

[54] **COMBINED SANITARY NAPKIN AND MEDICATED BANDAGE**

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[51] Int. Cl. **A61m 35/00, A61f 13/16**

[58] Field of Search **128/261, 268, 269, 128/290**

[56] **References Cited**

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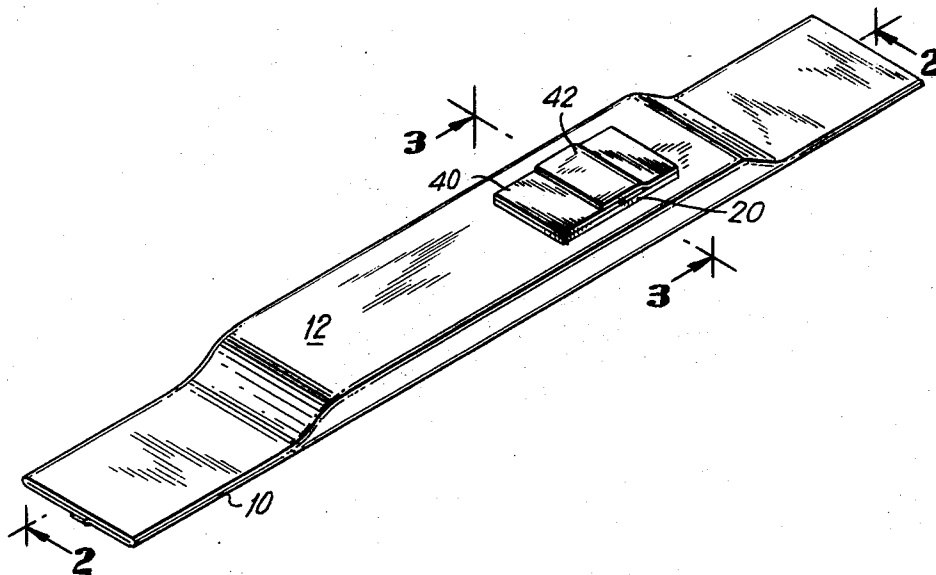
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[57] **ABSTRACT**

Medication, in the form of an anaesthetic gel, is applied to the incision resulting from an episiotomy by providing a gel-retaining zone in a sanitary napkin. The medication is provided on an impermeable layer affixed to the absorbing face of the napkin and is protected from contamination, prior to use, by a covering membrane. The impermeable layer between the anaesthetic gel and the napkin prevent the absorption of the former on the latter. The gel-retaining zone is approximately two inches by three inches in size and is spaced by about one inch from the forward edge of the absorbent region of the sanitary napkin.

21 Claims, 4 Drawing Figures



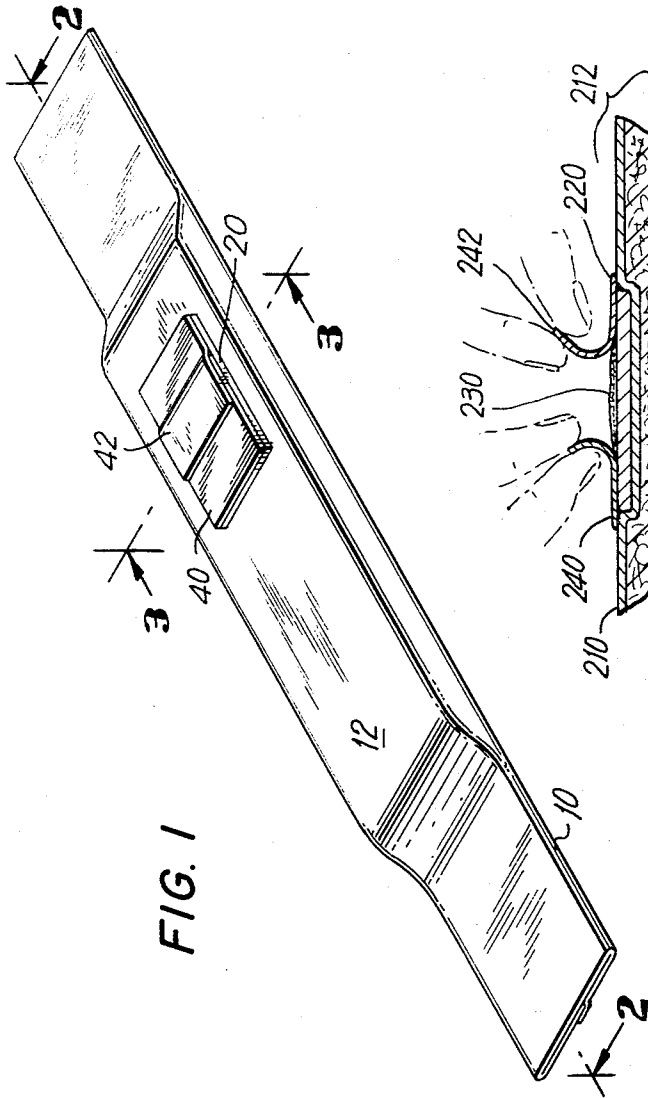


FIG. 3

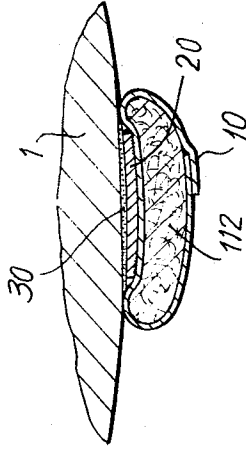


FIG. 4

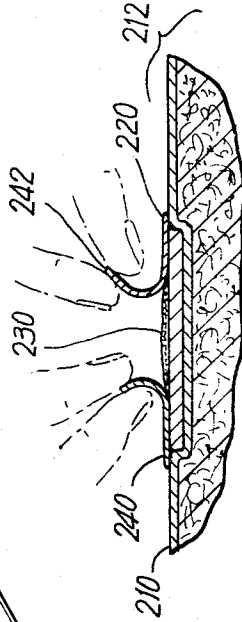
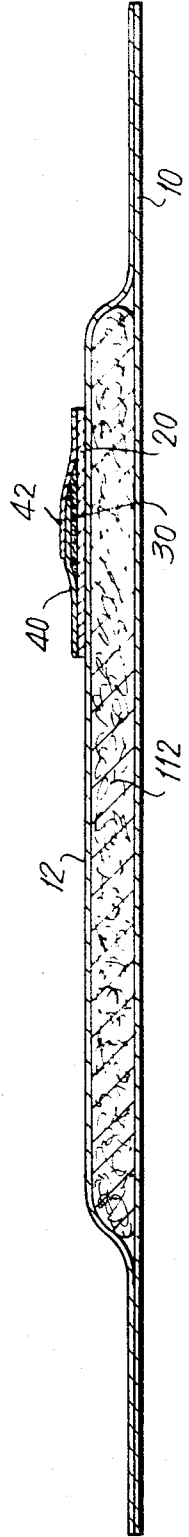


FIG. 2



COMBINED SANITARY NAPKIN AND MEDICATED BANDAGE

BACKGROUND OF THE INVENTION

The invention relates to bandages adapted to retain 5
an ointment or medication against a superficial wound. It also relates to sanitary napkins as commonly employed in the practice of feminine hygiene.

It is common practice in the medical arts to perform 10
a procedure, known as an episiotomy, on a pregnant woman in labor. The procedure consists of an incision in the perineum, extending from the vagina towards the rectum and its function is to enlarge the birth-canal and to facilitate delivery. This incision has proved to be an irritating factor to many women in the post-partum pe- 15
riod. While healing, the wound is painful and sensitive. The application of soothing ointments by a physician or the woman, the common recourse in similar situations, is made difficult, if not impossible, by the wide-spread use of sanitary napkins by such patients during the re- 20
cuperating or convalescence period. The highly absorbent material of these napkins substantially soaks up all of the applied ointment in a relatively short period of time and reduces the effectiveness of such ointment.

It is, therefore, a primary object of the invention to 25
provide a sanitary napkin, for use by post-partum women, which retains its fully absorbent qualities, and yet permits the ready application of medicated ointments to the perineal incision of episiotomy.

It is a further object of the invention to provide a san- 30
itary napkin answering the need described above which, additionally, dispenses the requisite medication directly and automatically; thereby rendering the separate application of the ointment unnecessary and contributing substantially to the comfort and aseptic condi- 35
tion of the incision.

It is yet another objective of the invention to describe 40
constructional details leading to ease of manufacture and use of such a combined medicated napkin and bandage, rendering it economical to make and convenient for wide-spread use.

SUMMARY OF THE INVENTION

The objectives of the invention are achieved by con- 45
structing a sanitary napkin of substantially rectangular form and of conventional materials, and superimposing thereon a layer of impermeable material, such as a plastic membrane, on which a medicated ointment is dis- 50
posed. This ointment is then covered with another impermeable layer, to prevent contamination during the commercial processes of distribution and sale; the covering layer being so structured that it is readily re- 55
moved by the user, just prior to application to the affected portion of the body. For example, the outer protective covering may be provided in two overlapping sections, each terminating in a tab, and the tabs being serially pulled by the user to remove the two halves of the cover.

The nature of the ointment and its medical effect 60
may be varied, depending on the particular application or stage of healing of the wound area. In general, anaesthetic qualities would be given first priority with anti-bacterial and anti-inflammatory medication second.

The instant invention may be applied to the treat- 65
ment of conditions other than arising from an episiotomy. For example, the invention may also be applicable in the treatment of hemorrhoids, and if desired it

may also be used to apply other materials, such as for example, deodorants, which are not medicinal. Other uses and advantages will become apparent to practitioners of the medical arts, after studying the accompany-
ing detailed description of the preferred embodiments.

BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS

The constructional details of the preferred embodi-
ments are illustrated in the accompanying drawings, in which:

FIG. 1 is a perspective view of a sanitary napkin of the invention;

FIG. 2 is a sectional view through the embodiment of FIG. 1, taken along the line 2—2;

FIG. 3 is a sectional view of the sanitary napkin of FIG. 1 showing its use in close contact with the wound, the section taken along line 3—3 of FIG. 1; and

FIG. 4 is a sectional view through another embodi-
ment of the invention, wherein the medicated zone is recessed into the absorbent body of the napkin.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 shows, in perspective view, a sanitary napkin 25
of the invention. The napkin is constructed with an initially tubular sheath 10 whose central portion 12 is filled with an absorbent material 112, the assembly being flattened into a rectangular pad. The sheath 10 and the filling 112 are made from materials — gauze and cotton-wool respectively, for example — which are conventional in the manufacture of a sanitary napkin.

Near one end of the central portion 12 of the napkin, a generally rectangular patch of impermeable material 35
is secured to one face of the sheath 10. This layer, identified by numeral 20 in the drawing, may be suitably stitched or otherwise fastened in position to the napkin structure such as by an adhesive. The material of the layer 20 is impermeable to, and unaffected by, the 40
medicated gel 30 overlaying same. Suitable materials are generally of the plastic membrane family and include such compositions as nylon, mylar, teflon, and the like.

As best shown in FIG. 2, the medicated gel is suitably 45
protected from contamination by a two-piece cover comprising a lower membrane 40 and an upper membrane 42, whose overlapping relationship near the center of the gel layer 30. FIG. 2 which is a section through the napkin of FIG. 1 shows the relative relationship of 50
the sheath 10, the absorbent filling 112 in the central portion 12 of the napkin, and the superposed medicated zone whose gel 30 is completely protected from environmental influences by the underlying, impermeable membrane 20 and the covering layers 40 and 42.

In use, the patient would remove the napkin from its 55
box or wrapping and peel the layers 42 and 40, in that order, from the medicated zone, thereby exposing the gel; the napkin would then be applied against the wound region, with the gel 30 overlying the sensitive area. The napkin would be secured in place by any of the conventional methods, such as by a sanitary belt or other means.

The medicinal nature of the gel 30, as well as its size and location relative to the sanitary napkin's central 60
portion 12, depends on the specific application. In general it is foreseen that the gel may contain, singly or in combination, anaesthetic medicines — lidocaine, ben-

zocaine, dibucaine hydrochloride, or other — antibacterial compounds — such as bacitracin, neomycin or polymyxin B — and anti-inflammatory medication — including steroids, such as cortisone and hydrocortisone. When these medications are not readily available in ointment form they may be dispersed in such materials as Witch-Hazel gel, known as Hamamelis Water in the art.

With respect to the size of the medicated zone and its location on the napkin, both of which are critical, such gels are applied over an impermeable base 20 whose measurements relative to the orthogonal sides of the napkin would be in the order of about $1\frac{1}{2}$ — $2\frac{1}{2}$ by about $2\frac{1}{2}$ — $3\frac{1}{2}$ inches; and the specific location of the forward edge of the medicated zone lying between about one-half of an inch to about one inch and a half inches from the rear end edge of the central region 12 of the napkin. The preferred zone is of a 2 by 3 inch size, inasmuch as such size zone is adapted to accommodate any incision made during an episiotomy.

FIG. 3 shows the medicated zone of the napkin, with the gel layer 20 innermost, held against a wound zone 1 of the patient's body. In use, the napkin of the invention, permits the mutually contradictory purposes of the absorbent filling 112 of the napkin and of the gel layer 30 to be achieved; the napkin is available to absorb the vaginal discharge, and is prevented from absorbing the medicated gel by the interposition of the impermeable layer 20; at the same time the gel 30 and its supporting layer 20 insulate the wound region from the chafing action of the sanitary pad and from contact with, the possibly irritating discharge.

The alternative embodiment of FIG. 4 has an impermeable layer 220 pressed into the sheath 210 of a sanitary pad in the chosen position within the absorbent section 212. By this constructional variant, the gel layer 230 and the active surface of the sanitary pad are brought to the same elevation; the protective covers 240 and 242, shown in the process of being peeled from the medicated zone, protrude above this elevation to permit easy removal.

In yet another embodiment of the invention, the impervious layer 20 is incorporated in the portion of the sheath 10 overlying the absorbing region 12 by impregnating the pervious structure of the sheath with a material rendering it sensibly impervious. Compounds such as starches, adhesives or air-curing plastics may be selected for such service; care being taken that the resulting surface does not affect the efficacy of the medication incorporated in the overlying gel.

These and other variations and modifications of the basic invention shall be construed to lie within the scope of this disclosure, limited only by the appended claims.

I claim:

1. A sanitary napkin with medicated zone, comprising:

a slim, rectangular pad of loosely compacted fibrous material;

a pervious sheath enclosing said pad;

a rectangular patch of impervious membrane affixed to said sheath, in symmetrical alignment with sides of said pad and in spaced relationship from one end thereof;

a layer of medicated gel overlying said patch; and

impervious, removable cover means, for sealing said layer of medicated gel from contact with environment.

2. The sanitary napkin according to claim 1, wherein said rectangular patch of impervious membrane is between one-and-a-half inches and $2\frac{1}{2}$ inches in width, and between $2\frac{1}{2}$ inches and $3\frac{1}{2}$ inches in length.

3. The sanitary napkin according to claim 2, wherein said dimensions of said patch are from about two by about 3 inches.

4. The sanitary napkin according to claim 1, wherein said rectangular patch of impervious membrane is of a plastic composition.

5. The sanitary napkin according to claim 4, wherein said rectangular patch is affixed to said sheath by means of stitching.

6. The sanitary napkin according to claim 4, wherein said rectangular patch is affixed to said sheath by means of an adhesive bond.

7. The sanitary napkin according to claim 1, wherein said cover means comprise a pair of rectangular membranes, each of said pair being larger in dimension than one-half of said impervious patch, said pair of rectangular membranes being arranged in partially overlapping relationship and secured to edges of said patch in a removable manner.

8. The sanitary napkin according to claim 1, wherein said medicated gel carries an anaesthetic formulation.

9. The sanitary napkin according to claim 8, wherein said anaesthetic formulation comprises, singly or in combination, elements from the group of compounds consisting essentially of Lidocaine, Benzocaine, and Dibucaine Hydrochloride.

10. The sanitary napkin according to claim 1, wherein said medicated gel carries an anti-bacterial formulation.

11. The sanitary napkin according to claim 10, wherein said anti-bacterial formulation comprises singly or in combination, elements from the group of compounds consisting essentially of Bacitracin, Neomycin, and Polymyxin B.

12. The sanitary napkin according to claim 1, wherein said medicated gel carries an anti-inflammatory formulation comprising singly or in combination, steroids from the group consisting essentially of cortisone and hydrocortisone.

13. The sanitary napkin according to claim 1, wherein said medicated gel carries, singly or in combination, formulations known to be effective as anaesthetics, anti-bacterials and anti-inflammatories.

14. A sanitary napkin with medicated zone, comprising:

a slim, rectangular pad of loosely compacted fibrous material;

a pervious sheath enclosing said pad;

a rectangular patch of impervious membrane, two inches by three inches in size, in symmetrical alignment with the sides of said pad and spaced approximately 1 inch from one end thereof;

a layer of medicated gel, incorporating an anaesthetic formulation, overlying said patch; and

impervious, removable cover means, for sealing said layer of medicated gel from contact with environment, prior to application against the body of a patient over a region responsive to anaesthetic medication in said gel.

15. The sanitary napkin according to claim 14, wherein said anaesthetic formulation is selected from the group consisting essentially of Lidocaine, Benzocaine and Dibucaine Hydrochloride.

16. A sanitary napkin with medicated zone, comprising:
a slim, rectangular pad of loosely compacted fibrous material;
a recessed, rectangular pocket in one face of said pad, in symmetricle alignment with long sides thereof and in spaced relationship from one end thereof;
a pervious sheath enclosing said pad;
a rectangular patch of impervious membrane affixed to said sheath in the base of said recessed pocket;
a layer of medicated gel overlying said patch; and
impervious, removable cover means sealing said layer of medicated gel from contact with environment.

17. The sanitary napkin according to claim 16,

wherein said rectangular patch is affixed to the base of said pocket by means of an adhesive bond.

18. The sanitary napkin according to claim 16, wherein said medicated gel carries, singly or in combination, formulations known to be effective as anaesthetics, anti-bacterials and anti-inflammatories.

19. The sanitary napkin according to claim 18, wherein said anaesthetic formulations are selected from the group of compounds consisting essentially of Lidocaine, Benzocaine and Dibucaine Hydrochloride.

20. The sanitary napkin according to claim 18, wherein said anti-bacterial formulations are selected from the group of compounds consisting essentially of Bazitracin, Neomycin and Polymyxin B.

21. The sanitary napkin according to claim 18, wherein said anti-inflammatory compounds are selected from the group of steroids, consisting essentially of Cortisone and Hydrocortisone.

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