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F. B. ZENER
SUPPOSITORY INSERTION DEVICE

2,856,928

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FIG. 1.

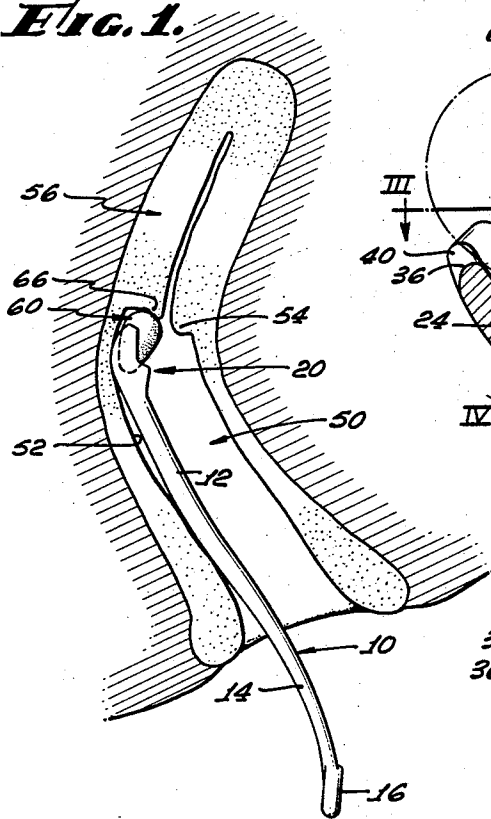


FIG. 2.

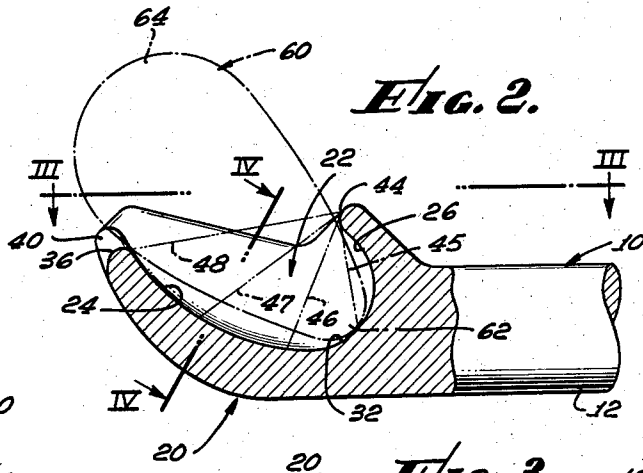


FIG. 3.

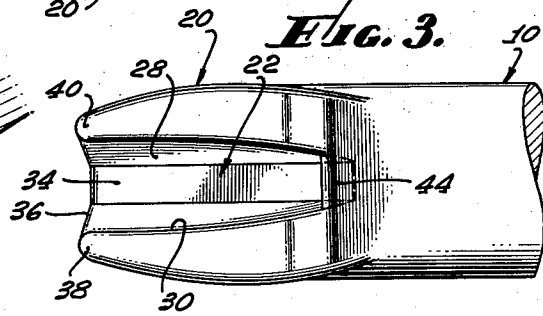


FIG. 5.

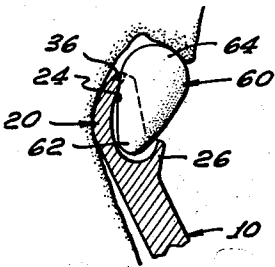


FIG. 6.

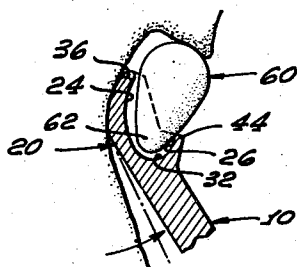


FIG. 4.

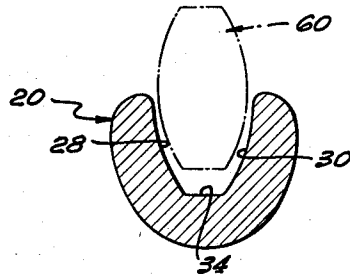
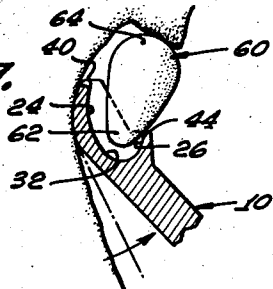


FIG. 7.



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2,856,928

SUPPOSITORY INSERTION DEVICE

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6 Claims. (Cl. 128—271)

The present invention is directed to an apparatus and method for inserting and depositing an elongated suppository or similar article in a desired place within a body orifice, particularly in the cul-de-sac in the upper portion of the vagina, adjacent the cervix.

As is well known, it is frequently necessary to apply a suppository within the vagina, particularly in the case of treatment with hormones and the like. Normally it is desirable that the suppository be inserted and deposited at the extreme upper end of the vagina in the cul-de-sac forming the upper end of the posterior wall of the vagina adjacent the cervix. This has been done in the past by means of the fingers, either of the patient herself or of a physician. This procedure is generally objectionable both from aesthetic considerations as well as the practical problem of positioning the suppository in a location beyond the reach of the fingers of many persons. Moreover, the problem of infection arises unless stringent precautions are taken by the person applying the suppository. Frequently such precautions are not taken by the individual woman treating herself.

In order to meet the above problem there have been provided in the past certain tools or instruments to accomplish the purpose, such instruments being generally characterized by having a receptacle for holding a suppository together with mechanically actuated means for discharging the suppository from the receptacle at the desired location. Use of such instruments having moving parts, springs and the like is objectionable because of risk of trauma to the vaginal wall during insertion or withdrawal. Problems of sterilization of the equipment must also be considered as well as the cost of an instrument of this kind; the cost should desirably be small enough so that the individual woman may have her own device at small expense.

The present invention, viewed as a device or tool for inserting a suppository, meets the above need in the form of an elongated, smooth surfaced handle having on one end an enlarged head provided with an open topped cavity therein. The walls defining the cavity are formed to extend upwardly only partially the length of the suppository being used, and desirably the front wall forming the cavity is of substantially lower height than the rear wall. By this arrangement the invention may be practiced by placing a suppository with its base portion contained in the head cavity and the upper portion exposed and extending beyond the head. The suppository is then inserted by movement of it and the head along the posterior vaginal wall until the upper tip of the suppository enters the cul-de-sac adjacent and rearwardly of the cervix. The suppository may now be rolled outwardly of the head cavity by swinging the elongated handle of the tool forwardly so that the suppository is caused to pivot upon the upper edge of the front wall defining the cavity, such upper edge thus serving as a fulcrum. With the suppository thus disengaged from contact with the head except at the single point of pivoting on the front wall edge, the tool may then be withdrawn from the vagina, leaving

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the suppository in the location intended. The rolling process just described is made more certain by upward pressure exerted against the suppository which holds its outermost end in frictional contact with the body wall forming the cul-de-sac, and the upper end of the suppository is thereby held in position during the rolling out motion characteristic of the present invention.

An object of the present invention is therefore to disclose a novel and effective method for depositing an elongated suppository in a desired location within a body orifice.

Another object of the invention is to disclose a tool or instrument whose component elements are so designed to facilitate the rolling out of an elongated suppository supported by the tool.

A further object of the invention is to disclose a tool having the above characteristics and including no moving parts, all surfaces and edges of the tool being free of projections or sharp edges which might cause trauma to the membranes of the body in use.

A further object is to disclose a tool having the above characteristics of simple and inexpensive construction but well adapted to be used by a layman for the intended purpose.

These and other and allied objects and purposes of the invention will become clear from the following description of a preferred embodiment of the tool and its method of use in depositing the elongated suppository in desired location, taken in connection with the accompanying drawing in which:

Fig. 1 is a sectional view of a vagina and uterus together with a tool embodying the present invention and a suppository supported thereby in the cul-de-sac adjacent the cervix.

Fig. 2 is a fragmentary view on an enlarged scale of the head provided with a cavity in accordance with the present invention, an elongated suppository being shown therein in dotted outline.

Fig. 3 is a fragmentary view taken on line III—III of Fig. 2.

Fig. 4 is a sectional view taken on line IV—IV of Fig. 2.

Figs. 5, 6 and 7, are fragmentary views showing successive steps in which the suppository is rolled out of the tool in accordance with the invention.

Referring now in detail to the drawing there is shown in Fig. 1 a tool in accordance with the present invention including an elongated handle indicated generally at 10 which may be formed in curvilinear shape as shown, having a slight arcuate contour throughout one portion 12 of length and a generally similar arcuate contour in the opposite direction throughout the remaining portion 14 of its length. The handle 10 is provided at its one end with an enlarged thumbpiece having a substantially circular surface 16 to facilitate grasping and manipulation of the tool during use.

At the opposite end of the handle 10 there is a head indicated generally at 20 and seen in detail in the sectional view of Fig. 2. The head 20 includes an open-topped cavity indicated generally at 22, and the cavity is defined by a rear wall 24, a front wall 26 and a pair of symmetrically disposed slightly concave side walls 28 and 30 (see Fig. 3) joining the front and rear walls. The walls described merge together at their lower ends to form a concave bottom 32. Although the major portion of the interior surface defining the cavity 22 is curvilinearly formed, it may be desirable to provide a relatively flattened trough 34 having a lateral width small relative to that of the head cavity proper. As will be later understood, the flat trough 34 serves to guide the base of the suppository during insertion and depositing thereof, particularly when a suppository of a certain preferred

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shape later referred to is used. The upper edge of the rear wall 24 is preferably provided with a recessed notch 36 at the upper end of the trough 34. Thus the rear wall has a pair of laterally spaced uppermost tips 38 and 40 in the particular embodiment shown.

It is to be particularly noted that the distance from the upper edge 44 of the front wall 26 to the deepest point of the bottom 32 is less than the distance between the point 44 and all other points along the rear wall 24 measured in the central plane intermediate the side walls 28 and 30. Thus in Fig. 2, the construction line 45 is shorter than construction lines 46, 47 and 48, all such lines lying in the central plane of the cavity 22 with respect to which the side walls 28 and 30 are symmetrical.

In use the present invention operates as illustrated in Fig. 1 and as seen in greater detail in Figs. 5, 6 and 7. In Fig. 1 the vagina is indicated generally at 50, the posterior wall of the vagina being shown at 52. At the upper end of the vagina is the cervix 54 and the uterus indicated generally at 56 extends further upwardly from the cervix as is well known. The present invention is applicable for use with elongated suppositories of widely varying shapes and dimensions. In the present illustrative description of the invention and its use a suppository having the general shape of a pumpkin seed is referred to, since this shape is frequently used particularly for female hormones. Such a suppository is indicated generally at 60 and is characterized by having a relatively narrow or arcuate base 62 (see Fig. 2) and a substantially wider upper portion 64.

As appears in Fig. 1, the suppository 60, with its base 62 resting in the cavity 22 and supported by the head 20, is moved upwardly along the posterior vaginal wall until the uppermost portion of the suppository is lodged in the cul-de-sac 66 adjacent and behind the cervix 54. Slight upward pressure is now maintained upon the handle 10 as by the user's fingers on the portion 16, such pressure serving to force the upper surface of the suppository 60 into frictional contact with the wall defining the cul-de-sac 66. The handle 10 is now rotated rightwardly as seen in Fig. 1, and the suppository 60 is thus caused to pivot about the uppermost point 44 of the front wall 26.

Successive positions of the parts during the process of rolling out the suppository 60 from the cavity 22 are seen in the fragmentary views of Figs. 5, 6 and 7. Fig. 5 corresponds to the position of the parts seen in Fig. 1 before rotational movement of the handle 10 has occurred. In Fig. 6 the handle 10 has been moved slightly upwardly so that the upper tip 44 of the front wall 26 of the head has pivoted in a counterclockwise direction on the side wall of the suppository 60. Thus the bottom 32 of the cavity 22 has been moved downwardly and away from the base 62 of the suppository. Continued counterclockwise rotational movement of the handle 10 and head 20 brings the parts to their relative position seen in Fig. 7, where the base 62 of the suppository is substantially spaced from the bottom 32 of the head cavity and is virtually free of contact with any portion of the head 20 except the uppermost tip 44 of the front wall 26. The instrument may now be withdrawn from its contact with the suppository 60, thus leaving it in the position shown, and the handle and tool may then be withdrawn completely from the vaginal orifice.

It will be seen that the present invention is applicable to elongated suppositories substantially varying in shape

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and size from the particular pumpkin seed suppository hereinabove shown and described. When such pumpkin seed suppository is used, trough 34 in the head 20 serves to maintain the suppository in desired orientation during insertion.

Modifications and changes from the specific forms of the instrument and suppository which do not depart from the spirit of the invention are intended to be embraced within the scope of the appended claims.

I claim:

1. A device for inserting and depositing an elongated suppository in a body orifice comprising: a head having an open-topped suppository-receiving cavity defined by a bottom, front and rear walls and concave side walls merging with the front and rear walls, the side walls being symmetrical about a medial plane intersecting the front and rear walls, the front wall being substantially shorter in height above the bottom than the rear wall, the distance between the upper end of the front wall and the bottom being less than the distance between the upper end of the front wall and any point of the rear wall in said plane; and an elongated handle formed integrally with the head, the handle and head being made of a rigid, smooth-surfaced material.

2. A device for inserting and depositing a suppository in a body orifice comprising: a head of rigid smooth-surfaced material having an open-topped cavity formed therein, the cavity being defined by a bottom, narrow front and rear walls and symmetrically disposed concave side walls merging with the front and rear walls, the height of the front wall extending upwardly from the bottom being about half the height of the rear wall; and an elongated handle formed integrally with the head and extending generally forwardly and downwardly therefrom.

3. A device for inserting and depositing a suppository in a body orifice comprising: a head of rigid smooth-surfaced material having an open-topped cavity formed therein, the cavity being defined by a bottom, narrow front and rear walls and symmetrically disposed concave side walls merging with the front and rear walls, the height of the front wall extending upwardly from the bottom being about half the height of the rear wall; and an elongated handle formed integrally with the head and extending generally forwardly and downwardly therefrom.

4. The invention as stated in claim 3 wherein the upper end of said rear wall is provided with a recessed notch formed therein intermediate said side walls.

5. A device for inserting and depositing a suppository in a body orifice comprising: a head having an open-topped cavity formed therein adapted to receive and contain the lower portion of a suppository, the front wall defining the cavity being substantially shorter than the rear wall; and an elongated handle extending downwardly and frontwardly from said head, the inner surface of the rear wall and bottom defining the cavity, as seen in section longitudinally of the head, being smoothly contoured.

6. The invention as stated in claim 5 wherein the distance between the upper end of the front wall and the rear wall progressively increases from the bottom of the rear wall to the top thereof.

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