

- [54] **DISPOSABLE ABSORBENT PAD**
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- [73] Assignee: **Siemens Aktiengesellschaft**, Berlin & Munich, Germany
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- [30] **Foreign Application Priority Data**
May 8, 1973 Sweden..... 7306424
- [52] U.S. Cl..... **128/290 R; 128/287; 128/290 W**
- [51] Int. Cl.²..... **A61F 13/16**
- [58] Field of Search... 128/290, 287, 290 W, 290 R, 128/284
- [56] **References Cited**
UNITED STATES PATENTS
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Attorney, Agent, or Firm—Hill, Gross, Simpson, Van Santen, Steadman, Chiara & Simpson

[57] **ABSTRACT**

A disposable absorbent pad comprising of a fibrous material web, folded longitudinally and having marginal portion specially treated to be temporarily moisture impermeable, the folding being made in such a manner that one side of the absorbent pad is moisture absorbent whereas the other side thereof forms a moisture-tight barrier layer, wherein the barrier layer is formed by the both marginal portions of the original material web which portions are each folded first once to form double-layer edge portions and then folded again to be placed one upon the other on a central nonfolded, absorbent portion of the material web.

5 Claims, 3 Drawing Figures

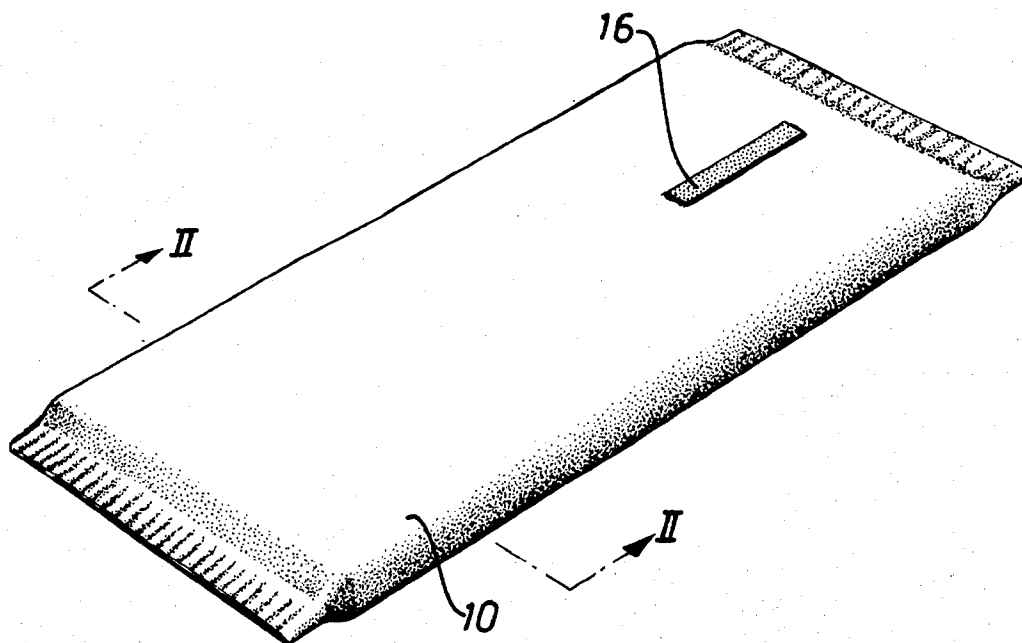


Fig. 1

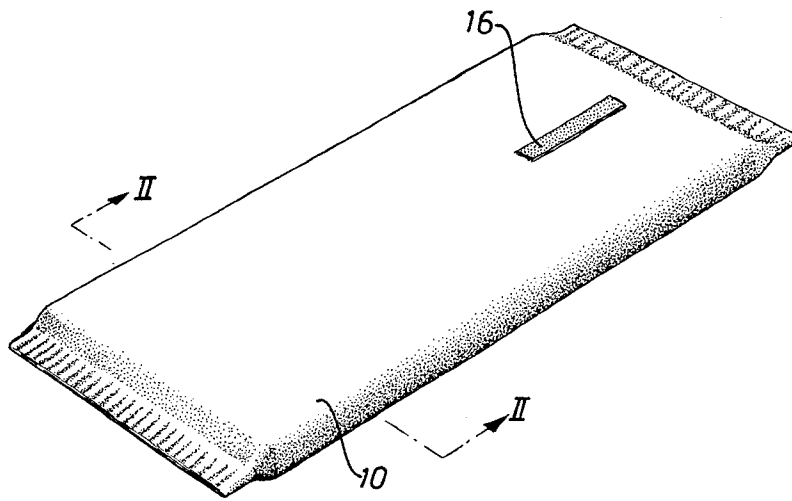


Fig. 2

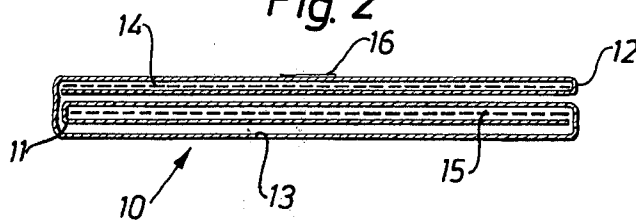
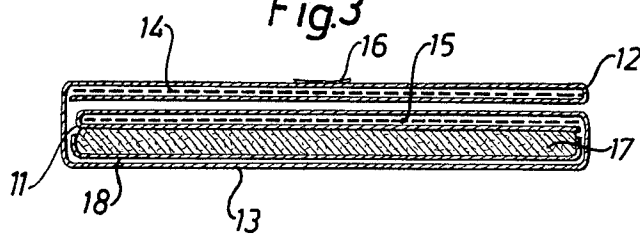


Fig. 3



DISPOSABLE ABSORBENT PAD

FIELD OF THE INVENTION

This invention relates to disposable absorbent pads, particularly adapted to be used as sanitary napkins in connection with menstruation periods or to absorb other secretions.

BACKGROUND OF THE INVENTION

A well known disposable sanitary napkin comprises two portions, viz. on one hand an absorbent pad of a fibrous material, sometimes called "fluff," in an enclosing envelope of a fibrous material web, normally called "nonwoven," and, on the other hand, a moisture tight portion which is affixed to one side of the absorbent pad and consists of layers of a specially treated, folded web of nonwoven, cellulose tissue or any corresponding material.

The expression "specially treated" has been used above to include any material manufactured by a known and patented method by which a web of nonwoven, tissue, paper or cellulose is made at least temporarily moisture-tight but which when wetted heavily absorbs liquid to such an extent that the web assumes the consistency of a very soft gel, or even dissolves. For convenience, a material treated in this way will sometimes be referred to as a "moisture-tight material of the class described." In one utilization of the just mentioned method one side of a cellulose tissue web is provided with a layer of carboxymethylcellulose, and the layers in question are sometimes called CMC-layers.

The sanitary napkin as described above has been met with much approval in practice. However, it has been found possible in many instances to use a simpler and thus more inexpensive alternative.

BRIEF DESCRIPTION OF THE INVENTION

According to the invention there is provided a disposable absorbent pad comprising a fibrous material web which has been folded longitudinally and the marginal portion have been specially treated in such a manner that it is temporarily moisture impermeable at the specially treated portion but is easily moisture permeable at the central portion, the folding being such that one side of the absorbent pad is moisture absorbent whereas the other side thereof forms a moisture-tight barrier layer, and the barrier layer being formed by both marginal portions of the original material web which marginal portions are each centrally folded to form double-layer edge portions, each having a width broadly corresponding to the width of the central, non-folded portion of the material web.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of an absorbent pad according to the invention in a first embodiment thereof;

FIG. 2 shows schematically the absorbent pad in FIG. 1 in cross-section along the plane II—II in FIG. 1;

FIG. 3 shows very schematically a similar cross-section of a second embodiment of the absorbent pad according to the invention.

DESCRIPTION OF PREFERRED EMBODIMENTS

In the embodiment of the absorbent pad according to the invention as shown in FIGS. 1 and 2 the pad comprises a fibrous web 10, such as of creped paper of tis-

sue type or of a nonwoven material. Both the edge portions of the web have been folded over to form double-layer edge portions 11,12, the widths of which are about the same as that of a central non-folded portion 13 of the web. After the folding over the said double-layer edge portions 11,12 have been folded again to be placed one upon the other on the central portion 13 of the web.

In the present case the edge portions 11 and 12 have been treated with carboxymethylcellulose, CMC, for instance, in such a manner that the CMC-layers of each part of each edge portion will face each other. The mutually facing CMC-layers of each edge portion form jointly barrier layers 14 and 15, respectively, as indicated by dashed lines in FIG. 2. On its uppermost side, i.e. the side which in use will face away from the body, the absorbent pad is preferably provided with a double sided adhesive tape 16 for affixing the pad to the crotch portion of panties or scanties.

For convenience, in FIG. 2 the web 10 is shown as comprising one layer only. However, in practice, the web 10 preferably comprising two layers of the same width, of which layers only the uppermost one is treated with CMC along the edge portions thereof.

The central portion 13 of the fibrous web 10 is absorbent, and more particularly entirely satisfactorily absorbent to absorb minimal secretion quantities, such as at the end of menstruation periods or other minimal secretion quantities. The barrier layers 14 and 15 afford an adequate security against liquid penetration to the front side or outer side of the absorbent pad.

The embodiment as shown in FIG. 3 is similar to the one in FIG. 2 but in this second embodiment the absorbent pad is provided with an absorbent filling 17, preferably resting on a cellulose tissue web 18 or the like. As is known per se the absorbent filling 17 may have longitudinal compression lines to improve the spreading properties. Also, the filling 17 may have a varying thickness, longitudinally and/or transversely of the absorbent pad, so that the maximum amount of filling material 17 is present in the area where the absorption should be greatest. It is also possible to mix a filling 17 of so called fluffed cellulose with e.g. rayon fibers or with e.g. rayon fibers with various other additions so as to improve the absorption or spreading or e.g. to make the filling 17 bactericidal.

What I claim is:

1. A disposable absorbent pad, comprising: a web of absorbent fibrous material, there being a central portion, and a pair of 2-section marginal portions respectively secured by a longitudinal fold integrally with said central portion and both disposed in overlying relation to one side of said central portion, each of said marginal portions having had a special treatment so as to be temporarily moisture impermeable, each marginal portion being substantially twice the width of said central portion and having a central longitudinal fold between its sections whereby each said marginal portion twice overlies said central portion.
2. A disposable absorbent pad according to claim 1 in which that section of each said marginal portion which has the edge of the web underlies the section of the marginal portion lying more remotely from said central portion.
3. A disposable absorbent pad according to claim 1 including a second web of absorbent fibrous material

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disposed coextensively against said first-named web, and also having a pair of 2-section marginal portions but which are devoid of said special treatment.

4. A disposable absorbent pad according to claim 1 including an absorbent filling disposed between the

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four marginal sections and said central portion.

5. A disposable absorbent pad according to claim 4 including a layer of cellulose tissue between said central portion and said filling.

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 3,911,921
DATED : October 14, 1975
INVENTOR(S) : Jan-Eric Svensson

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

On the face sheet of the patent, the name of the assignee appears as

--Siemens Aktiengesellschaft, Berlin & Munich, Germany--

and it should appear as

--Aktiebolaget Stille-Werner, Stockholm, Sweden--.

Signed and Sealed this

twenty-fourth **Day of** *February* 1976

[SEAL]

Attest:

RUTH C. MASON
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents and Trademarks