

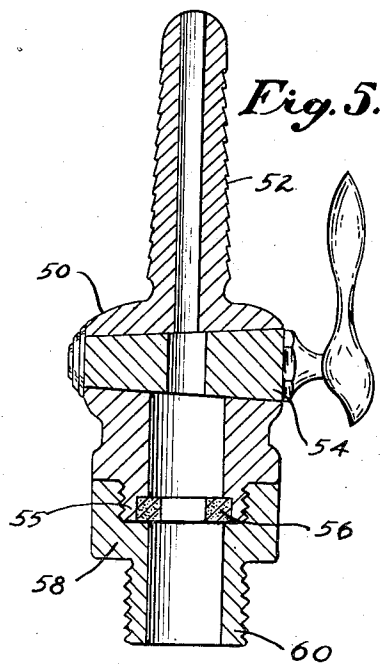
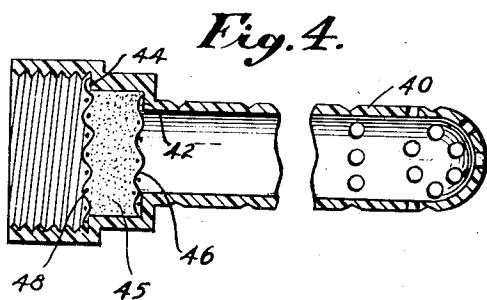
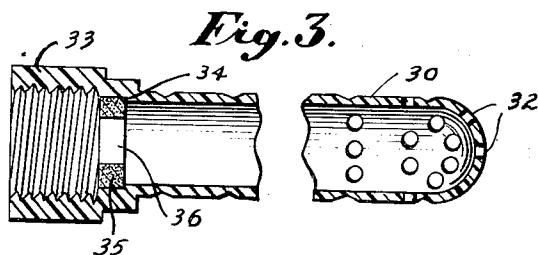
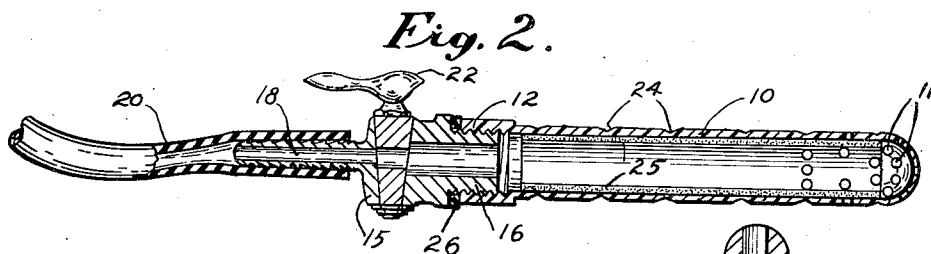
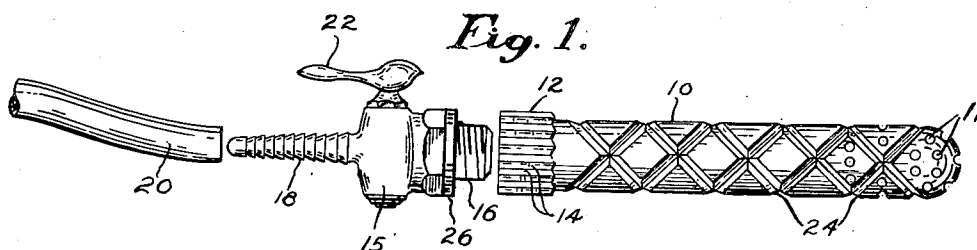
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DEVICE FOR FEMININE HYGIENE

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DEVICE FOR FEMININE HYGIENE

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This invention relates to a new and improved device for use in feminine hygiene.

One of the particular objects of the invention is to provide an improved nozzle member for use in feminine hygiene in conjunction with a douche, syringe or analogous device.

Another object is to provide such a nozzle in the form of a hollow body of readily frangible material fitted at one end for ready attachment to a douche, syringe or other source of water under pressure, and to provide also a medicinal charge for said device comprising water-soluble, solid material positioned in the path of water traversing said nozzle.

Additional objects are to provide a nozzle device as outlined above wherein the charge is in the form of a water-soluble coating on the inner wall of said hollow body, to provide such a nozzle wherein said charge comprises a water-soluble, hollow cartridge element positioned within said hollow body, and to provide such a nozzle wherein said charge comprises a water-soluble powder positioned and retained within said hollow body.

A further object of the invention is to provide a nozzle device having the above characteristics and adapted for marketing ready for use in a sealed, sterile container, and thereby to insure both sanitation and the correct concentration of the medicinal dosage.

A still further object is to provide means for adapting the principles of the above outlined device for use with conventional devices for feminine hygiene.

Other objects and advantages will in part appear and in part be pointed out in the course of the following detailed description of several embodiments of the invention, which are given as nonlimiting examples, in connection with the accompanying drawings, in which:

Figure 1 is an exploded elevational view of a nozzle, valve and hose member embodying a form of the invention;

Figure 2 is an enlarged sectional view of the device shown in Fig. 1, with the elements shown in assembled position;

Figure 3 is a sectional view showing a nozzle element embodying a modified form of the invention;

Figure 4 is a view similar to Fig. 3 showing another modification of the invention; and

Figure 5 is a sectional view of a valve element designed for adapting the principles of the invention to use with conventional devices for feminine hygiene.

Nozzle 10 in Figs. 1 and 2 comprises an elongated, hollow body portion preferably formed of

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some readily frangible, non-toxic material such, for example, as hard rubber or any suitable synthetic organic resin, and provided at one end with a plurality of spray holes 11. At its other end nozzle 10 may be somewhat enlarged to form a collar 12, which may have its outer surface fluted or otherwise treated as at 14 for greater convenience in handling. Collar 12 is also internally threaded for engagement with threaded plug member 16 at one end of valve element 15, the other end of which is adapted for attachment at 18 to hose 20 leading to any convenient source of water, not shown, such as a douche, syringe or analogous device. Valve 15 is also provided with any suitable means such, for example, as petcock 22 for controlling the flow of liquid through the hollow bore thereof from hose 20 into nozzle 10. It will also be noted that the outer surface of nozzle 10 is provided with multiple scored lines 24 to facilitate breaking thereof after use, as will be explained.

In the embodiment of the invention shown in Figs. 1 and 2, the medicinal charge comprises a coating 25 on the inner wall of nozzle 10, which may comprise any desired water-soluble composition depending upon the purpose of the treatment. It is to be expressly understood that the invention is not limited to the use of any particular medication or medications, but by way of illustrative example it may be stated that suitable compositions include oxyquinoline sulfonate. Coating 25 may be applied to nozzle 10 in any of a variety of suitable ways, for example by spraying with a concentrated solution and then drying the resulting coating. It is contemplated that nozzle 10 will be marketed complete with coating 25 and sealed in a sterile container such as a bag of cellophane, pliofilm or the like. When it is desired to use the device for treatment, it is removed from the container and attached to valve 15 or directly to the hose or hose plug of a conventional syringe or similar device. It is desirable to provide a washer 26 of rubber or similar material at this joint to insure a water-tight seal. When the nozzle is inserted in the proper position for treatment and water is then passed there-through by adjusting petcock 22, coating 25 will be dissolved and the resulting solution will spray out through holes 11 and complete the treatment. Thereafter, the nozzle is preferably, for sanitary reasons, returned to its container, crushed or otherwise broken, and disposed of in any desired way. In this connection it should be noted that the invention particularly contemplates that said

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nozzle be made of such material and thickness that it may readily be crushed into pieces so small as to be conveniently disposed of in a conventional toilet bowl.

Many advantages of the invention will now be apparent. In particular it provides a way of insuring that the nozzle and charge will always be kept sterile and also that the medicinal solution will always be of the proper concentration, since the proper dosage will be predetermined in applying the charge to the nozzle. The disposable feature of the nozzle adds material advantages from the standpoints of both convenience and sanitation, particularly since it eliminates any need for sterilization. It will also be seen that these advantages are not limited to the embodiment of the invention shown in Figs. 1 and 2, modifications of the above nozzle being shown in Figs. 3 and 4. Nozzle 30 in Fig. 3 is constructed to a considerable extent in the same manner as nozzle 10, with spray holes 32 and attaching collar 33 corresponding to holes 11 and collar 12. At the inside of what may be called the neck of the device, however, nozzle 30 is formed with a stepped construction defining an annular shoulder 34 providing a seat for the medicinal charge, which in this embodiment of the invention comprises a water-soluble cartridge or pellet 35, preferably provided with one or more transverse holes 36 through which the water may pass to facilitate dissolving said cartridge. It will be noted that this embodiment of the invention is capable of repeated use, if desired, by simply inserting a new charge of medication for each treatment.

Nozzle 40 in Fig. 4 is particularly designed to use a medicinal charge in powdered form. Its construction is generally the same as that of nozzles 10 and 30, but in the neck portion it is stepped down to define a pair of annular shoulders 42 and 44. Powdered charge 45 is positioned in this portion of the nozzle and retained in place by means of a pair of screen elements 46 and 48, each of which is seated on one of shoulders 42 and 44 and which are preferably made of some organic plastic material such as nylon which will be chemically inert with respect to the medicinal solution formed by charge 45. In this embodiment of the invention it is preferred that nozzle 40 be disposed of after one use, but it may be reused after renewing charge 45 if desired.

The present invention also contemplates the provision of means for utilizing water-soluble, solid medicinal charges with conventional devices for feminine hygiene. Valve 50 in Fig. 5 is adapted at one end 52 for attachment to any hose member such as that of a conventional douche or syringe and is provided with a petcock 54 or equivalent device for controlling the flow of liquid therethrough. At its other end valve 50 comprises a threaded plug member 55 provided with an enlarged central bore adapted to hold a medicinal charge such, for example, as a cartridge 56 similar to cartridge 35 described above in connection with Fig. 3. A collar element 58 is adapted to screw over the exposed end of plug 55 and itself includes a further threaded plug member 60 which is adapted for attachment to any desired nozzle member in the manner described in connection with nozzle 10 and valve 15 in Figs. 1 and 2. It is contemplated that valve 50 will be used in conjunction with nozzles of the types conventionally in use, and when so used it will provide the same advantage of a predetermined proper concentration of medicinal solu-

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tion as when the charge is incorporated in the nozzle as in the other embodiments of the invention. The construction of valve 50 is subject to substantial modification without altering the principles thereof. For example, the inner construction of plug member 55 may be modified to utilize a powdered charge as described in connection with nozzle 40 in Fig. 4, and all such modifications are to be construed as coming within the scope of the invention.

The construction of all of the above described embodiments of the invention are subject to considerable modification without departing from the scope hereof. In particular it should be noted that in practice it may prove preferable to form the nozzles of the invention with external threads, in which case the complementary valve element will have an internally threaded portion into which the nozzle can be screwed. This is merely the converse of the arrangement shown in the drawings and will simplify mass production of said nozzles. The nozzles of the invention are not limited to use with the illustrated valves but may be used with any suitable valves or equivalent control means. It should also be noted that any of the nozzles of the invention may be used with a conventional douche or similar device employing different types of medication. For example, in cases of infection, said nozzles may be used with any special medicinal solution and then disposed of, thus eliminating the need for sterilization and minimizing the possibilities of reinfection. Since the nozzles of the invention may be readily made in great quantity at low cost, this feature affords a further important advantage.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

What is claimed is:

1. In a device of the character described, comprising in combination, a readily disposable elongated hollow body element formed of a relatively brittle, non-toxic material, means in the outer surface of said body element providing a plurality of depressed portions extending substantially from end to end and around said body element and providing therebetween a plurality of thicker portions which each have small longitudinal and transverse dimensions whereby to facilitate the shattering of said body element into a multiplicity of small easily disposable pieces, a plurality of relatively small apertures adjacent one end of said body element, means adjacent the other end of said body element for attaching a source of liquid thereto, and a coating substantially covering the inner surface of said body element and comprising relatively small particles of a medication material which is soluble in liquid used with said device.

2. A douche nozzle comprising a readily disposable hollow body element formed of a relatively brittle nontoxic material, means adjacent one end of said body element for attaching the element to a supply of liquid, said body element being provided with a plurality of apertures for

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discharging liquid from the interior thereof, the outer surface of said body element being provided with a plurality of depressed portions which are interconnected and which are located around said body element and between the ends thereof to divide said body element into a plurality of small thin portions and small thick portions whereby to provide means for facilitating shattering of said body element into a multiplicity of small readily disposable pieces upon the application of pressure to said outer surface, and a coating material substantially uniformly distributed over the inner surface of said body element and comprising relatively small particles of a medication material which is soluble in liquid used in said device.

3. A douche nozzle or the like comprising a readily disposable hollow body element formed of a relatively brittle nontoxic material, means adjacent one end of said body element for attaching the element to a supply of liquid, the outer surface of said body element having a plurality of interconnecting grooves therein which extend longitudinally and transversely thereof and which provide the wall of said body element with a plurality of thin portions having thick portions of small longitudinal and transverse dimensions therebetween whereby means are pro-

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vided for facilitating breakage of the body element into small easily disposable pieces by the application of external force thereto, said body element also having a plurality of apertures therein which provide means for discharging a liquid through said element, and a coating on the inner surface of said body element comprising a distribution of relatively small particles of a substance which is soluble in liquid used with said nozzle and which is discharged from said nozzle in solution with said liquid.

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