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J. E. J. MOSIER ETAL

3,225,765

MENSTRUAL PAD AND HOLDER

Filed Sept. 25, 1962

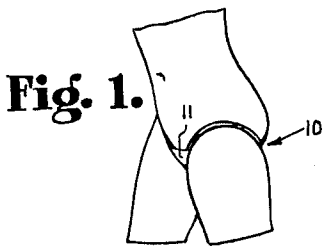


Fig. 1.

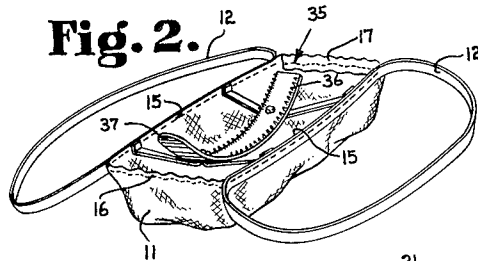


Fig. 2.

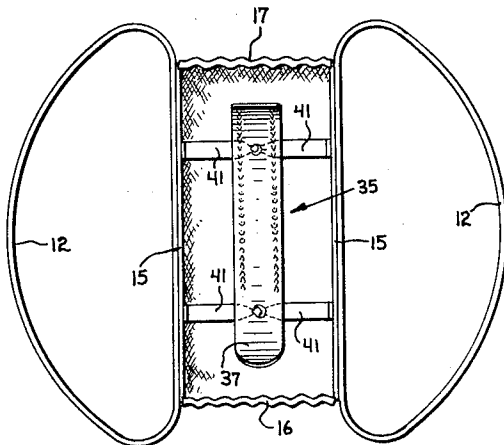


Fig. 3.

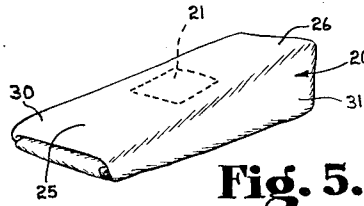


Fig. 5.

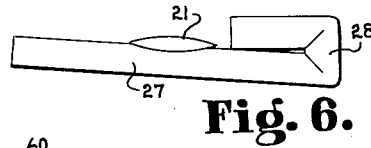


Fig. 6.

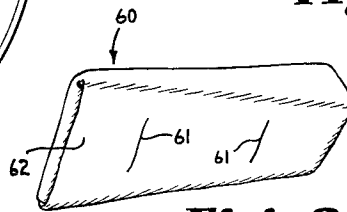


Fig. 8.

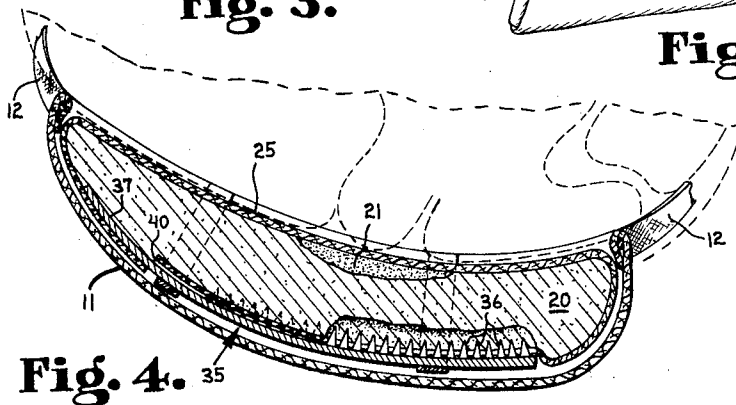


Fig. 4.

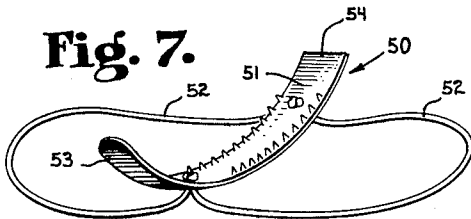


Fig. 7.

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MENSTRUAL PAD AND HOLDER

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3 Claims. (Cl. 128-290)

The present invention relates to a catamenial appliance or device and to a sanitary napkin and holder.

Present day catamenial devices frequently incorporate belts which are difficult to adjust so that they are comfortable in the various positions the body assumes in standing, sitting, jumping, bending, etc. Such belts often cause chafing and irritation of the perineal and intergluteal skin areas. Also, such sanitary belts in many cases tend to allow the sanitary napkin to slide out of its most absorptive position. Many of these problems are solved by the well known tampon or suppository; however, such tampons not infrequently cause vaginal irritations and infection and, in certain cases, can fall out of the vaginal cavity.

The devices disclosed in the copending application of one of the present inventors (S.N. 6,724 now U.S. Patent No. 3,117,577, Jeanette Elaine J. Mosier, entitled Sanitary Napkin and Holder, filed Feb. 4, 1960) reduces irritation to such an extent that the wearer of certain of the devices of said copending application at times does not even realize that she is wearing a catamenial device. It can be appreciated that such a situation can lead to a feeling of insecurity. Various proposed solutions have been tried for the above problem without complete success. It is, therefore, desirable that improved means be provided for letting the wearer of such a catamenial device know that the device is correctly positioned in tight engagement with the perineum.

It is, therefore, one object of the present invention to provide an improved catamenial appliance.

A further object of the present invention is to provide a catamenial appliance which does not irritate the wearer, yet includes improved means for notifying the wearer that the appliance is in position for absorbing menses.

Still another object of the present invention is to provide a catamenial appliance which provides the various advantages of the device of the above mentioned patent application, those advantages including, for example, relatively complete freedom of movement, yet which also provides firm seating of the appliance in proper position so that the wearer never feels insecure.

Related objects and advantages will become apparent as the description proceeds.

One embodiment of the present invention includes a catamenial device comprising an elongated flat spring which is longitudinally curved to a convexo-concave shape. The spring has a plurality of teeth on the concave face thereof which are adapted to engage a sanitary napkin for holding it in place. A pair of loops of elastic material serve as the sole supporting means for the device. One end of each of the loops is secured to the spring adjacent one end thereof and the other end of each of the loops is secured to the spring adjacent the other end thereof. The loops are received about respective legs of the wearer at the juncture thereof with the torso.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

FIG. 1 is a perspective view of a torso showing the cata-

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menial appliance of the present invention in proper position.

FIG. 2 is an enlarged perspective view of a sanitary napkin holder embodying the present invention.

FIG. 3 is a top plan view of the holder of FIG. 2.

FIG. 4 is an enlarged vertical section taken through the holder of FIGS. 2 and 3 with the holder in proper position and carrying a sanitary napkin all as embodied in the present invention.

FIG. 5 is a reduced perspective view of the sanitary napkin shown in FIG. 4.

FIG. 6 is a detail view of the internal portion of the napkin of FIG. 5.

FIG. 7 is a perspective view of an alternative holder embodying the present invention.

FIG. 8 is a perspective view of a napkin embodying the present invention and useable with the holder of FIG. 7.

Referring now more particularly to the drawings, there is illustrated a sanitary napkin and holder arrangement 10 comprising a generally rectangular, somewhat elongated, section 11 of elastic material such as rubber, or cloth formed from elastic thread either knitted or intertwined. Loops 12 of elastic material are secured to the elastic section of material at the opposite longitudinal edges 15 thereof. In the illustrated embodiment, the loops are closed and are sewn to the edges 15 so as to extend completely along those edges. The transverse edges 16 and 17 of the rectangular section of elastic cloth also have elastic sewn thereto so as to cause the rectangular section 11 to cup around a sanitary napkin or pad 20 formed of layers of absorbent material as is conventionally used for sanitary napkins.

Unlike conventional sanitary napkins, the present embodiment is provided with a small liquid permeable container 21 centrally located at the face or top 25 of the napkin just below the outer gauze layer. This container may be formed of folded tissue paper or any other convenient substances and has received therein a quantity of special absorbing material capable of forming a gel with menses and described in detail in the copending patent application of one of the present inventors (Jack M. Mosier) entitled Catamenial Appliance and Composition filed June 13, 1960, Serial No. 35,590, now U.S. Patent 3,121,427.

By way of example, this container 21 might have received therein 5 cc. of a chemical mixture consisting of 28% gelatin, 17% agar-agar and 55% common sugar by volume. As explained in the above mentioned patent application S.N. 35,590, the use of such a gel forming material makes possible a much smaller sanitary napkin. Thus, in one operative example of the present invention, the pad 20 is about 5½ to 6 inches long.

Referring to FIGS. 5 and 6, the pad 20 might receive within its outer gauze or paper covering 26 a length of cellulose absorbent material 27 which is folded over at its rearward end 28 in order to cause the rearward end or rearward one-third of the pad 20 to have greater thickness than the forward end. Alternatively, the thickness of the pad can gradually increase from front to rear as in certain commercially available napkins. As can be seen from FIG. 6, the liquid permeable container 21 is located within the central one-third of the pad or slightly rearwardly thereof as shown in FIG. 4 so as to be directly below the vagina. It will be noted that the pad is wider (horizontal measurement) at its forward portion 30 than at its rearward portion 31, yet is thicker (from top to bot-

tom) at its rearward portion than at its forward portion.

It should be mentioned that present pads have strong threads or paper in outer covering so that when attached to the waist band, the pad will not break even when wet. It is these threads that catch in the toilet pipes or rust therein blocking and clogging the toilet. The present pad's outer paper needn't be as strong as such a conventional pad, need not include thread and is "flushable" down the toilet.

In order to provide the desired feeling of security, it is particularly desirable that the pad 20 engage the perineum relatively closely especially posteriorly and just adjacent and in front of the anus. This effect is achieved by reason of the thickness of the rearward portion 31 of the pad as well as the lifting action of a spring 35 which is pressed upwardly against the pad by means of the resilient material 11 as well as elastic elements 41. The spring 35 is flat, elongated and greater in width than in thickness. In the above mentioned specific embodiment of the invention, the spring 35 has a length of four to five inches and a width of one-half inch. On the upper face of the spring 35 are formed a plurality of projections 36 which engage the pad 20 and hold it firmly in position. The forward end 37 of the spring is inserted within a slit 40 in the lower forward surface of the pad 20. In the embodiment of FIGS. 1-6, slits such as the slit 40 can be provided both at the front and back as described below in connection with FIG. 8 or a single slit can be provided at the rear of the pad. Preferably, the portion of the spring inserted into the slit or slits has no teeth thereon.

The spring 35 is secured to the holder at the longitudinal edges 15 thereof and to the loops 12 by means of the elastic connecting elements 41. Alternatively, these connecting elements or pieces of elastic material can connect the spring to the elastic at the transverse edges 16 and 17 of the section of material 11.

The positioning of the sanitary napkin and holder of the present invention is the same as described in the above mentioned application, Serial No. 6,724. As shown in FIG. 4, the loops 12, the section of material 11 and the illustrated anatomy have been slightly spaced for clarity. It should be emphasized, however, that the elastic resilient nature of the section of material 11 will force firmly against the spring 35 and against the pad 20, will firmly cup the pad and will cause the pad to firmly engage the perineum all along its length. It will also be noted that the pad and the holder are located in front of the rectum, thus eliminating irritation which might be caused by a sanitary napkin extending between the buttocks.

Referring more particularly to FIGS. 1 and 4, between the legs the female thigh is narrowed at the groove between the lateral margin of the labia majora and the proximal portion of the internal femoral region. Because of the narrowing of the female form in this area, the elastic loops 12 may be seated securely to encircle the thighs so as to pass through the above mentioned groove and the gluteal fold, and to extend laterally just above the trochanteric region, anteriorly across the subinguinal regions just above the medial termination of the inguinal ligament and again to said groove. When the holder and napkin of the present invention are so received on the female form, they are comfortable and cause little or no skin chafing and irritation.

Alternative to the above structure (teeth 36) for positioning or securing the pad relative to the spring 35, there may be provided adhesive plastic tape secured to the pad and to the spring. In such an embodiment, a protective covering might be conveniently removed from the tape at the time the pad is attached to the spring of the holder. Various other types of fastening means can be used for securing the spring to the pad such as snap fasteners or the commercially available fastening means including nylon tapes, one of which has a "fleece" surface and the other of which has a "burr" surface and both of which are pressed together for the desired attachment.

A further alternative means of mounting the pad upon the spring is shown in FIGS. 7 and 8 which also show a further alternative embodiment of holder for the present invention. The holder 50 includes merely a spring 51 nearly identical to spring 35 and having secured thereto a pair of loops 52, said loops being secured to the spring adjacent the forward end 53 and the rearward end 54 thereof. The embodiment illustrated in FIG. 7 is particularly adapted for catamenial emergencies such as might occur at the movie, in restaurants, etc. The holder of FIG. 7 might be dispensed by a vending machine and if desired could be used in combination with the underclothing of the wearer. Because of its simplicity and inexpensive construction, the embodiment of FIGS. 7 and 8 is the preferred embodiment of the present invention, the first above described type, however, being preferred for those having heavy flow.

Referring to FIG. 8, the pad 60 is substantially identical to the pad of FIGS. 4-6 with the exception that a pair of slots 61 are provided, said slots being parallel to one another, extending transversely of the pad 60, being spaced longitudinally thereof and formed in the lower surface 62 of the pad. The pad 60 is received on the holder 50 by insertion of the end 51 of the spring in the rearward slot 61 and insertion of the end 53 in the forward slot 61. The spring 51 is identical to the spring 35 except that the opposite ends 53 and 54 are free from teeth for easier insertion in slits 61. As mentioned, the underwear of the wearer can be used in combination with the device of FIGS. 6 and 7 and is worn in conventional fashion over the device which is received on the anatomy in the manner illustrated with regard to the embodiment of FIGS. 1-5. While the embodiment of FIGS. 6 and 7 does not have the same holding action at the genito-crural fold as above described with regard to FIGS. 1-5, the underwear of the wearer provides an additional uplift which lifts the spring and presses it against the perineal area.

In emergencies, the device of FIG. 7 can be used with a conventional sanitary napkin instead of with the napkin of FIG. 6.

From the above description, it will be evident that the present invention provides an improved catamenial appliance which does not irritate the wearer and provides relatively complete freedom of movement, yet which includes improved means for notifying the wearer that the apparatus is in proper position for absorbing menses. It will be evident that the present invention provides a catamenial appliance incorporating means which firmly seats the appliance and napkin in proper position so that the wearer never feels insecure.

While the invention has been illustrated and described in detail in the drawings and foregoing description, the same is to be considered as illustrative and not restrictive in character, it being understood that only the preferred embodiment has been shown and described and that all changes and modifications that come within the spirit of the invention and the scope of the claims are also desired to be protected. For example, other types of spring action might be used to urge the napkin into firm contact with the urogenital area. Although not a preferred embodiment, a rigid napkin support might be used with coil springs at the forward and rearward ends between the napkin and the support.

The invention claimed is:

1. A catamenial device comprising an elongated flat spring curved longitudinally to a convexo-concave shape, said spring having resiliency in longitudinal bending and having the property of forcibly returning to its non-stressed shape, an elongated sanitary napkin carried by said spring, a pair of loops of elastic material secured to said spring for encircling the respective legs of the wearer, said napkin having in the lower surface thereof a pair of slots which are parallel to one another and spaced longitudinally of said napkin, said spring having its opposite end portions received respectively in said slots,

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2. A catamenial device comprising an elongated flat spring curved longitudinally to a convexo-concave shape, said spring having resiliency in longitudinal bending and having the property of forcibly returning to its non-stressed shape, an elongated sanitary napkin carried by said spring, a pair of loops of elastic material secured to said spring for encircling the respective legs of the wearer, said napkin having in the lower surface thereof a pair of slots which are parallel to one another and spaced longitudinally of said napkin, said spring having its opposite end portions received respectively in said slots, said spring havng a plurality of projections extending into said napkin and holding it in place relative to said spring.

3. A catamenial device comprising an elongated flat spring curved longitudinally to a convexo-concave shape, said spring having resiliency in longitudinal bending and having the property of forcibly returning to its non-stressed shape, an elongated sanitary napkin carried by said spring, said napkin having in the lower surface thereof a pair of slots which are parallel to one another and spaced longitudinally of said napkin, said spring having

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its opposite end portions received respectively in said slots, said spring being secured to an elongated elastic material means for firmly supporting the sanitary napkin in its protective position, and a pair of loops of elastic material secured to said elongated elastic material means for encircling the respective legs of the wearer.

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