

Feb. 7, 1956

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2,733,714

TAMPON APPLICATORS

Filed April 21, 1954

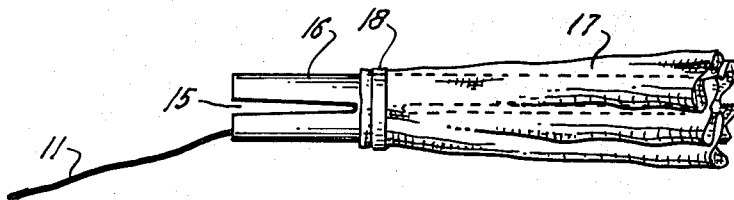


Fig 1

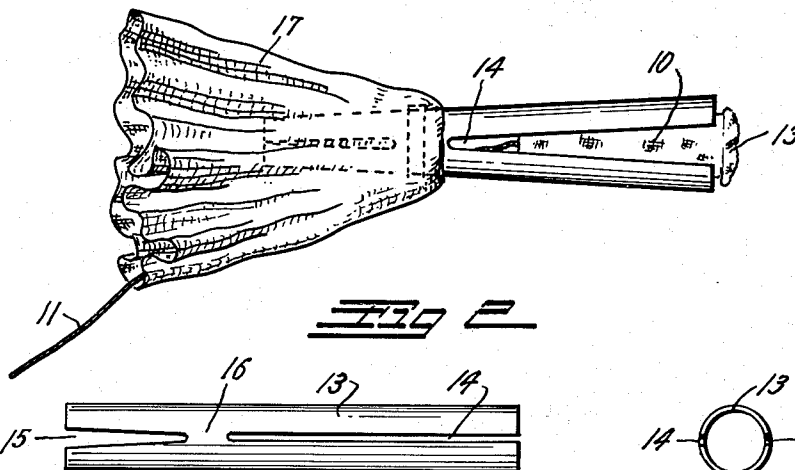


Fig 2

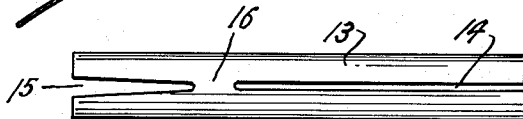


Fig 3

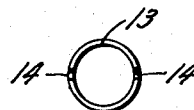


Fig 4

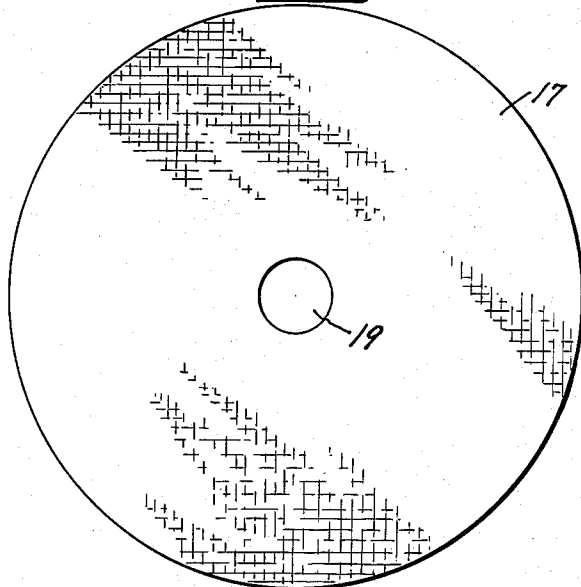


Fig 5

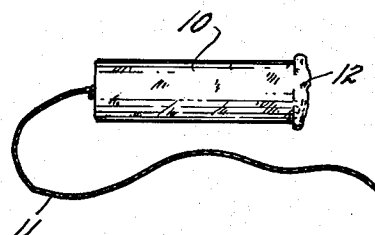


Fig 6

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TAMPON APPLICATORS

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Application April 21, 1954, Serial No. 424,549

4 Claims. (Cl. 128—263)

This invention relates to a catamenial device of the tampon type and more particularly to an applicator for inserting absorbent cores for catamenial purposes.

The principal object of the invention is to provide an economical, disposable applicator for the insertion of tampons which will serve to protect the tampon from contamination until ready for use and to prevent soilage of the hand of the user during the act of insertion.

Another object of the invention is to provide a highly efficient disposable tubular applicator for catamenial tampons, of the type employing compressed absorbent cores, which will act to release the core from the applicator while within the body cavity so that the absorbent core cannot be accidentally withdrawn from place when the applicator is withdrawn.

A further object is to provide a tubular applicator of the above type which will allow the body tissues to frictionally engage the sides of the absorbent core before the applicator is withdrawn so as to firmly retain the core in the desired position during withdrawal.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a side view of the improved tampon applicator as it would appear before use and with a tampon in place therein;

Fig. 2 is a similar view illustrating the applicator as it would appear when releasing the tampon within a body cavity;

Fig. 3 is a detail side view of a tubular element employed in the improved applicator;

Fig. 4 is an end view of the element of Fig. 3;

Fig. 5 is a detail view illustrating the pattern form of a flexible skirt employed on the improved applicator; and

Fig. 6 is a side view illustrating the type of compressed absorbent catamenial tampon for the application of which the improved applicator is designed.

The improved applicator is designed for the application or insertion of catamenial devices or tampons such as illustrated in applicant's prior Patents Nos. 1,926,900, 1,964,911 and 2,024,218. Former applicators of this type required a plunger device for retaining the tampon in place while the applicator tube was being withdrawn. With the use of this improved applicator, the plunger device is unnecessary as the tampon will be retained in place by the body tissues so as to allow the applicator tube to be freely withdrawn without disturbing the tampon.

The type of tampon for which this improved applicator is designed is indicated on the drawing at 10, and shown in detail in Fig. 6. Such a tampon comprises a relatively hard, cylindrical core of absorbent material, such as cotton, to which a withdrawing thread or string 11 is at-

tached. The head of the core, indicated at 12, is somewhat enlarged over the general diameter and is less compressed than the remainder of the core to provide a soft, protective insertion extremity on the core. The core will be herein designated as the tampon.

The invention comprises a tube 13 of cardboard or similar water-softenable material. The tube is longitudinally slotted at its inner extremity with two relatively narrow, diametrically opposed inner slots 14. The tube is also slotted at its outer extremity with two diametrically opposed outer slots 15. The terminal extremities of the slots 14 and 15 are spaced apart so as to leave a continuous, unslotted, tubular hinge portion 16. The inner slots 14 are relatively narrow and have substantially parallel sides and open completely through the inner extremity of the tube 13. The outer slots 15 increase in width as the outer extremity of the tube 13 is approached.

It can be seen that with this structure the outer extremity of the tube can be compressed between the finger and thumb to substantially close the outer slots 15. This will result in distorting the tube at the hinge portion 16 so as to cause the inner extremity of the tube to flare with a widening of the inner slots 14. The tube 13 is designed to receive the tampon 10 in its inner extremity, with the withdrawing string 11 trailing from the outer extremity.

The tube 13 is used in combination with a flaring, flexible, disposable skirt 17 which is mounted on the tube 13 about the hinge portion 16 by cementing it to the tube or by securing it thereon with an encircling band 18 of rubber, plastic, or other suitable material, or in any other desired manner.

The skirt portion 17 is formed from exceedingly flexible, lightweight, cellulose material, such as relatively light, thin cellulose paper, and is blanked from sheets of cellulose material in a substantially circular form, as shown in Fig. 5, with a central opening 19 for the reception of the tube 16.

In assembling the applicator, the tube 13 is passed through the opening 19 and the peripheral material about the opening is gathered about the hinge portion 16 of the tube and secured thereon. The remainder of the flexible skirt is then drawn over the inner extremity of the tube 13 in a plurality of gathers or folds so as to cover and protect the tampon from external contamination, as shown in Fig. 1.

When it is desired to insert the tampon in a body cavity, the skirt portion 17 is folded outwardly over the outer extremity of the tube 13 to provide a protective hood for the hand of the user during insertion. When the desired position has been reached, the outer extremity of the tube is contracted to cause the slots 14 in the inner extremity to expand, as shown in Fig. 2, to completely release the tampon from the tube. The expanded slots 14 allow the body tissues to come into frictional engagement with the sides of the tampon so that when the tube 13 is withdrawn, there will be no tendency for the tampon to follow the tube. Since both the tube and the skirt portion are formed from water-softenable, disposable material, they can be discarded and flushed away.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. An applicator for the insertion of vaginal tampons of the compressed, absorbent core type comprising: an elongated, cylindrical tube adapted to receive a tampon in its inner extremity; and a flaring, flexible skirt secured about said tube intermediate the extremities of the tube and adapted to be folded toward either desired extremity

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of said tube to provide a protective hood for either extremity.

2. An applicator for the insertion of vaginal tampons of the compressed, absorbent core type comprising: an elongated, cylindrical tube adapted to receive a tampon in its inner extremity; and a flaring, flexible skirt secured about said tube, intermediate the extremities of the tube said skirt being sufficiently long to extend beyond and cover either extremity of said tube when folded toward either extremity so that it will form a protecting enclosure for said tampon until desired for use, and a protecting hood for the hand during insertion.

3. An applicator for the insertion of vaginal tampons of the compressed absorbent core type comprising: an elongated, cylindrical tube adapted to receive a tampon in its inner extremity; longitudinally extending inner slots formed in said tube and opening to the inner extremity thereof to allow body tissues to come into frictional engagement with the tampon within said tube; outer slots formed in the outer extremity of said tube and extending from said latter extremity longitudinally of said tube and terminating in longitudinally spaced relation to said first slots, said outer slots being substantially in longitudinal alignment with said inner slots so that when the outer extremity of said tube is compressed to close the outer slots, the inner extremity of said tube will be opened to spread said inner slots to release said tampon and allow the body tissues to come into frictional contact therewith; and a flexible skirt portion secured to said tube intermediate the extremities of the tube and being foldable to either

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extremity of said tube to form a protective skirt for either extremity thereof.

4. An applicator for the insertion of vaginal tampons of the compressed absorbent core type comprising: an elongated, cylindrical tube adapted to receive a tampon in its inner extremity; longitudinally extending inner slots formed in said tube and opening to the inner extremity thereof to allow body tissues to come into frictional engagement with the tampon within said tube; outer slots formed in the outer extremity of said tube and extending from said latter extremity longitudinally of said tube and terminating in longitudinally spaced relation to said first slots, said outer slots being substantially in longitudinal alignment with said inner slots so that when the outer extremity of said tube is compressed to close the outer slots, the inner extremity of said tube will be opened to spread said inner slots to release said tampon and allow the body tissues to come into frictional contact therewith; and a hood member secured to said tube and adapted to form a protective finger hood for the user.

References Cited in the file of this patent

UNITED STATES PATENTS

61,417	Grant	Jan. 22, 1867
1,351,917	Kuhn	Sept. 7, 1920

FOREIGN PATENTS

11,325	Great Britain	1912
547,305	Great Britain	Aug. 21, 1942