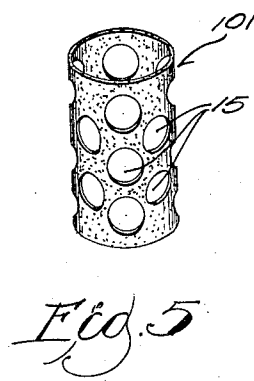
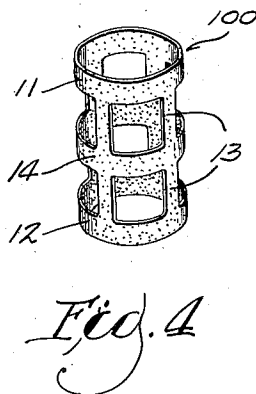
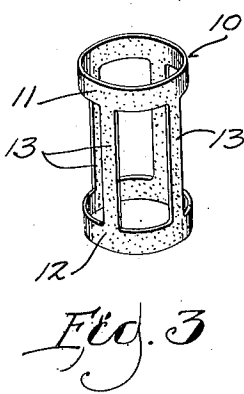
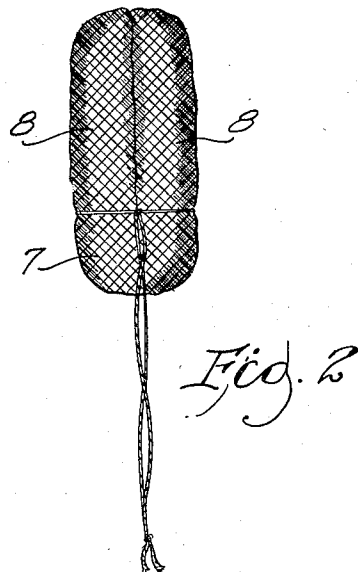
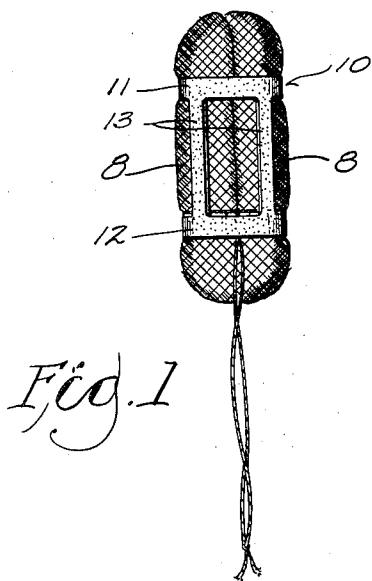


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V. E. ROBINSON
TAMPON WITH BUILT-IN APPLICATOR
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INVENTOR.
VERA E. ROBINSON
BY
Wheeler, Wheeler & Wheeler
ATTORNEYS

UNITED STATES PATENT OFFICE

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TAMPON WITH BUILT-IN APPLICATOR

Vera E. Robinson, Chicago, Ill.

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3 Claims. (Cl. 128-285)

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This invention relates to a tampon with built-in applicator.

It is common practice to provide applicator tubes for guiding vaginal tampons into position. The object of the invention is to avoid the inconvenience and expense of such separate applicators by an arrangement in which the tampon is so stiffened that it may be inserted easily and speedily without the use of such a guiding tube or applicator.

More specifically, it is an object of the invention to provide a tampon with a restraining jacket or applicator tube so skeletonized as freely to admit vaginal liquids to the tampon both for absorption and for the desired tampon expansion, the tube or jacket, however, being made of fully soluble material such as the gelatin used in making medicinal capsules.

A further object in skeletonizing the tube which restrains the tampon and confines it and stiffens it during application is to minimize the amount of material in such stiffening tube or applicator, thereby to minimize the amount of material which the tampon will be required to absorb.

In the drawings:

Fig. 1 is a view in side elevation of a tampon incorporated in a skeletonized soluble applicator tube in accordance with the invention.

Fig. 2 is a side elevation of the tampon as it appears when released from the confining restraint of the applicator tube.

Fig. 3 is a view in perspective showing the skeletonized gelatine tube used in the device of Fig. 1.

Fig. 4 and Fig. 5 are views similar to Fig. 3 respectively showing modified embodiments of the confining applicator jacket.

The tampon shown in Figs. 1 and 2 is preferably of the construction illustrated in my Patent 2,306,406. It comprises a cup-shaped lower end portion 7 above which extend petal-like projections 8. As disclosed in my former patent, the material used is preferably a cellulose wadding covered with surgical gauze, only the gauze being exposed in the completed tampon shown in Fig. 2.

A sizing of starch or the like binds the petals 8 to each other and is readily soluble to release the binding adhesion in order that the tampon may open widely following its insertion to admit bodily secretions into the resulting cup at the interior of the tampon. While the starch adhesively joins the petals to each other for this purpose, it is not possible to rely upon starch or the like to compact the tampon to the smaller dimensions which are preferred at the time of insertion.

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Compacting pressure is provided, for the purposes of the present invention, by a skeletonized applicator tube 10 which is conveniently made of gelatine or some other readily soluble and harmless material. The preferred form of the skeletonized applicator tube is that shown in Figs. 1 and 3 where the tube is illustrated as comprising spaced rings 11 and 12 integrally connected by bands 13 which preferably correspond in number to the petals 8 and lie centrally thereof to keep the petals from bulging unduly. If desired, an additional ring may be used centrally at 14, as shown in Fig. 4, and it is also possible to vary the number of bands as desired. As indicated in Fig. 5, the confining applicator tube 101 may also be made foraminous by the provision therein of numerous holes 15 of any desired shape or size, leaving the skeletonized tube 101 of sufficient strength to contain and compress the tampon while freely admitting secretions to the tampon and reducing the amount of gelatine which must be absorbed before the tampon will open.

In order to assemble the tampon under compression in the skeletonized applicator tube 10, as shown in Fig. 1, it is preferred that the tube be molded and placed in a female die to support the tube while the tampon is forced into it under pressure. However, it is also possible to use relatively movable die parts to fold about the tampon under pressure a skeletonized sheet, the ends of which may be fastened together to comprise the tube as shown.

However the tampon and tube are assembled, the result is a construction in which the tampon is held highly compressed in a compact form from which it will expand even without the presence of moisture. So compressed, its size is reduced to the point where it is more readily applicable and the rigidity afforded by the skeletonized confining tube or jacket will assist in the application of the tampon substantially as if a conventional applicator were being used. Due to the smaller size, the tampon of the present invention is even more easily applied than is the conventional tampon of like absorptive capacity.

While gelatine has been referred to as a preferred material for the construction of the skeletonized jacket, it will be apparent that other equivalent materials may be substituted, if desired, and only gelatine is referred to in the appended claims, it being my intent to cover all such equivalents by this expression.

The gelatine will dissolve within a few moments following insertion and will wholly disappear, being absorbed into the tampon as rap-

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idly as it dissolves. Thereupon, the tampon will first expand to its uncompressed dimensions, as shown in Fig. 2, and it will subsequently expand very much more greatly due to the absorption of moisture as described in my prior patent above identified.

I claim:

1. The combination with a compressed tampon, of an applicator device unitarily assembled therewith and comprising spaced rings encircling the tampon under pressure, and intervening means integral with said rings provided with openings admitting bodily excretions directly to the tampon, said applicator device being soluble in such excretions, the tampon comprising separable petal-like lobes and the applicator means integral with said rings comprising bands extending longitudinally of said lobes.

2. The combination with a tampon of compressible absorbent cellulose material, of an applicator surrounding at least a portion of the tampon and confining such tampon portion under compression sufficient to reduce the size of the tampon material as compared with the natural size thereof when dry, said applicator comprising at least two tampon-encircling rings and integral intervening connecting bands of gelatine soluble in bodily excretions, said applicator hav-

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ing openings between said rings and bands for admitting such excretions directly to the tampon, whereby the tampon is adapted to absorb the excretions and the gelatine material dissolved therein.

3. The tampon assembly set forth in claim 2 in which the tampon comprises separable lobes and the applicator bands extend longitudinally along respective lobes whereby to prevent the lobes from bulging unduly between said openings.

VERA E. ROBINSON.

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