

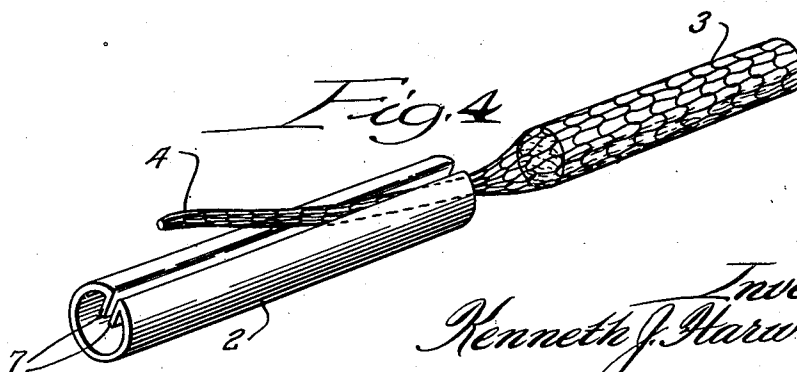
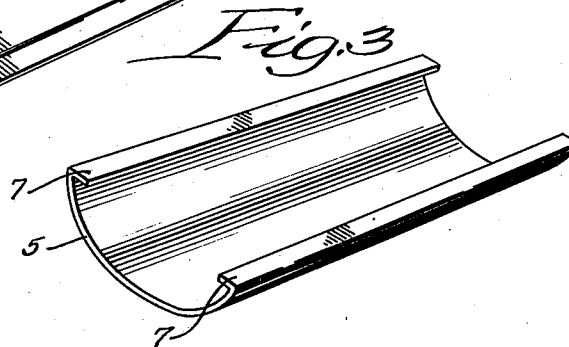
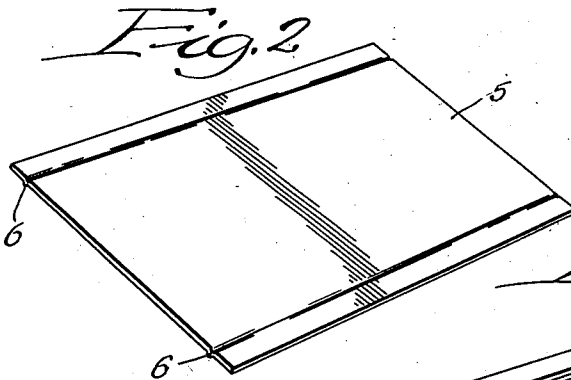
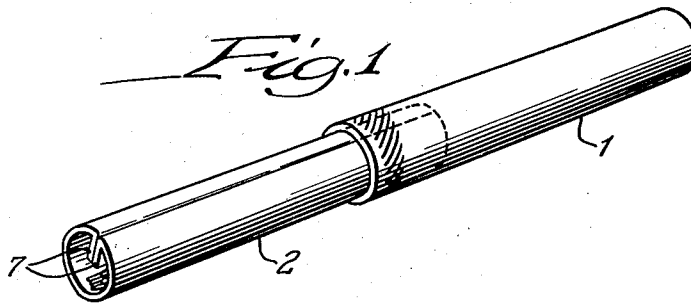
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TAMPON APPLICATOR

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TAMPON APPLICATOR

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2 Claims. (Cl. 128—263)

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This invention relates to an improved tampon applicator construction, and the main objects of the invention are to provide a low cost applicator; to provide an applicator construction wherein the desired interfitted relationship of the parts may be easily obtained; to provide an applicator which will facilitate the assembling therewith of a catamenial tampon having draw string; to provide an applicator construction which will be positive in its action and, in general, it is the object of the invention to provide an improved catamenial tampon applicator.

Other objects and advantages of the invention will be understood by reference to the following specification and accompanying drawing, in which there is illustrated a tampon applicator embodying a selected form of the invention.

In the drawing,

Fig. 1 is a perspective illustrating the tampon applicator in its entirety;

Fig. 2 is a perspective illustrating a material blank employed in forming one of the parts of the applicator;

Fig. 3 is a perspective illustrating one of the applicator parts in a partially formed condition, and

Fig. 4 is a perspective illustrating one of the applicator parts in its completely formed condition, and the means whereby the draw string of a catamenial tampon may be readily introduced to the interior of the part of the applicator which normally receives it.

A tampon applicator often comprises a paper board tube 1 and a pusher member 2 which in conventional practice has been another paper tube. In the construction herein shown, the tube 1 may be regarded as a paper tube of any suitable construction, and of an internal diameter which is adapted to receive a tampon 3 (Fig. 4) in such a snugly fitted condition that some force will be required to be exerted against one end of the tampon to eject it from the tube 1. The tampon 3 is equipped with a draw string portion 4 which in this instance is illustrated as being formed by an extension of a tubular knitted jacket which constitutes a portion of the outer covering of the tampon. The draw string may, of course, be formed independently of any such covering.

The pusher or ejector element 2 of the applicator is formed from a flat paper board blank 5 of suitable thickness, the said blank being preferably initially scored or creased as indicated at 6—6, to facilitate folding of marginal portions of the blank to approximately right angular relationship to the main body of the blank. The blank 5 may be initially folded or bent to the arcuate

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form shown in Fig. 3 with the marginal portions 7—7 turned inwardly towards each other at the respective creases 6.

The member in the partially formed condition shown in Fig. 3 may then be advantageously moistened and its formation into a tube thereupon completed, the flanges 7—7 being then brought into approximate face-to-face relationship as shown in Fig. 4. The ejectors may be independently formed from separate blanks, such as illustrated in Fig. 2, or they may be formed initially in the form of an elongated tube-like structure by drawing a paper web of suitable width through suitable forming dies or folders, the resulting elongated tube being then cut into the required lengths. Moistening of the material to facilitate the formation thereof may be effected at any desired point in the folding of the material and drying may be effected upon application of heat or air currents in any suitable manner.

The split cylinder ejector member thus formed may be assembled with a tampon by having the draw string portion of the tampon passed sidewise through the slot or split in the ejector cylinder, as represented in Fig. 4. The assembled tampon and ejector member may then be inserted into the applicator tube 1, the ejector member being adapted to be compressed slightly so as to close the space between its flanges 7—7 to facilitate insertion of the ejector into the tube 1. Preferably the ejector 2 is so made that when it is fitted into the tube 1 the flanges 7—7 will be held in face-to-face relationship as represented in Fig. 1. However, it will be apparent that it is not essential that these flanges maintain face-to-face contact.

The flexibility in respect of the size of the ejector member 2 thus afforded permits the member 2 to satisfactorily fit the interior of outer tubes 1, the interior diameter of which as a practical matter, often varies somewhat from the normally specified diameter. Furthermore, changes in transverse size of the tubes 1 and 2 incident to varying moisture and weather conditions will not cause the inner and outer tubes to become so tightly locked to each other as to prevent movement of the ejector 2 into the tube 1 when desired.

The above-mentioned resilient properties of the ejector tube are also very desirable in that they permit the ejector tube to be fitted tightly enough in the outer tube to prevent the ejector tube from falling out of and becoming separated from the outer tube. By selection of materials and control of manufacturing steps, the resil-

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iciency of the ejector tube may be made to have any desired degree of frictional attachment to the outer tube.

The inwardly projecting flanges or ribs 7 of the ejector member 2 constitute abutments at the ends of the tube so that the end thereof which engages an end of the tampon body will have an adequate bearing against the end of the tampon to prevent wedging of the end of the ejector tube between the tampon body and the outer tube 1. When the ejector tube 2 is made of very thin material as is permitted by the described construction, the pushing surface afforded by the ends of the flanges 7 is a very important advantage.

The described construction may be made at a very high speed and at very low cost since all of the forming operations may be carried out in a continuous or progressive folding operation. The cost of the described ejector element may also be reduced considerably as compared with the cost of ejector tubes heretofore used because relatively light weight paper material may be employed in the ejector.

Various changes in the described construction may be made without departing from the spirit of the invention.

I claim:

1. A tampon applicator comprising an elongated applicator tube of rounded cross-section adapted to have a tampon positioned within a portion of its length, and an elongated ejector tube also of rounded cross-section frictionally slidably fitting in said applicator tube and being movable lengthwise therein for ejecting such tampon, said ejector tube being split lengthwise from end to end and having a flange extending inwardly of the tube from one of its edges at said split, said

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flange serving to provide a tampon engaging portion which is engageable with an end area of a tampon, which area is spaced from the periphery of the tampon on both sides of the flange.

2. A tampon applicator comprising an elongated applicator tube of rounded cross-section adapted to have a tampon positioned within a portion of its length, and an elongated ejector tube also of rounded cross-section frictionally slidably fitting in said applicator tube and being movable lengthwise therein for ejecting such tampon, said ejector tube being split lengthwise from end to end and having flanges extending inwardly of the tube from its edges at said split, said flanges serving to provide tampon engaging portions which are engageable with end areas of a tampon which are spaced from the periphery of the tampon on both sides of said flanges, said ejector tube being normally open at said split and being formed of resilient material permitting the ejector to be compressed to a smaller transverse dimension for insertion into said applicator tube, the ejector being self-expanding into said frictional fitting relationship on said applicator tube.

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