May 16, 1950 J. B. BIEDERMAN 2,508,214

CATAMENIAL DEVICE AND SURGICAL PAD

Filed April 17, 1948 2 Sheets-Sheet 1

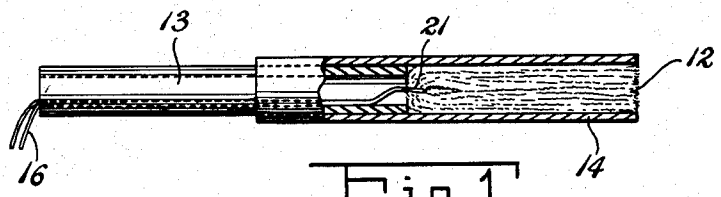


Fig. 1.

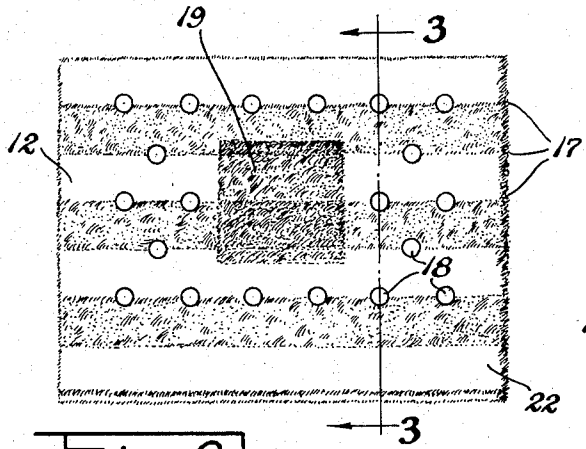


Fig. 2.

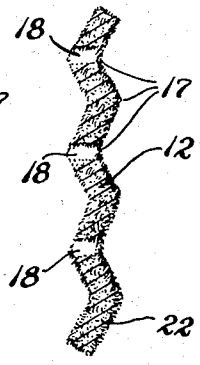


Fig. 3.

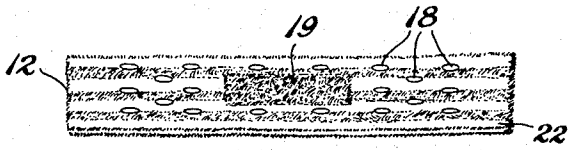


Fig. 4.



Fig. 5.

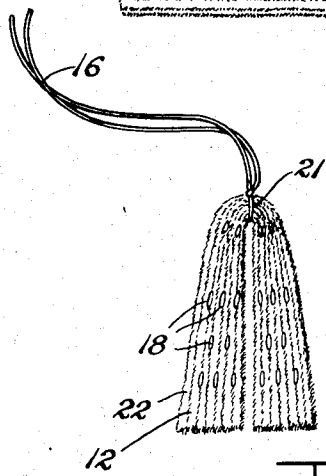


Fig. 6.

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CATAMENIAL DEVICE AND SURGICAL PAD

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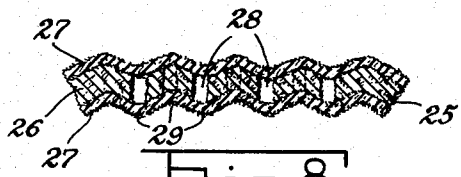


Fig. 8.

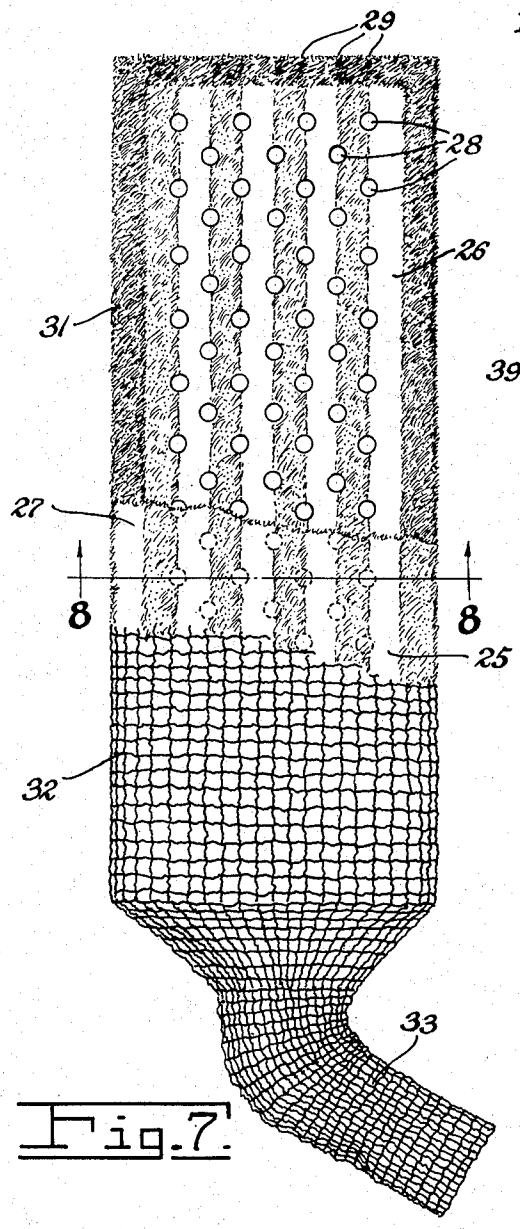


Fig. 7.

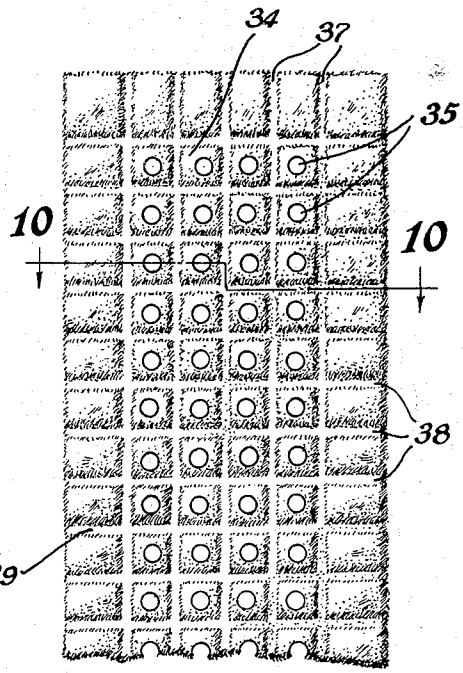


Fig. 9.

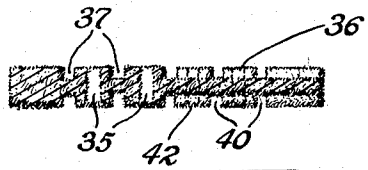


Fig. 10.

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CATAMENIAL DEVICE AND SURGICAL PAD

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Application April 17, 1948, Serial No. 21,675

5 Claims. (Cl. 128—285)

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This invention relates to catamenial devices and to surgical pads and more particularly relates to pads of increased absorbency and to medicated pads.

An object of this invention is to produce a pad having an increased capacity for absorbing fluids.

A further object of this invention is to produce a pad or device of this type having channels for conveying fluids from their point of contact to a remote part of the pad or device.

A further object of this invention is to provide a pad or device of this type which can be treated with chemicals such as detergents or the like or other medication for increasing the flow of fluids through the pad or device or for other purposes.

The above and other objects may be attained by the means described herein and disclosed in the accompanying drawings in which:

Figure 1 is a side elevational view partly broken away and in section of a catamenial device constructed in accordance with this invention and an applicator for the device.

Figure 2 is a plan view of the pad illustrated in Figure 1 prior to folding.

Figure 3 is a sectional view along line 3—3 in Figure 2.

Figure 4 is a plan view of the pad illustrated in Figure 1 in partly folded form.

Figure 5 is a side elevational view of the partly folded pad shown in Figure 4.

Figure 6 is a side elevational view of the pad in folded form.

Figure 7 is a plan view of a catamenial pad constructed in accordance with this invention, the pad and a cover for the pad being partly broken away for clarity.

Figure 8 is a sectional view along line 8—8 in Figure 7.

Figure 9 is a plan view of another pad constructed in accordance with this invention.

Figure 10 is a sectional view along the line 10—10 in Figure 9.

Briefly, this invention provides a surgical pad or catamenial device formed from a pad of loosely matted fibers of cotton or the like having a high absorbency. A plurality of perforations are formed through the pad and serve to conduct fluids, such as blood, from the surface through the pad so that the fluids are distributed throughout the pad and do not remain at the surface to coagulate there. In addition, the pad may be formed with a series of lengthwise or cross-wise channels or lines of

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fold for channeling the fluids lengthwise or crosswise of the pad between perforations. The outer ends of the perforations may be covered with a layer of fibers to prevent unimpeded flow through the perforations, and a portion of the pad may be formed without perforations to receive the detergent or other chemical or medication for increasing the penetration of fluids through the pad or for other purposes. If desired, the entire pad or parts thereof may be impregnated. As will be apparent from the drawings and from the following detailed description, the pad may be used as a surgical pad. It may be used as a catamenial pad for external use or may be folded over for use internally of the vagina.

Referring now to the drawings and to Figures 1–6 inclusive, a pad 12 is shown which may be inserted in the vagina by means of an applicator which may be of conventional form. The applicator, as shown in Figure 1, may include inner and outer cardboard tubes 13 and 14 which are telescopically fitted together. The outer tube 14 receives the pad 12, while the inner tube 13 can serve to force the pad 12 from the tube 14 into the vagina. A cord 16 attached to the pad 12 permits removal thereof from the vagina.

As shown in Figures 2 and 3, the pad 12 may have a rectangular shape and may be formed from a flat pad of loosely matted fibers. The pad 12 preferably consists of relatively long fibers which may be of cotton, such as long fiber absorbent cotton. The pad 12 is given a plurality of lengthwise folds 17. A plurality of perforation 18 are formed through the pad 12 for providing channels through the pad. The perforations 18 and folds 17 permit improved penetration of fluids through the pad. A central portion 19 of the pad 12 may be free of perforations for receiving a detergent or other chemical or medication for increasing the penetration of fluids into the pad 12 or for other purposes, as will be set out more fully hereinafter.

As shown in Figures 4, 5, and 6, the pad 12 may be compressed, accordion-wise into a long narrow form which, as shown in Figure 6, may be bent about a central point 21. The cord 16 may be looped about the pad 12 at the point 21 and there tied to the pad, and the pad may be positioned in the tube 14 (Figure 1) ready for use.

The perforations 18 may, as shown in Figure 2, be along the lines of the folds 17 and perforations in folds which meet may be aligned so that, as shown in Figure 6, open ends of the perforations 18 may interconnect. However, the perforations 18, if desired, may be spaced in various

other manners to provide channels through which fluids can penetrate the pad.

An outer fold 22 may be free of perforations to fold about the pad forming an outer cover to prevent unimpeded flow of fluids through the perforations 18 and to give a smooth surface for contact with the vagina.

As will be apparent, the folds 17 as well as the perforations 18 contribute to the penetration of fluids through the pad 12. The folds 17 provide lengthwise channels along while the fluids can penetrate through the pad 12, while the perforations 18 permit flow thereof through the pad.

In Figures 7 and 8 is shown a pad 25 suitable for external catamenial use. The pad 25 may be formed of an inner layer 26 and a pair of outer layers 27 on opposite sides of the inner layer 26. All three layers may be of loosely matted fibers, such as absorbent cotton. A plurality of perforations 28 may be formed in the inner layer 26 for permitting penetration of fluids through the pad 25. The outer layers 27 may be continuous to form closures about the ends of the perforations to prevent unimpeded flow of fluids through the perforations.

In addition to the perforations 28, the pad 25 may have a series of lengthwise accordion-type folds 29 for permitting lengthwise flow of fluids along the pad. The perforations 28 permit penetration through the pad, while the folds 29 permit penetration lengthwise thereof. As shown, the perforations 28 may be located along the folds 29, but as will be apparent, the perforations may readily be located in various other patterns.

An outer peripheral edge 21 of the pad 25 may be free of perforations for receiving a detergent or other medication for improving the flow of fluids through the pad 25 or for other purposes. The pad 25 may be provided with a stockinet cover 32 of the usual type having a central portion which surrounds the pad 25 and a pair of outer portions 33, only one of which is shown, extending from opposite ends of the pad for use in attaching the pad.

In Figures 9 and 10 is shown a pad 34 constructed in accordance with this invention having an alternate construction. The pad 34 may be formed from the same type of material, for example, absorbent cotton as the pad 25 and may similarly be of rectangular shape. The pad 34 includes a series of perforations 35 through the pad for aiding penetration of fluids through the pad. In addition, an upper surface 36 of the pad 34 may have a plurality of lengthwise channels 37 and a plurality of crosswise channels 38 intersecting the channels 37. The channels 37 and 38 may be formed in the pad 34 by means of a die or the like. An outer peripheral edge 39 may be free of perforations for receiving a detergent or other medication. As shown in Figures 9 and 10, the channels 37 and 38 in the surface 36 may be opposite similar lengthwise channels 40 and crosswise channels, not shown, in a lower surface 42 of the pad, but, as will be apparent, the lower surface may be free of channels or may have channels differently located.

The medication for the pads may be a dehydrating agent such as sodium sulphate which tends to draw the fluids through the pads or may be a detergent capable of lowering the surface tension of the fluids. These medications increase the absorbency of the material of the pads and the absorptive capacity of the pads by

permitting increased penetration of the fluids through the pad. Other medications may be used on the pads for increasing their absorbency or for other purposes. As shown in the drawings, the pads may be formed with imperforate portions for receiving the medication. If preferred the entire pad or portions thereof may be impregnated with the medication.

The pads of this invention have been described particularly with reference to their use as catamenial devices. However, the pads may be used for surgical purposes in a similar manner. Many other uses for the pads will be apparent. The pads have been shown in rectangular shape, but pads of other shapes may be formed without departing from the spirit of this invention. The pads have been described particularly as constructed from absorbent, fibrous materials such as absorbent cotton, but pads may similarly be formed of other absorbent materials. The spacing and size of the perforations may vary with the use of the pads. Many other variations of construction are possible, and the invention is not intended to be limited by the foregoing detailed description but only as set out in the appended claims.

What is claimed is:

1. An absorbent pad of the class described which consists essentially of fibrous material and includes an inner mat and a pair of outer mats positioned on opposite sides of said inner mat, said inner mat including a plurality of spaced perforations, said perforations being arranged in spaced lengthwise rows, said outer mats covering the ends of said perforations to prevent unimpeded flow of fluids through the perforations, said pad having a plurality of lengthwise folds, said folds extending along the lengthwise rows of perforations to form lengthwise channels connecting the perforations in the rows.

2. An absorbent catamenial device for insertion within the vagina which consists essentially of a mat of fibrous absorbent material, said mat containing a plurality of spaced rows of perforations, said mat being folded accordion-wise along the rows of perforations to provide channels along the mat connecting the perforations and being turned about itself along a median line thereof, and a cord attached to the mat for removal thereof from the vagina, said cord being attached to said mat at the median point, whereby the channels on opposite sides of the cord and median line extend in substantial parallelism with one another, and with the cord projecting from the point of attachment thereof to the mat.

3. An absorbent pad of the class described which consists essentially of fibrous material and includes an inner mat and a pair of outer mats positioned on opposite sides of said inner mat, said inner mat including a plurality of spaced perforations, said perforations being arranged in spaced lengthwise rows, said outer mats covering the ends of said perforations to prevent unimpeded flow of fluids through the perforations, said pad having a plurality of lengthwise accordion-like folds, said folds extending along the lengthwise rows of perforations to form lengthwise channels connecting the perforations in the rows.

4. An absorbent pad which consists essentially of a mat of absorbent fibrous material, said mat containing a plurality of spaced perforations, said perforations being arranged in spaced

lengthwise rows, said pad having a plurality of lengthwise accordion-like folds extending along the rows of perforations to form lengthwise channels connecting the perforations in the rows.

5. An absorbent pad which consists essentially of absorbent cotton fibers and includes an inner mat having a plurality of spaced perforations, said perforations being arranged in spaced rows extending lengthwise of the pad, and a pair of outer mats disposed on opposite sides of said inner mat, said outer mats covering the ends of said perforations to prevent unimpeded flow of fluids through the perforations, said pad having a plurality of accordion-like folds extending lengthwise of the pad and providing channels connecting said perforations.

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