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MEDICAL APPLICATOR

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Fig. 1.

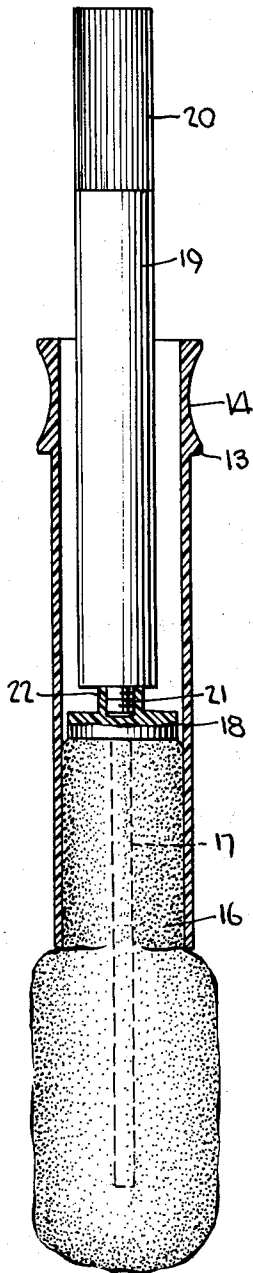
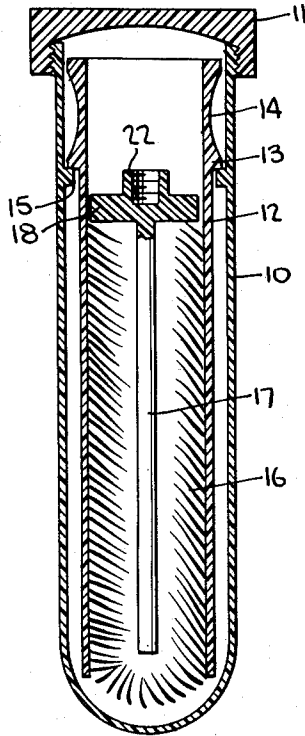


Fig. 3.

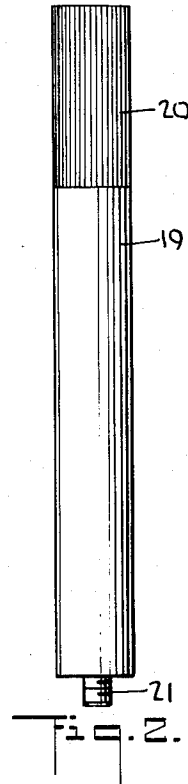


Fig. 2.

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3,086,527

MEDICAL APPLICATOR

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4 Claims. (Cl. 128—263)

The present invention relates generally to medical applicators, and more particularly to applicators adapted to administer liquid cleansing agents and medicated solutions into the female vagina.

Gynecological therapy often requires the application of liquids, salves and lotions to the vaginal mucous membrane. While devices for this purpose are available to the medical profession, such devices are relatively difficult to use and call for a high order of skill on the part of the practitioner. Moreover, conventional vaginal applicators are not readily usable by the patient without medical supervision.

Accordingly, it is the principal object of this invention to provide a vaginal applicator of simple design which is easily manipulated and may be used by the patient for home administration of therapeutic agents.

More specifically, it is an object of the invention to provide an applicator which facilitates the insertion of a plug or tampon of absorbent material into the vaginal canal without injury or discomfort and without the user's hands making contact either with the plug or the body.

A significant feature of the invention is that it makes possible a novel method of cleansing the vaginal walls of debris. The applicator not only serves as a hygienic cleansing douche but also affords a method of removing debris found in certain pathological conditions.

It is a further object of the invention to provide a compact applicator and container assembly whereby the applicator may be maintained in sterile condition.

Another object of the invention is to provide an applicator having an absorbent plug which may be introduced in dry form to collect specimens of vaginal secretions as an aid in diagnosis of various cervical, uterine and vaginal conditions.

Yet another object of the invention is to provide an applicator which is of efficient and sturdy construction and which may be manufactured and sold at relatively low cost.

Briefly stated, these objects are attained in an applicator constituted by a sleeve and a plunger slidable therein, the plunger being provided with a plug which is maintained under compression in the sleeve, such that when the sleeve is withdrawn the plug is rendered active.

For a better understanding of the invention as well as other objects and further features thereof, reference is had to the following detailed description to be read in connection with the accompanying drawing, wherein like components in the several views are identified by like reference numerals.

In the drawings:

FIG. 1 is a horizontal section taken through a sealed container having an applicator therein in accordance with the invention.

FIG. 2 is a separate view of the handle for the applicator shown in FIG. 1.

FIG. 3 shows the handle attached to the applicator, with the applicator plug partially extended from its protective sleeve.

Referring now to the drawings, and more particularly to FIG. 1, there is shown an applicator housed within a container 10 in tubular form and covered by a cap 11. Container 10 may be made of glass, plastic or metallic material and is disposable. The cap may be of any suitable type affording an effective seal, and to ensure a

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sterile applicator, the container may be vacuum packed. Inserted concentrically within the tubular container is a cylindrical sleeve 12 having an enlarged end portion 13 provided with an arcuate depression 14 serving as a thumb and finger hold to facilitate removal of the sleeve. Formed on the interior wall of the container is an annular shoulder 15 on which the end portion 13 of the sleeve is adapted to rest, thereby suspending the sleeve within the container. In practice, the sleeve may have a length of about 5½ to 6 inches.

Received slidably within the sleeve 12 is plug or tampon 16 formed of cotton fibers or other highly absorbent material. The plug is supported on a central core 17 terminating in a disc-shaped handle attachment 18. The plug and handle attachment combination are adapted to function as a piston within the sleeve. The fibers of the plug are compressed within the sleeve and preferably lie in a counterclockwise direction therein.

The handle for the applicator, shown separately in FIG. 2, is constituted by a cylindrical rod 19 of metal or other material, the top portion 20 of the rod being knurled for traction and easy rotation. Projecting axially from the lower end of the rod 19 is a screw 21 adapted for insertion in an internally threaded socket 22 formed on the applicator attachment 18. The length of the handle is about equal to that of sleeve 12 so that when the handle is fully inserted within the sleeve, the plug is fully extended therefrom.

When the applicator is to be used, it is removed from the container and the handle is attached thereto as shown in FIG. 3. To expose the fibers of the plug, the sleeve is withdrawn therefrom in the direction of the handle. In FIG. 3, the sleeve is shown partially removed, the fibers of the front end of the plug being released, the remaining fibers being compacted within the sleeve.

In practice, the applicator is inserted into the vagina with the protective sleeve 12 thereon, the sleeve being removed only after full insertion of the applicator.

Either the right or left hand is used to remove the sleeve by simple retraction thereof over the previously attached handle 19. Simple pressure on the handle will start the removal of the sleeve. This procedure may be carried out by the patient in the sitting or prone position.

The released plug 16 lies in close approximation to the vaginal wall. The fibers of the plug, having been previously inserted into the sleeve in a counterclockwise direction, may now be unwound by a clockwise rotation of the handle by the patient after its proper insertion. Thus medication can be brought into close contact to the vaginal wall and a more even distribution be made. The rotating motion, afforded by manipulation of the handle, acts to further increase the application as well as offering a cleansing action.

In practice, the applicator sleeve and associated plug may be made in three standard diameters—small, medium and large. The applicator may be packaged within a sealed container or it may be separately packaged. There is of course no need for a separate handle with each applicator. The applicator may be pre-saturated with suitable medication or the drugs may be separately packaged.

The applicator makes it possible to bring a drug into close approximation over a sufficient length of time to permit effective action. Thus it may be inserted and left in place for periods of from 10 to 30 minutes, or for that matter for any desirable length of time and then removed by the patient.

There are various ways in which the plug or tampon may be medicated. Where the medication is in the form of a liquid solution, the solution may first be poured into the container and the applicator then inserted, the fibers

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of the plug acting as a wick to absorb the solution and thereby provide a medicated tampon. In the case of a salve or lotion, where the media is substantially thicker, the applicator is best treated with the material before being inserted in the sleeve and packaged in a sealed container where it will remain stable.

In those cases where the applicator is to be packaged without an outside container, a solution may be provided in a larger container whereby the applicator may later be dipped or submerged in the solution and thus be saturated just prior to its insertion in the vagina.

In some instances, it may be desirable to use the applicator in dry form to obtain specimens for laboratory examination, as in cancer detection programs. In this instance, a dry applicator with the sleeve thereon is introduced into the vagina. The sleeve is then removed, and the applicator left in place for a predetermined period, sufficient to absorb secretions from the vaginal region. The web applicator is then removed and placed into the container where it is again sealed. The container is returned to a laboratory where the specimen may then be transferred to glass slides or cultures for further study.

While there has been shown what is considered to be a preferred embodiment of the invention, it will be manifest that many changes and modifications may be made therein without departing from the essential spirit of the invention. It is intended, therefore, in the annexed claims to cover all such changes and modifications as fall within the true scope of the invention.

What is claimed is:

1. A disposable medical applicator comprising a sleeve and a plunger slidable therein, said plunger being constituted by a central core terminating in a handle attachment, and a plug formed of absorbent fibers supported on and completely enclosing said central core and compressed within said sleeve, further including a detachable

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handle engaged with said handle attachment in axial alignment with said core.

2. A disposable medical applicator as set out in claim 1, wherein the handle is of such shape and size that the said sleeve may be moved free of said applicator.

3. A container and medical applicator assembly for the administration of liquid cleansing and medicated solutions comprising an outer tubular container closed at one end and with a removable top at the other and a disposable medical applicator contained within said container, said applicator comprising a sleeve and a plunger slideable therein, said plunger being constituted by a central core terminating in a handle attachment for detachable engagement of a handle therewith, and a plug formed of absorbent fibers supported on and enclosing said central core and compressed within said sleeve.

4. A container and medical applicator assembly, as set forth in claim 3, wherein the upper portion of said sleeve is of enlarged diameter and is depressed to form a finger and thumb hold, said container having an annular inner shoulder on which the enlarged portion of said sleeve rests to suspend said sleeve within said container.

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