Jan. 26, 1932. G. S. MATHEY 1,843,037

SANITARY NAPKIN

Filed July 19, 1928

Fig. 1

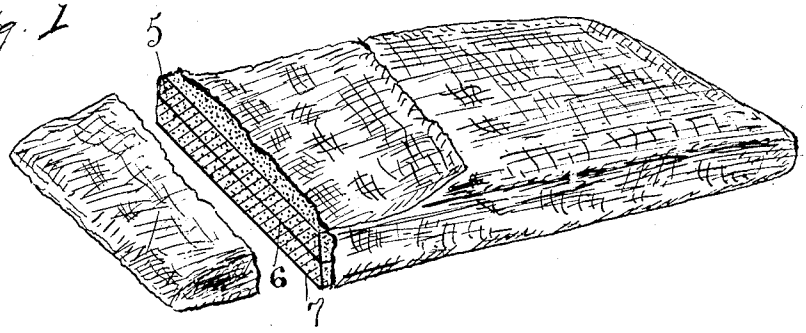


Fig. 2

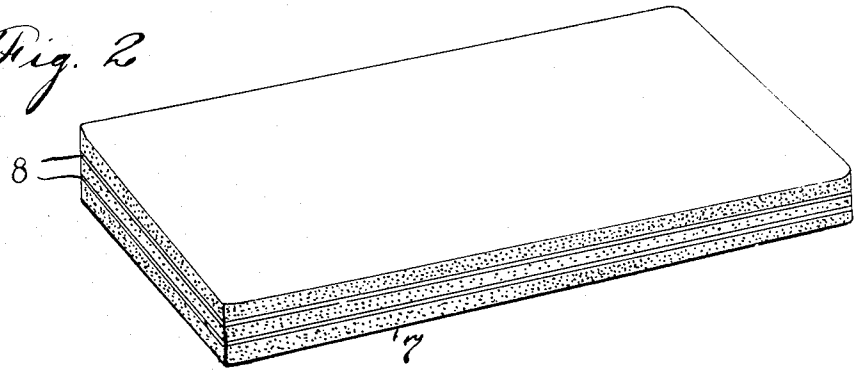


Fig. 3

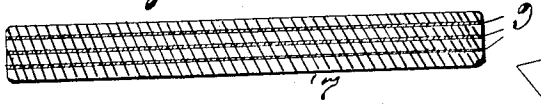


Fig. 4

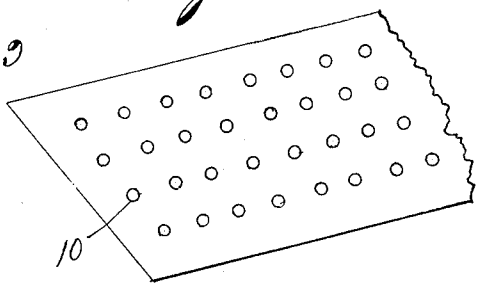
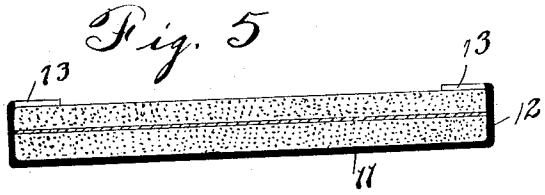


Fig. 5



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Patented Jan. 26, 1932 1,843,037

UNITED STATES PATENT OFFICE

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SANITARY NAPKIN

Application filed July 19, 1928. Serial No. 294,025.

For a number of years it has been the regular or standard practice to construct the absorbtive pads or filling elements of sanitary napkins of superposed thin sheets or layers of cellulosic or other readily disposable material, a waterproof backing being used to protect the clothing. Rubber, gutta percha, cellophane, cellulose esters, oil silk, and like efficient waterproof materials are comparatively expensive and are employed only in the higher priced napkins. Hence, it is usual to employ relatively inexpensive substitutes such as waxed papers of various kinds, including crepe cellulose paper, whose protective properties are indifferent at best. And the situation is aggravated by the rapid stanching action of the filling which is completely penetrated in a central localized area in a very short time, with the result that there is leakage and staining.

The object of the invention is to provide a low cost napkin which shall be free from the disadvantages and defects mentioned.

The nature of the invention consists in overcoming conditions making for rapid local or centralized penetration by a novel assemblage of pad elements and separators or baffles whose office it is to check flow between adjacent pad elements until diffusion has occurred throughout the entire cross-section of the active pad element whereupon seepage ensues to the next pad and the diffusing operation is repeated. Evidently the separators are of semi-waterproof composition for which many materials are qualified. Preferably, however, the separators should be of such character as not to detract from the flexibility, softness and conformability of the absorbtive elements and in fact they should be so constructed and disposed as not to alter the general appearance of the pad.

The invention is illustrated in the accompanying drawings wherein

Figure 1 is a sectional view of a sanitary napkin embodying the invention.

Figs. 2, 3, 4 and 5 are modifications of the absorbent pad or filling.

In the embodiment Fig. 1, the pad 5 which may be of any appropriate composition is divided into top and bottom halves or sections by a separator element 6 extending flush with the marginal walls of the pad.

As premised, the separator is such as is calculated to check or retard fluid flow to the next section until complete diffusion has ensued in the top section and to then permit seepage through it to the bottom section where the same diffusing action occurs due to the presence of the usual garment protection 7. Evidently a number of materials are well qualified for the purpose. One that has been highly satisfactory is lightly waxed crepe cellulose paper. This is in the form of a thin wafer-like sheet or film. Whatever proper material is used the effect of the presence of the separator is completely to utilize by diffusion each pad stage before penetration occurs to the next pad stage.

The inventive idea may be practiced more effectively by increasing the number of separating films or sheets. It does not necessarily follow that the overall depth of the pad must, in such instance, be increased. In fact the use of separators or diffusion elements warrants a reduction of the regular thickness which of course makes for greater conformability and comfort. Fig. 2 shows two separators 8 making for three pad stages; and Fig. 3 shows three separators 9, resulting in a four-stage pad.

Evidently the invention is not limited to any special type of filling or absorbent medium and crepe cellulose paper, cotton, wood or cellulose pulp, or mixtures thereof or any other suitable material that may be disposed in layer form, will function well with the separators or diffusion elements.

Under some conditions it is possible to employ separators perforated, as at 10, in Fig. 4.

In higher priced napkins there may be combined with the new pad a soft fabric element, Fig. 5, having a waterproof backing 11 and waterproof sides 12 with pervious wings 13 folded over the top of the pad.

Obviously in order to complete the article the usual gauze wrapper is employed.

Having described the nature and objects of the invention what is claimed is—

A sanitary napkin embodying a multi-

stage absorbent pad, and baffles defining said stages and comprising film-like sheets of soft conformable material inherently porous but impregnated to make them for a definite time interval fluid-repellent whereby they are effective to promote diffusion throughout substantially the entire cross-section of the exposed pad stage, whereupon the proximate baffle succumbs to slow seepage action and exposes the next pad stage.

In testimony whereof I affix my signature.

GUSTAVE S. MATHEY.