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G. F. PIERCY

SYRINGE

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Fig. 1.

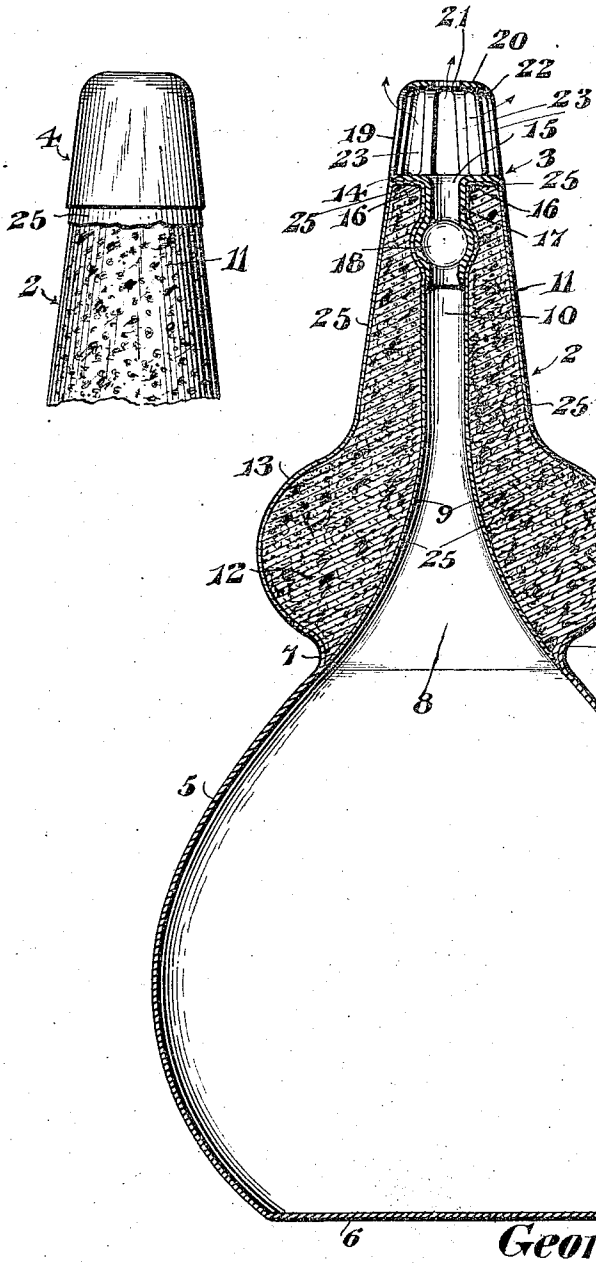
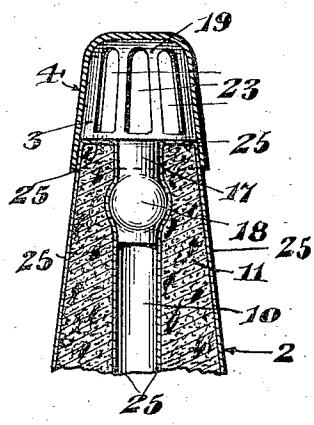


Fig. 2.

Fig. 3.



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SYRINGE.

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This invention relates to a vaginal syringe for douche purposes and has for its object to provide, in a manner as hereinafter set forth, a syringe of such class for obtaining a greater heat application than the forms of such types of syringes now in general use, capable of being used without pain or injury and when employed providing for thorough medication.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a vaginal syringe which is simple in its construction and arrangement, strong, durable, compact, sanitary, thoroughly efficient and safe in its use, conveniently positioned without any discomfort to the user, readily operated to apply the douche solution, capable of being sterilized, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts, as hereinafter more specifically described and illustrated in the accompanying drawing, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications thereof can be had which will fall within the scope of the claims hereunto appended.

In the drawing wherein like reference characters denote corresponding parts throughout the several views:—

Figure 1 is a vertical sectional view of a vaginal syringe in accordance with this invention.

Figure 2 is a fragmentary view in elevation of the neck of a syringe provided with a protecting cap for the nozzle, and with the non-porous surface for the neck partly removed.

Figure 3 is a fragmentary view in vertical section of the neck of the syringe with the protecting cap for the nozzle enclosing the latter.

A vaginal syringe, in accordance with this invention, comprises a compressible and extendible container for the douche solution, a shouldered discharge neck extending from and opening into the container, a nozzle carried by the outer end of the neck and a nozzle protecting cap, and the aforesaid elements respectively are referred to generally by the reference characters 1, 2, 3 and 4.

The container 1 is compressible and extendible and is constructed from imperforate soft rubber of appropriate thickness possessing sufficient elasticity to give good suction. The container 1 comprises a hollow body portion 5 of a capacity to hold a sufficient quantity of douche solution to thoroughly extend the vaginal wall. The body portion 5 is substantially semi-ellipsoidal in contour, whereby the body portion 5 tapers in opposite directions, but the taper of the upper portion of the body portion is greater than the lower portion thereof. The body portion 5 is open at its top and is formed with an imperforate flat bottom 6 to provide for an upright posture therefor. The open top of the body portion 5 is of appropriate diameter, to provide for an efficient discharge of the solution when the container is compressed, but the open top of the body portion is of less diameter than the flat bottom 6. At the open top of the container, the body portion 5 has formed integral therewith an annular flaring coupling extension 7 of appropriate height. In vertical section the body of the extension 7 extends outwardly in a direction from its point of joinder with the body portion and merges into outer surfacing for the neck. The extension 7 provides means for coupling the shouldered neck 2 to the container 1.

The neck 2 is constructed from a molded body of sponge rubber having a non-porous surface throughout, and is provided with a discharge canal 8 having a tapered wall, of circular cross section, at its inner portion and a cylindrical wall at its outer portion. The tapered part of the wall of the canal 8 is indicated at 9 and the cylindrical part at 10. The tapered part 9 of the wall of the canal 8 forms a continuation of the inner face of the container 1 at the top of the latter. The tapered part 9 of the canal 8 is of less length than the cylindrical part 10 thereof. The neck 2 consists of a tapered portion 11 and an annular portion 12 and the latter is of much greater diameter

than the diameter of the portion 11. The annular portion 12 has its lower end formed integral with the inner face of the extension 7 and further projects forwardly therefrom. The annular portion 12 has a rounded outer periphery forming thereby an annular shoulder 13. By constructing the shouldered neck 2 of sponge rubber it will not heat through, it will automatically adjust itself to fit perfectly, it can be held firmly enough to allow pressure of fluid sufficiently to thoroughly extend the vaginal wall without the leaking out of the solution, and be held in position without pain to the user. As the shouldered neck is of appropriate length, that is short and soft, it cannot injure the vaginal opening or the inflammations of the uterus.

The nozzle 3 is constructed of hard rubber and comprises an apertured disc 14 which is seated against and is of the same diameter as the diameter of the reduced end of the portion 11 of the shouldered neck 2. The aperture formed in the disc 14 is arranged centrally thereof and is indicated at 15 and has the edge thereof rounded as at 16. Extending inwardly from the disc 14 and registering with the opening 15 thereof is a hollow stem 17, offset intermediate its ends as at 18. The stem 17 is positioned in the outer part of the cylindrical wall portion of the canal 8 and the offset portion 18 of said stem 17 anchors the stem within the shouldered neck 2. Formed integral with the disc 14 and projecting therefrom is the tapered head of the nozzle and the taper thereof forms a continuation of the taper of the portion 10 of the shouldered neck.

The tapered head of the nozzle 3 consists of a tapered body portion 19 of annular cross section having its rear edge integral with the perimeter of the disc 14. The body portion 19 at its forward end terminates in a top piece 20 of circular contour and which is formed with a centrally disposed discharge opening 21 for the solution. At the point of joinder of the body portion 19 with the top piece 20, the nozzle is rounded as at 22 to overcome any sharp corners which might injure the user. The body portion 19 is formed with a series of spaced slots 23 of appropriate width and which extend from a point in close proximity to the disc 14 to the rounded portion 22 of the nozzle. By constructing the nozzle 3 with the arrangement of slots 23 and the opening 21 the fluid is thrown in all directions in the vagina, and through which it is again taken up. Owing to the tapered arrangement of the nozzle, as well as the shouldered neck portion, it allows easy introduction and further owing to the tapered arrangement of the nozzle it prevents the mucus membrane of the vagina from being drawn into the intake of the syringe and prevents any obstruction to the syringe taking up all of the solution being used, or mucus, and discharge to be washed out of the vaginal cavity.

The protecting cap 4 is of soft rubber, is of inverted cup shape and possesses the necessary elasticity to tightly bind the nozzle to prevent leakage of the fluid in the syringe, and the cap 4 can be conveniently removed when it is desired to use the syringe. The cap 4 is of a length to not only completely enclose the head piece of the nozzle but to extend upon the neck portion 11. That is to say it not only encloses the head piece of the nozzle 3, but also the disc 14 of the latter and further clamps against the outer terminal part of the portion 11 of the shouldered neck 2.

By constructing the shouldered neck 2 of sponge rubber a non-conductor of heat is provided and which will permit of greater heat to the internal membrane, since it will not heat the vaginal opening, which is more sensitive than the vaginal membrane, thereby giving more value to treatment, better disinfection and cleansing. The sponge rubber construction of shouldered neck, when the syringe is used, will not hurt or give pain to the user, further it molds itself to fit the opening and vulva perfectly and overcomes the injurious objections due to hard rubber types of necks. Furthermore the sponge rubber neck cannot harm the inflammations of the uterus, bladder or membrane. The shoulder of the necks fits snugly without pain, can be held firm enough to permit of pressure of solution in use, sufficient to balloon up the vaginal cavity, thereby straightening out all folds of the membrane, so that they are cleansed and obtain thorough medication. The solution employed can be whatever is desired, heated or not, if heated it can be held in the vagina as long as desired thereby getting the fullest value of the heat and medication, with a minimum amount of solution and trouble, as the shouldered neck prevents any leaking, and under such conditions prevents soiling of clothing or bedding.

The form of the nozzle permits of the introduction thereof in an easy manner, and acts as a shield, in preventing the suction of membrane entering the intake of the syringe, and on taking up the solution, the latter is readily removed owing to the construction of the nozzle. The introduction of the nozzle is had without any painful effect upon the user and owing to the manner of setting up the head piece of the nozzle the action of expelling the solution from the syringe and sucking the same therein is had in a thoroughly satisfactory manner.

The non-porous surface for the sponge rubber neck is provided by a thin coating of non-porous rubber. The coating extends throughout the outer and inner peripheries

of the sponge rubber body and is indicated at 25. The coating is of such thickness that will make the neck appropriately pliable and not destroy the sponge softness, or prevent the neck from shaping itself to the tissues which are in contact with it. The coating extends from the outer end of the extension 7, and also from the point of joinder of the latter with the upper end of the body portion 5.

It is thought that the many advantages of a vaginal syringe, in accordance with this invention, can be readily understood, and although the preferred embodiment of the invention is as illustrated and described, yet it is to be understood that changes in the details of construction can be had which will fall within the scope of the claims hereunto appended.

What I claim is:—

1. A vaginal syringe comprising a compressible and extendible container formed of a body of resilient material, a discharge neck for and integral at its inner end with and communicating with said container, said neck for its entire length including a body of material of greater resiliency than the material forming the container and provided with an annular peripheral shoulder in proximity to its point of joinder with the container, said body of material having its inner and its outer periphery non-porous throughout.

2. A vaginal syringe comprising a compressible and extendible container formed of a body of resilient material, a discharge neck for and integral at its inner end with and communicating with said container, said neck for its entire length including a body of material of greater resiliency than the material forming the container and provided with an annular peripheral shoulder in proximity to its point of joinder with the container, said body of material having its inner and its outer periphery non-porous throughout, and a slotted nozzle anchored within and extended from the outer end of the neck.

3. A vaginal syringe comprising a compressible and extendible container formed of a body of resilient material, a discharge neck for and integral at its inner end with and communicating with said container, said neck for its entire length including a body of material of greater resiliency than the material forming the container and provided with an annular peripheral shoulder in proximity to its point of joinder with the container, said body of material having its inner and its outer periphery non-porous throughout, a slotted nozzle anchored within and extended from the outer end of the neck, said neck being tapered and said nozzle forming a continuation of the taper of the neck.

4. A vaginal syringe comprising a container formed throughout of imperforate soft rubber, a discharge neck for the container, said neck having its inner end integral with and opening into the container and formed from end to end of sponge rubber having its outer and inner peripheries non-porous throughout, said neck provided with a peripheral shoulder in proximity to said container, and a nozzle anchored to the outer end of the neck.

5. In a vaginal syringe a compressible and extendible container, and a discharge neck therefor integral therewith and formed throughout of sponge rubber having its inner and outer peripheries non-porous throughout, the body of said neck being of appropriate thickness and formed of a tapered outer portion and an annular inner portion of materially greater diameter than said tapered portion to provide a continuous peripheral shoulder in proximity to said container.

6. In a vaginal syringe a compressible and extendible container, and a discharge neck therefor integral therewith and formed throughout of sponge rubber having its inner and outer peripheries non-porous throughout, the body of said neck being of appropriate thickness and formed of a tapered outer portion and an annular inner portion of materially greater diameter than said tapered portion to provide a continuous peripheral shoulder in proximity to said container, said neck having a discharge canal with its wall at the outer portion thereof cylindrical and at its inner portion tapered.

7. A vaginal syringe comprising a compressible and extendible container, a discharge neck of sponge rubber extended from said container and formed with a peripheral shoulder at the inner portion thereof, said neck having its inner and outer peripheries non-porous throughout, and a nozzle provided with means extending into the outer end of the neck for anchoring the nozzle against the outer end edge of the neck.

8. A vaginal syringe comprising a compressible and extendible container, a discharge neck of sponge rubber extended from said container and formed with a peripheral shoulder at the inner portion thereof, said neck having its inner and outer peripheries non-porous throughout, a nozzle provided with means extending into the outer end of the neck for anchoring the nozzle against the outer end edge of the neck, the extended portion of said nozzle being slotted at the sides thereof and also at the outer end thereof.

9. A vaginal syringe comprising a soft rubber fluid container, a neck connected therewith and formed throughout of sponge rubber having its inner and outer periph-

eries non-porous throughout, and a hard rubber nozzle anchored in the outer end of the neck and projecting from said outer end.

10. A vaginal syringe comprising a soft rubber fluid container, a neck integral therewith and further opening at its inner end into the container, said neck formed throughout of sponge rubber having its outer and inner peripheries non-porous throughout, said neck in proximity to said container provided with a peripheral shoulder of rounded contour.

In testimony whereof, I affix my signature hereto.

GEORGE F. PIERCY.