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DEPOSITORS AND APPLICATORS

2,711,173

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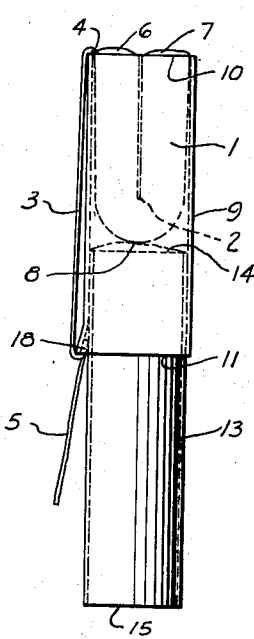


Fig. 1

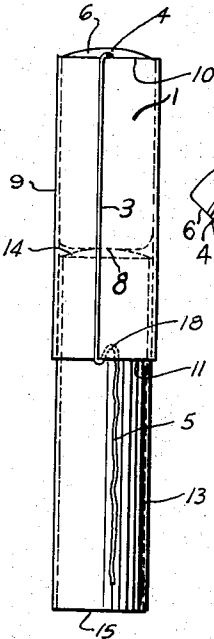


Fig. 2

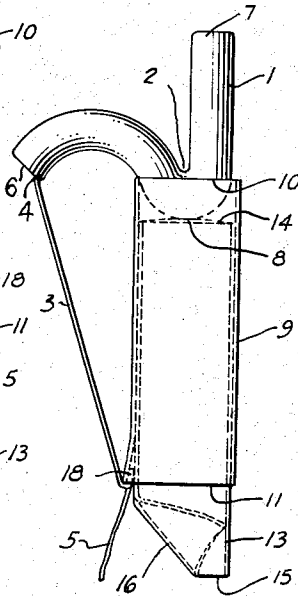


Fig. 3

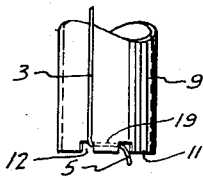


Fig. 4

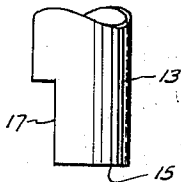


Fig. 6

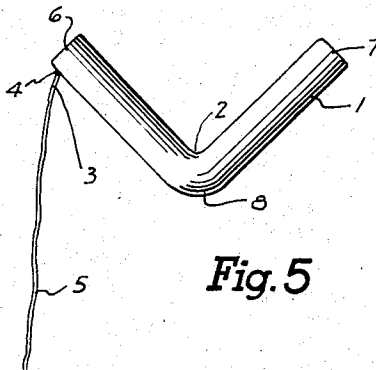


Fig. 5

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2,711,173

DEPOSITORS AND APPLICATORS

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8 Claims. (Cl. 128—263)

This invention relates to vaginal depositors and applicators and more particularly to one which may be extruded from its container and everted by a single operation after internal positioning.

The principal object of this invention is to provide an improved tampon or core which can be positioned, spread open and unfolded by a single manual operation.

The object of my invention is to provide a ready means of self application and is an improvement over the tampon covered by my Patent No. 2,501,972 in that the transversely folded core is more completely opened and the anchored draw string is automatically released as extrusion of the core is completed.

In accordance with my invention there is produced a useful and practical device. It will remain sterile throughout the entire cycle of positioning, extrusion and eversion. It is easy to manufacture and low in cost. The extruded and everted core more readily conforms to the shape of the receiving cavity for more complete application. Its longitudinal and transverse folds provide an improved receptacle for medication prior to application. It is a complete device not requiring the use of additional instrumentalities.

The above and other features of my invention may be more fully understood from the following detailed description in connection with the accompanying drawings in which:

Fig. 1 is a side view of the assembled device before operation.

Fig. 2 is a front view of Fig. 1 showing doubled back portion of draw string.

Fig. 3 is a side view of the device after partial operation just prior to release of draw string showing an ejector tube with an indented manipulation end.

Fig. 4 is a front view of a portion of a container tube showing an anchor end with anchor slots, with draw string laced through said slots.

Fig. 5 is a side view of the tampon showing the transverse fold and draw string attached to crown.

Fig. 6 is a front view of a portion of an ejector tube showing a manipulation end with a cut away section.

This internal depositing and applying device consists of a U-shaped tampon with one end of a draw string attached to one of the open ends of the U, while the free end of the draw string is removably attached to the more remote end of the container tube. An ejector tube or other plunger is used to extrude the tampon from its container. One or both ends of the U-shaped tampon may be so anchored with provisions for automatic release.

Referring to the drawings, the device therein shown comprises an internal depositing and applying expellable tampon 1, fashioned of flexible absorbent material and transversely folded approximately in half at location 2. The tampon 1 is provided with an anchor draw string 3, permanently attached at point 4 and with a depending end 5. The point 4 is adjacent to the crown 6 of the tampon 1. The free end of the tampon is indicated at 7. The complete fold at 2, provides a base part 8. The cylindrical

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outer container tube 9 has an extrusion end 10 and an anchor end 11 which may be provided with anchor slots 12. The concentric inner ejector tube 13 is provided with an ejector end 14 and a manipulation end 15 which may be arciform with a section indented as at 16 or cut away as at 17. The string 3 is removably attached by means of a shallow restraining doubled back portion when assembled, as at point 18 or laced through slots 12 as at 19. Ejector tube 13 is longer than container tube 9 by the length of indented section 16.

In assembling the device, tampon 1 is folded at 2 forming a base part 8. The crown 6 is brought adjacent to end 7. The assembly is compressed and inserted into container tube 9 by passing base part 8 through extrusion end 10 until crown 6 and free end 7 are contiguous to end 10. The draw string 3 is not inserted into tube 9 but is drawn taut and longitudinally down the outside of container tube 9 with a shallow restraining doubled back portion 18 inserted under anchor end 11, with depending end 5 of draw string 3, hanging free. The ejector end 14 of ejector tube 13 is inserted into the anchor end 11 of container tube 9 until it touches the base part of the tampon. The doubled back portion of draw string 3 is held firmly in an external position between the inside surface of container tube 9 and the outside surface of ejector tube 13. The draw string 3 may also be drawn taut and longitudinally down the exterior of container tube 9 and laced through slots 12, as at 19, being anchored in position by the insertion of ejector tube 13 into anchor end 11. The points 4, 18, and 16 should be in longitudinal alignment.

In operating the device, pressure is applied to the manipulating end 15 of the ejector tube 13. The ejector end 14 of the ejector tube 13 forces the tampon out of the extrusion end 10 of the container tube 9. The tampon base 8 moves freely but draw string 3 remains taut as it is removably attached to the anchor end 11 by means of the doubled back portion 18 or laced through the slots 12 as at 19. The free end 7 of tampon 1 extrudes without interference. The crown end 6 being restrained by anchored draw string 3 is everted substantially as shown. The portions 18 or 19 of draw string 3, held in position between tubes 9 and 13, are released when manipulation end 15 or indented end 16, or cut way end 17 are forced into container tube to a point beyond said portions removing the anchoring effect and allowing entire draw string to depend freely. Both tubes may then be readily removed.

Changes in the specific form of my invention as herein disclosed may be made within the scope of what is claimed without departing from the spirit of my invention.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In an internal depositing and applying device, comprising a flexible transversely folded expellable tampon having a base part, a free end, and a crown with cylindrical concentric inner ejector and outer container tubes therefor, said container tube having an extrusion end and an anchor end, an anchor string, one end of which is permanently attached adjacent to said crown, the other end being removably attached to the anchor end of said container tube, said string extending on the exterior of said container tube from said crown to said anchor end.

2. In an internal depositing and applying device, comprising a flexible transversely folded expellable tampon having a base part, a free end, and a crown with cylindrical concentric inner ejector and outer container tubes therefor, said container tube having an extrusion end and an anchor end, an anchor draw string, permanently attached to said crown, extending on the exterior of said container tube from said crown to said anchor end and provided with a shallow restraining doubled back portion,

inserted externally between said container tube and said ejector tube.

3. In an internal depositing and applying device, comprising a flexible transversely folded expellable tampon having a base part, a free end, and a crown with cylindrical concentric inner ejector and outer container tubes therefor, said container tube having an extrusion end and an anchor end, said ejector tube having an ejector end and an anchor end, an anchor draw string permanently attached to said crown, extending on the exterior of said container tube from said crown to said anchor end and provided with a shallow restraining doubled back portion, inserted externally between said container tube and said ejector tube, the manipulation end of said ejector tube being arciform and provided with an indented portion.

4. In an internal depositing and applying device, comprising a flexible transversely folded expellable tampon having a base part, a free end, and a crown with cylindrical concentric inner ejector and outer container tubes therefor, said container tube having an extrusion end and an anchor end, said ejector tube having an ejector end and an anchor end, an anchor draw string permanently attached to said crown, extending on the exterior of said container tube from said crown to said anchor end and provided with a shallow restraining doubled back portion, inserted externally between said container tube and said ejector tube, said manipulation end being arciform and provided with an indented portion, said indented portion being longitudinally aligned with said crown and said doubled back portion.

5. In an internal depositing and applying device, comprising a flexible transversely folded expellable tampon having a base part, a free end, and a crown with cylindrical concentric inner ejector and outer container tubes therefor, said container tube having an extrusion end and an anchor end, said ejector tube having an ejector end and an anchor end, an anchor draw string permanently attached to said crown, extending on the exterior of said container tube from said crown to said anchor end and provided with a shallow restraining doubled back portion, inserted externally between said container tube and said ejector tube, said manipulation end being arciform and provided with an indented section, said indented section being longitudinally aligned with said crown and said doubled back portion, said ejector tube being longer

than said container tube by the length of said indented section.

6. In an internal depositing and applying device of the kind described, a flexible transversely folded expellable expanding core having a crown end and a free end, provided with a concentric inner ejector tube, an outer container tube and an anchorable draw string, said container tube having an extrusion end and an anchor end, said draw string being permanently attached to the crown of said core, extending longitudinally along outside of said container tube and externally doubled back and inserted between said tubes and terminating in a depending end.

7. In an internal depositing and applying device, comprising a flexible transversely folded expellable tampon having a base part, a free end, and a crown with cylindrical concentric inner ejector and outer container tubes therefor, said container tube having an extrusion end and an anchor end, an anchor string, one end of which is permanently attached adjacent to said crown, the other end being removably attached to the anchor end of said container tube, said string extending on the exterior of said container tube from said crown to said anchor end, said attachment to said anchor end being provided by a shallow doubled back portion inserted externally between said container tube and said ejector tube.

8. In an internal depositing and applying device, comprising a flexible transversely folded expellable tampon having a base part, a free end and a crown with cylindrical concentric inner ejector and outer container tubes therefor, said container tube having an extrusion end and an anchor end provided with anchor slots, said ejector tube having an ejector end and a manipulation end, an anchor draw string permanently attached to said crown, extending on the exterior of said container tube from said crown to said anchor end and laced through said slots between said container tube and said ejector tube, the manipulation end of said ejector tube being arciform and provided with a cut away section.

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