

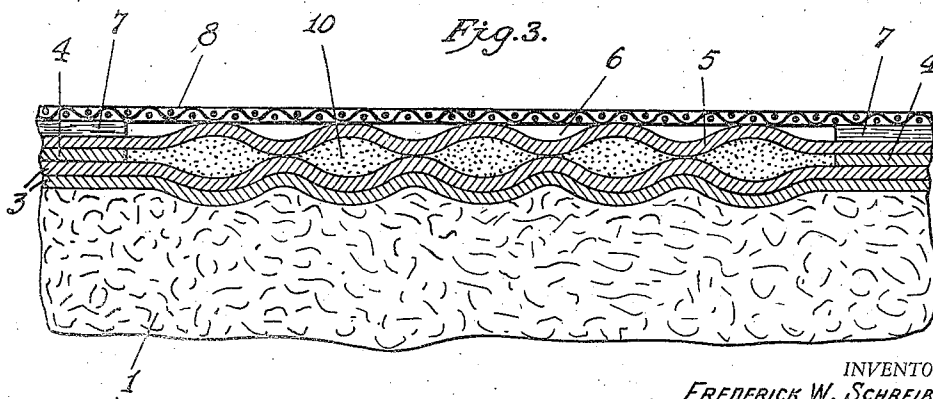
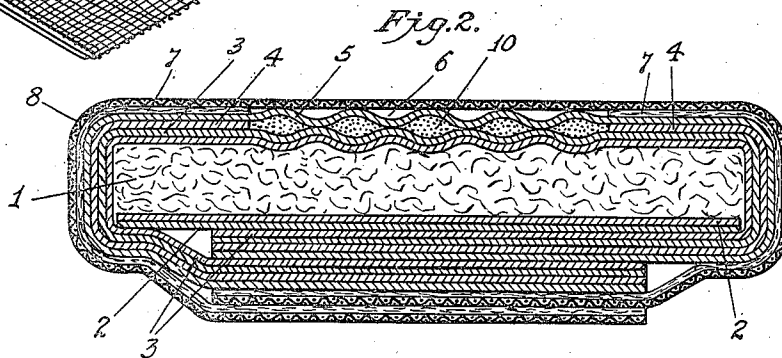
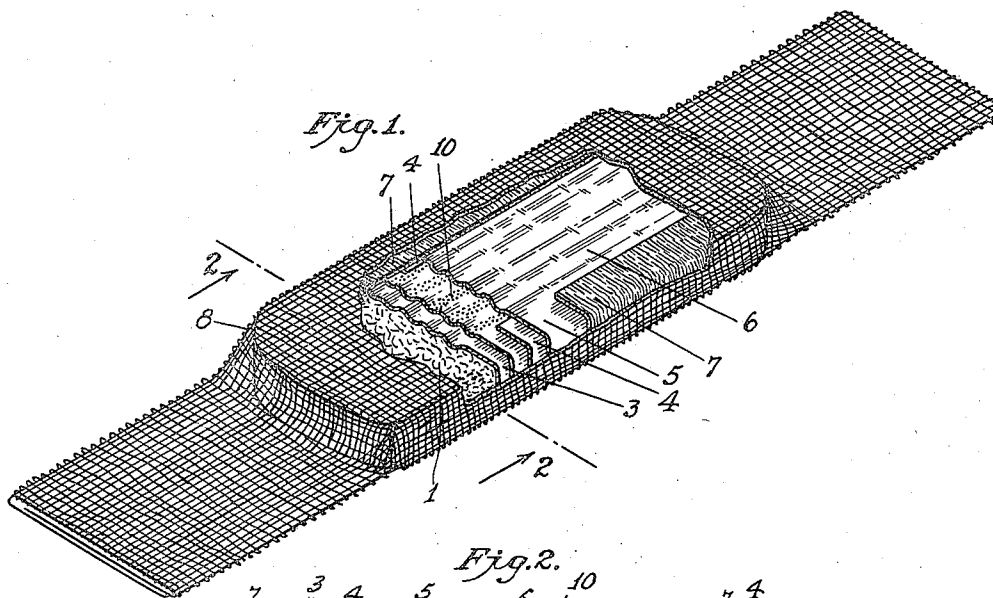
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F. W. SCHREIBER

2,418,907

SANITARY NAPKIN

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INVENTOR
FREDERICK W. SCHREIBER

BY *Arnold S. Woyfolk*
ATTORNEY

UNITED STATES PATENT OFFICE

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SANITARY NAPKIN

Frederick W. Schreiber, Highland Park, N. J., assignor to The Personal Products Corporation, a corporation of New Jersey

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5 Claims. (Cl. 128—284)

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This invention relates to a dressing for medicinal purposes particularly for catamenial use and in which there is incorporated a deodorant.

In the co-pending application of Frederick W. Schreiber, Serial No. 440,022, filed April 22, 1942, there is described a dressing adapted particularly for catamenial use, i. e., a sanitary napkin in which there is incorporated a deodorant located between plies of sheet material in a position such that the fluid passes through the plies where it is subjected to the action of the deodorant before passing into the main absorbent portion or napkin pad.

According to the present improvements, there is provided a sanitary napkin likewise incorporating a deodorant similarly located, combined however in a pad construction of a character which prevents spreading of the fluid exteriorly of the napkin beyond the zone of the deodorant, with the result that all the fluid is subjected to the deodorant's action.

The improved sanitary napkin has an absorbent pad of high fluid capacity and which is enveloped in a fluid repellent medium except for a centrally located longitudinally extending zone terminating inwardly from the lateral edges of the top surface of the pad, i. e., the surface adapted to be worn facing the body of the user in normal service. The fluid has ready access through the zone to the pad wherein the fluid is rapidly absorbed. The fluid repellent medium prevents egress of the absorbed fluid through the lateral edges of the pad as well as through the bottom thereof. In other words, regardless of the amount of fluid absorbed by the pad its escape is prevented and danger of soiling the garments of the wearer avoided.

The moisture or fluid repellent medium preferably comprises a plurality of strips of soft and tenuous but highly repellent tissue which are threaded longitudinally into the napkin during its manufacture and which are so disposed that the zone referred to is defined by the opposed edges of the strips. In order that the fluid repellent strips be suitably retained in place, the pad with said strips is wrapped in a vest or sheet of cellulosic material which adequately serves the purpose.

It is apparent, however, that if this wrapper is of ordinary highly absorbent tissue, the fluid, by capillary action, will spread in all directions, indeed even beyond the edges of the zone previously referred to and which is defined by the edges of the fluid repellent strips. Lateral spreading might be present to such an extent as

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to reach the edges of the napkin itself thus circumventing, to a partial extent at least, the function sought to be performed by the highly repellent medium. Furthermore, to the extent that there existed lateral spreading of the fluid beyond the moisture zone, the effect of the deodorant upon such fluid would be lost. This difficulty is avoided by processing the outer cellulosic wrapper, i. e., the one overlying the repellent strips, in such a way as substantially to retard the lateral dispersion of the fluid, thereby confining it to the zone defined by the edges of the highly repellent strips and accelerating its entrance into the pad where it is rapidly absorbed.

According to the present invention, the deodorant material is located in the moisture zone and underlying the processed outer cellulosic wrapper with the result that all the fluid passing into the napkin is subjected to the influence of the deodorant.

Referring to the drawings,

Fig. 1 is a perspective view of a sanitary napkin incorporating the present improvements and which is partially broken away to display its internal construction;

Fig. 2 is a transverse sectional view on line 2—2 of Fig. 1; and

Fig. 3 is a partial transverse sectional view of the napkin shown in Fig. 2, greatly enlarged however to illustrate details of construction.

The sanitary napkin in its preferred form comprises an absorbent pad 1 of any suitable material, such as cotton fibers or sheeted or shredded cellulose fibers which because of their highly absorbent nature furnish substantial fluid capacity for the napkin.

To avoid danger of the fluid striking through and soiling the clothing, there is provided a plurality of sheets or layers 2 of highly repellent crepe paper in a position underlying the core 1. Two such plies are shown although it will be understood that a greater or lesser number thereof may be used. The pad 1 together with the layers of highly repellent crepe paper 2 are vested in a series of plies or layers of material 3, 4 and 5 having different properties and which serve different functions in the completed pad. For economy and convenience in manufacture, these plies of material are wrapped transversely around the core simultaneously by the use of high speed automatic machinery and the method of wrapping is such that a substantial degree of overlap exists at the under side of the pad,

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i. e., the side which is adapted to be worn away from the body when the pad is in service.

The function and characteristics of the various plies of material 3, 4 and 5 will now be described. The two inner layers or plies 3 consist of soft, tenuous, creped absorbent tissue and their chief function is to confine the shredded cellulose pulp fiber filler, characteristic of the so-called fluff type of napkin, to facilitate its handling in machine production and to confine and retain it when the napkin is in use. While two of such layers of tissue are shown, a greater or lesser number may be used if desired and indeed omitted entirely with a pad of the layer type composed of sheet material.

The next outer ply of material 4 is made of thin, non-absorbent or highly repellent, soft, crepe tissue. Actually this layer or ply of material is applied in the form of two strips having a substantial overlap at the bottom of the pad, as previously described and which encase the pad at its side edges and along marginal portions at the top, leaving a longitudinal central zone 6 uncovered by the strips 4 and which is defined by the edges thereof. Since strips 4 are moisture repellent in nature they serve to prevent strike-through at the sides or lateral edges of the napkin as well as at the bottom where they overlap. In other words, at the bottom of the pad they serve the same function as the two plies of material 2 underlying the core 1, so that additional protection is provided for the user in this region where the danger of strike-through is most acute. The central zone 6 gives access for the fluid to the absorbent pad 1.

In accordance with the invention, the wrapper 5, which envelopes the pad and which lies adjacent the outer surface of the highly repellent plies 4, consists of soft, tenuous crepe tissue of a semi-repellent nature, preferably having the characteristics of the semi-repellent paper described in the Stonehill Patent 2,312,501. This wrapper spans or completely covers the zone 6 defined by the edges of the underlying strips of highly repellent material 4 and serves to control the dispersion of the fluid as it strikes the napkin. It is highly desirable that the fluid coming in contact with the napkin pass through for absorption by the main pad 1 as quickly as possible, and with a minimum amount of lateral dispersion. Obviously, if this layer of material had highly absorbent characteristics the fluid would disperse in all directions and beyond the edges of the zone defined by the underlying highly repellent material 4. Obviously, if the fluid spreads in the layer 5 beyond the limits of the zone 6, the result would be the same as if the fluid had struck through from the inside of the napkin, the prevention of which is the function of the highly repellent strips 4. This cooperation between the highly repellent layer 4 and the semi-repellent layer 5 which serves to retard the lateral dispersion of the fluid is important since it gives the best results from the standpoint of protection. The outer ply 5 also assists in properly holding the strips 4 of highly repellent material in position on the pad during the manufacturing process, and retains the strips in place in the finished pad.

Increased freedom from chafing is obtained by encasing the pad in a film of soft cotton 7 except in the vicinity of the zone 6. The film of cotton is overlapped at the bottom of the napkin and preferably is applied in the same man-

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ner as the two strips of highly repellent crepe paper 4.

The napkin is completely encased in a suitable covering 8 such as gauze, or other material, having the required strength and softness, and which is extended beyond the ends of the pad for purposes well known. The gauze covering overlaps at the bottom of the napkin and in the automatic production of the napkins may be folded in place simultaneously with the underlying film of soft cotton material 7.

In accordance with the invention, there is provided a deodorant material 10 in the zone 6 and which is located substantially throughout the entire area thereof, so that all of the moisture or fluid passing into the interior pad is subjected to its action.

Preferably the deodorant material 10 is incorporated in the napkin in the form of a powder located between the outer layer of semi-repellent crepe paper 5 and the inner layers of absorbent tissue 3 which lie adjacent the absorbent pad, and to insure that the deodorant will not shake out, the layers of tissue confining the same may be embossed or crimped so as to create small individual pockets in which the deodorant is retained. Of course, any other suitable method of incorporating the deodorant in a sanitary napkin may be employed, the essence of the instant invention being the location of the deodorant within the zone 6 and the confinement of the fluid to the zone as it enters the pad so that all of it will be acted upon by the deodorant.

The instant invention is subject to many modifications and changes included within its spirit. It is to be understood, therefore, that the invention is limited only by the prior art and the scope of the appended claims.

I claim:

1. A dressing for medicinal purposes, particularly for catamenial use, comprising a fluid absorbent pad, a plurality of plies of cellulosic sheet material transversely encircling said pad, fluid repellent cellulosic sheet material located between two of said plies, and likewise transversely encircling said pad except for a centrally located longitudinally extending zone spaced inwardly from the lateral edges of the surface of the pad facing the body of the user when the dressing is in service and through which the fluid has access to the pad, a deodorant medium located between said two plies and within said zone, and means for retaining the deodorant medium between said plies and within said area, the outermost ply of cellulosic sheet material being processed to retard the lateral dispersion of the fluid whereby the latter is substantially confined to the zone of the deodorant as it passes through to the absorbent pad.

2. A dressing for medicinal purposes, particularly for catamenial use, comprising a fluid absorbent pad, a plurality of plies of cellulosic sheet material arranged externally with respect to said pad and in a position such that the fluid to be absorbed passes through said plies of sheet material before entering the surface of the pad lying nearest the body of the user when the dressing is in service, a deodorant medium located between two of said plies and extending substantially throughout an area at least commensurate with the fluid receptive portion of the pad surface, and means for retaining the deodorant medium between said plies and in substantially even disposition throughout said area, the outer ply at least of said cellulosic sheet material being proc-

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essed to retard the lateral dispersion of the fluid whereby the fluid is substantially confined to the zone of the deodorant as it passes through to the absorbent pad.

3. A dressing for medicinal purposes, particularly for catamenial use, comprising a fluid absorbent pad, a layer of cellulosic tissue-like sheet material processed to inhibit the lateral dispersion of fluid coming in contact with it, located externally of the absorbent pad on the side thereof adapted to lie adjacent the body of the user when the dressing is in service and acting to restrict the fluid passing through it to a given zone, a deodorant medium likewise located externally of the absorbent pad and between said pad and layer of cellulosic tissue-like sheet material, and means confining the deodorant medium in substantially even distribution throughout the zone to which the entering fluid is restricted by the layer of cellulosic tissue-like sheet material.

4. A dressing for medicinal purposes, particularly for catamenial use, comprising a fluid absorbent pad, fluid repellant cellulosic sheet material confining the lateral edges of said pad, a layer of cellulosic tissue-like sheet material processed to inhibit the lateral dispersion of the fluid coming in contact with it and located externally of the absorbent pad on the side thereof adapted to lie adjacent the body of the user when the dressing is in service, said layer of cellulosic tissue-like sheet material completely spanning a zone defined by the edges of the fluid repellant cellulosic sheet material and acting to restrict the fluid passing through it to said zone, a deodorant medium likewise located externally of the absorbent pad and between said pad and layer of cellulosic tissue-like sheet material, and means acting to confine the deodorant medium in substantially even distribution throughout the area to which the entering fluid is restricted by said layer of cellulosic tissue-like sheet material.

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5. A dressing for medicinal purposes, particularly for catamenial use, comprising a fluid absorbent pad, fluid repellant cellulosic sheet material confining the lateral edges of said pad and having marginal portions defining a centrally located longitudinally extending zone spaced inwardly from the lateral edges of the surface of the pad which faces the body of the user when the dressing is in service and through which the entering fluid has access to the pad, a layer of cellulosic tissue-like sheet material processed to inhibit the lateral dispersion of fluid coming in contact with it, overlying said zone and acting to restrict the fluid passing through it to said zone, a deodorant medium located externally of the absorbent pad and between the pad and said layer of cellulosic tissue-like sheet material, and means acting to confine the deodorant medium in substantially even distribution throughout the area to which the entering fluid is restricted by said layer of cellulosic tissue-like sheet material.

FREDERICK W. SCHREIBER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,005,298	O'Brien et al.	June 18, 1935
2,006,697	Lindsey	July 2, 1935
2,024,976	Mathey et al.	Dec. 17, 1935
2,312,501	Stonehill	Mar. 2, 1943
1,950,957	Wilhelm	Mar. 13, 1934
2,067,961	Williams	Jan. 19, 1937
2,066,946	Reiman	Jan. 5, 1937
2,121,604	Lynch et al.	June 21, 1938
2,144,632	Melton	Jan. 24, 1939
1,950,286	Barkow	Mar. 6, 1934
2,295,016	Scribner	Sept. 8, 1942