Jan. 19, 1937. H. R. WILLIAMS 2,067,961

SANITARY NAPKIN

Original Filed April 10, 1929

Fig. 1.

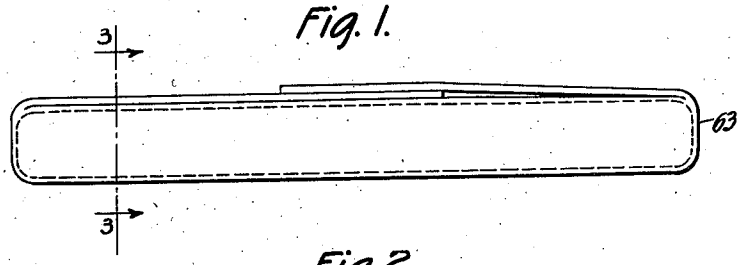


Fig. 2.

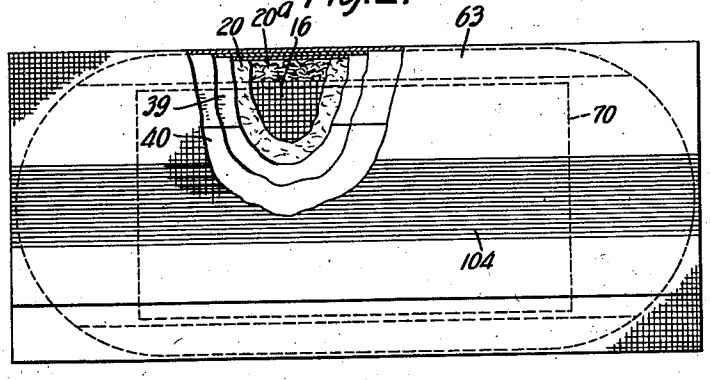


Fig. 3.

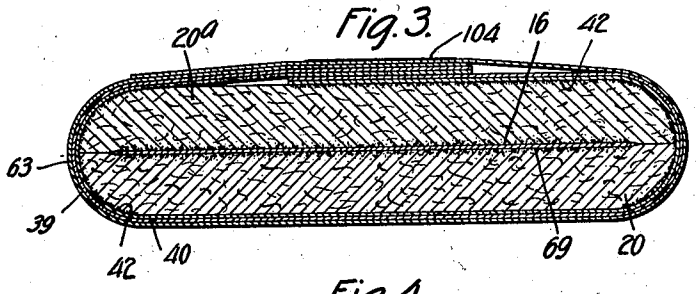
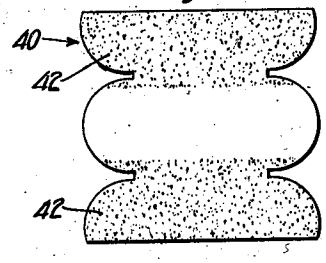


Fig. 4.



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UNITED STATES PATENT OFFICE

2,067,961

SANITARY NAPKIN

Harrison R. Williams, New York, N. Y.

Original application April 10, 1929, Serial No. 354,074. Divided and this application April 24, 1934, Serial No. 722,095

4 Claims. (Cl. 128—290)

The present invention relates to an improved absorbent sanitary napkin of the type which comprises a gauze wrapper and an absorbent pad within the wrapper, the pad consisting of a material which is readily disintegrable in water and which therefore may be readily disposed of through the household plumbing system.

While some of the features of the present invention are applicable to all types of napkins that fall under the above description these features are disclosed herein as applied to a napkin which utilizes loosely felted, fibrated wood pulp as the absorbent material. It is to be understood, however, that these features are not to be limited by the present disclosure. Persons skilled in the art will be able to apply any of the features of the present invention to all types of sanitary napkins.

One of the features of the present invention resides in providing a layer of circumfusing material disposed interiorly of the pad, the circumfusing material serving to absorb and spread laterally of the pad the fluid that enters the pad so that the fluid is held interiorly of the pad and prevented from passing to the under face of the pad or napkin.

Another object of the present invention is to embody interiorly of the pad a deodorizing or disinfecting material. The deodorizing material is preferably applied during the process of manufacture of the pad in such a manner that it is retained interiorly of the pad.

Another feature of the present invention has to do with the provision of a pad of the type described having its sides and lower face provided with a fluid repellent or impervious material so as to further avoid the possibility of any of the fluid which has entered the pad from passing out of its lower face or sides. In order to prevent any possible error by the user the napkin is also provided with indicia which clearly distinguishes the waterproofed face of the napkin from the opposite face thereof.

A further feature of the invention has to do with the provision interiorly of the pad of a reinforcing strip of gauze or other suitable fabric which tends to prevent distortion of the pad and at the same time serves as a wick for assisting the spreading of the fluid laterally and longitudinally of the pad.

A further feature of the invention has to do with the provision of an auxiliary pad wrapper of sheeted cellulose, the water-proofing material being desirably applied throughout suitable areas of the auxiliary paper wrapper.

The present application is a division of my pending application Serial #354,074, filed April 10, 1929 for Absorbent pad, method and apparatus for manufacture of same.

A preferred embodiment of the invention is illustrated in the accompanying drawing which constitutes part of the present application, the drawing serving only to illustrate such embodiment and not being intended to be understood as limiting the invention to any specific form or any specific portion as disclosed herein. Many modifications of the invention will be apparent to those skilled in the art, the scope of the invention being defined in the appended claims.

In the drawing forming part of this specification,

Fig. 1 is a view in side elevation illustrating a napkin embodying features of the invention;

Fig. 2 is a plan view, partly broken away, illustrating the napkin of Fig. 1 as viewed from the impervious side of the napkin;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1 looking in the direction of the arrows; and

Fig. 4 is a plan view on a smaller scale than the other figures, illustrating the auxiliary paper wrapper with the water-proofed areas shown stippled.

The body portion of the pad comprises two layers 20 and 20a of absorbent material. This material is desirably loosely felted wood cellulose which is soft, fluffy, short-fibred, highly absorbtive, and readily disintegrable in water. Between the layers 20 and 20a there is interposed a gauze wick 16. This wick member is desirably treated with starch or potato flour and a deodorizing agent, prior to the association of the wick with the pad layers in the manner illustrated. The starch or potato flour serves as a circumfusing agent for assisting the spreading of fluid laterally and longitudinally of the pad. It is desirably applied to the wick or to a face of one of the pad layers in liquid form, and serves also to entrain the deodorizing agent which is applied in powdered form. The starch or potato flour serves further to stiffen the wick and thereby to assist in maintaining the pad in its original shape.

The liquid starch is applied only over the limited area of the gauze wick indicated by the reference character 70 in Fig. 2. The limited area upon which the liquid starch is applied is so designed that it is completely enclosed within the pad or napkin being of such dimensions that the starch does not reach to the edges of the formed pad.

The pad layers 20 and 20a are desirably en-

closed in an auxiliary wrapper 40 of readily disintegrable sheeted material, such as sheeted cellulose, which gives the pad added strength and consistency and prevents any possibility of the pad disintegrating during the packaging, storing and transporting. The auxiliary wrapper 40 may be composed of one or more plies of sheeted material and is treated with a water repellent or impervious material such as paraffin in the stippled areas marked 42. When the auxiliary wrapper is wrapped about the pad the marginal portions of the wrapper are overlapped at the side of the pad which is to be worn away from the body so that the bottom and sides of the pad are rendered fluid impervious, while the face of the pad to be worn next to the body remains freely absorbent.

The usual gauze wrapper 63 is provided outside of the auxiliary paper wrapper, the longitudinal margins of the gauze wrapper being overlapped at the side of the pad which is to be worn away from the body. For the purpose of enabling the user to distinguish clearly between the impervious and absorbent faces of the pad, the overlying margin of the gauze member 63 is provided with a colored stripe 104.

The gauze wrapper, as usual, is substantially longer than the enclosed pad, and the end flaps of the wrapper are folded into overlapping relation against one face of the pad as illustrated in Fig. 1.

I have described what I believe to be the best embodiments of my invention. I do not wish, however, to be confined to the embodiments shown, but what I desire to cover by Letters Patent is set forth in the appended claims.

I claim:

1. In a sanitary napkin, in combination, a body composed of two superposed pads of loosely felted fibrous material, said pads being highly absorbent but having little capacity for retaining their shape or integrity, a gauze reenforcing wick strip disposed loosely between the pads, between the side boundaries thereof and co-terminous with the ends of the pads, a layer of deodorizing powder disposed adjacent the gauze strip intermediate the ends thereof, a layer of starchy circumfusing material disposed adjacent the gauze strip intermediate the ends thereof, and entraining the deodorizing material and holding it to the gauze strip, and absorbent paper wrapper surrounding the body, said wrapper being water-proofed in the area overlying the edges and one face of the body, and a gauze wrapper surrounding the paper wrapper and having supporting end flaps extending beyond the ends of the body.

2. In a sanitary napkin, in combination, a body composed of two superposed pads of loosely felted fibrous material, said pads being highly absorbent but having little capacity for retaining their shape or integrity, a gauge reenforcing wick strip disposed loosely between the pads, between the side boundaries thereof and co-terminous with the ends of the pads, a layer of deodorizing powder disposed adjacent the gauze strip intermediate the ends thereof, a layer of starchy circumfusing material disposed adjacent the gauze strip intermediate the ends thereof, and entraining the deodorizing material and holding it to the gauze strip, an absorbent paper wrapper surrounding the body, said wrapper being water-proofed in the area overlying the edges and one face of the body, and a gauze wrapper surrounding the paper wrapper and having supporting end flaps extending beyond the ends of the body, said gauze wrapper having a printed mark on its face which overlies the water-proofed face of the paper wrapper to distinguish between the pervious and impervious faces.

3. In a sanitary napkin, a duplex pad device comprising two superposed pad elements of highly absorbent loosely filled fibrous material having little capacity for retaining its shape and integrity, said device including also a wick element consisting of a gauze reenforcing wick strip confined between the pads intermediate their side boundaries, and co-terminous with the ends of the pads, starchy circumfusing material entrained by the gauze wick strip, said wick strip being adapted to aid in diffusing the fluid which reaches said wick through said pad elements, and an absorbent paper wrapper surrounding the body, and a gauze wrapper surrounding the paper wrapper and having supporting end flaps extending beyond the ends of the body.

4. In a sanitary napkin, a duplex pad device comprising two superposed pad elements of lightly absorbent loosely filled fibrous material having little capacity for retaining its shape and integrity, said device including also a wick element consisting of a gauze reenforcing wick strip confined between the pads intermediate their side boundaries, and co-terminous with the ends of the pads, starchy circumfusing material entrained by the gauze wick strip, said wick strip being adapted to aid in diffusing the fluid which reaches said wick through said pad elements, and a gauze wrapper surrounding the pad elements.

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