves of the bath or sink faucets are set for desired temperature and the diverting means **14** is rotated so as to align hole **40** with secondary duct **30** so that a uniform, constant pressure flow is provided to cavity **38**. As the stem **60** of coupling means **15** is inserted into receptacle **46**, face **63** of the stem will bear against ball **43** and urge the ball against the expansion tension of spring **42** so as to permit the flow of fluid from cavity **38** into the passageway **64** of the coupling means. By manually pressing button **73** down against the expansion pressure of spring **77**, intermediate passageway **78** is connected to the chamber **72** which permits the flow of pressurized fluid from inlet conduit **71** to the outlet conduit **74** and into the passageway **75** of the syringe portion **16**. The flow from the dispensing orifice of the barrel portion **76** is diagonally disposed via the jet openings of the member **87** so that external eddies are provided which are particularly effective for penetrating the rugae of the vaginal canal. The employment of cartridges, such as is indicated by the letter C in FIG. **6**, as the mediating agent is not broadly novel and, no claim is made to the same excepting in the mode of usage, a mode of employment which operates to complement infusion heretofore relied upon to liberate the medication by the added physical act of compression. Thus, uniform medication is accomplished.

While particular embodiments of the present invention have been shown and described, it will be obvious to those skilled in the art that changes and modifications may be made without departing from this invention in its broader aspects, and, therefore, the aim in the appended claims is to cover all such changes and modifications as fall within the true spirit and scope of this invention.

What is claimed is:

**1**. In a hydrotherapeutic applicator for discharging a main pressurized carrier stream, the combination comprising:

a nozzle;

an attachment means removably secured to a conventional water faucet;

diverter means carried on said attachment means for operably and selectively directing said carrier stream to issue from one of a pair of outlets;

aerator means carried at one of said outlets;

valve means included in said diverter means rotatable about a horizontal axis carried at the other of said outlets;

a hose detachably connected to said other outlet at one of its ends and detachably connected at its other end to said nozzle;

said diverter means including a body portion having a central passageway extending between its opposite ends;

said valve means having a stem rotatably carried on said body portion for rotating about said horizontal axis extending transversely through said central passageway and further having an open-ended bore formed therein adapted to block said passageway in a first position and to be coaxially aligned with said central passageway in a second position;

said bore in its second position conducting said main carrier stream for discharge via said aerator means;

said valve means further including a cavity formed in said stem and a hole formed therein for aligning with a secondary passageway in said body portion when said bore is in its first position;

a secondary passageway formed in said body portion;

a cavity formed in said stem in selective fluid communication with said other outlet;

a hole formed in said stem for conducting said main carrier stream into said cavity when said bore is in its second position;

a resilient check-valve carried in said cavity and open in response to disposition of a coupling means introduced to said valve means for connecting said hose thereto;

said central passageway and said secondary passageway being in parallel spaced apart relationship and said hole being at a 45° angle from said central and secondary passageways when said bore is in its first position;

a stop means cooperatively disposed between said body portion and said stem for limiting rotational movement of said diverter means between said outlets;

a manually operated push-button valve detachably interconnecting said hose with said nozzle for controlling flow of said main carrier stream therethrough; and

said stop means including a quarter-circle channel formed in said stem and a straight pin supported in said body portion through said channel whereby the opposite ends of said channel are flat and limit rotation of said stem upon engagement with said pin.

* * * * *