

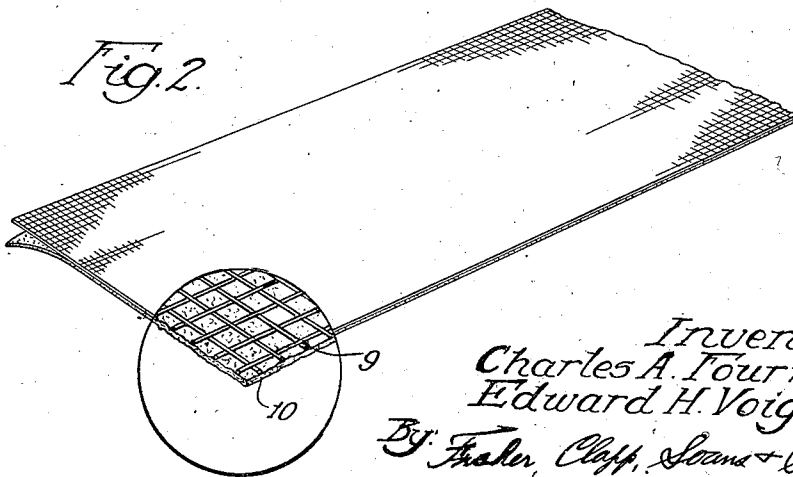
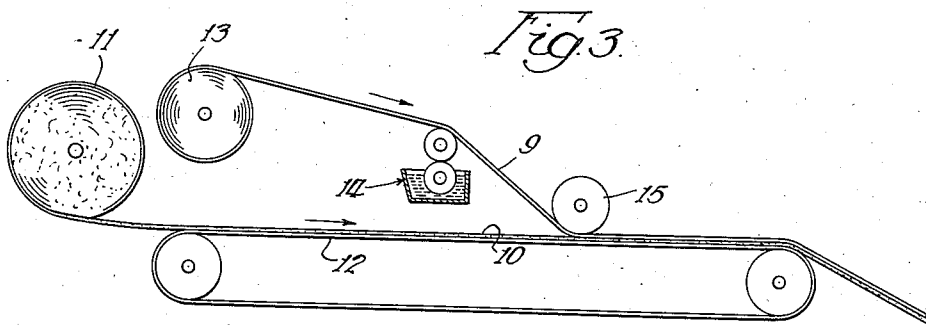
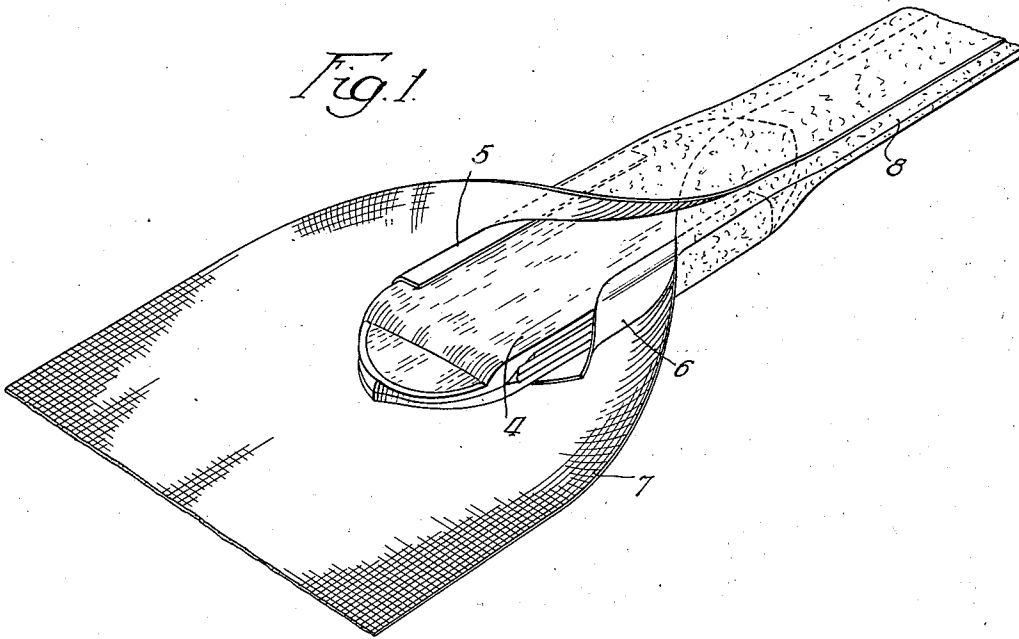
Sept. 8, 1942.

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2,294,898

SANITARY NAPKIN

Filed Feb. 8, 1939



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UNITED STATES PATENT OFFICE

2,294,898

SANITARY NAPKIN

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Application February 8, 1939, Serial No. 255,277

2 Claims. (Cl. 128—284)

This invention relates to an improvement in sanitary napkins such as comprise an absorbent pad body and a wrapper which embodies end extensions employed as attachment tabs.

The main objects of the invention are to provide a sanitary napkin structure which will be free from any material tendency to chafe or otherwise irritate the skin of the wearer; to provide a sanitary napkin which will be more comfortable to wear than those now available; and to provide an improved structure such as indicated which may be made economically and at low cost, so as to be a commercially practicable structure capable of being sold in competition with less advantageous commercial products.

In general, it is the object of the invention to provide an improved sanitary napkin and other objects and advantages of the invention will be understood by reference to the following specification and accompanying drawing, wherein there is illustrated a sanitary napkin embodying a selected form of the invention and, more or less diagrammatically, the method and means for producing a part of the napkin structure.

In the drawing:

Figure 1 is a perspective of the improved sanitary napkin showing the same partially opened up to reveal its construction;

Figure 2 is a fragmentary perspective of a web of wrapping material employed in the improved napkin structure, a portion of the view being shown on an enlarged scale as viewed through a magnifying glass; and

Figure 3 is a diagrammatic illustration of a method and means for producing the material illustrated in Figure 2.

Referring now to the drawing, the improved sanitary napkin structure embodies, in this instance, an absorbent pad body 4 which may be of any desirable construction. It may be made, for example, of a plurality of superposed plies of creped tissue paper having their end portions suitably compacted to reduce the thickness of the end portions of the pad.

The side edges of the pad structure may be enclosed in moisture-proof strips 5 and 6 which are folded around said edges as shown, so as to maintain the edges of the napkin dry.

A wrapper 7 is folded longitudinally around the pad body 4 and said wrapper is long enough to provide tabs such as indicated at 8 which extend endwise beyond the pad ends and serve as attachment flaps.

The wrapper 7 must be of such character that it will securely hold the absorbent pad body in

place on the wearer when supported by having its attachment tabs such as 8 pinned to a sanitary belt or secured to the latter through the agency of buckles or the like. Hence the wrapper must embody sufficient tensile strength to resist tearing, especially incident to stresses lengthwise of the napkin.

In the present commercial practice, woven surgical gauze is most commonly employed for making the wrapper. Such material supplies adequate tensile strength to support the absorbent pad but it is relatively hard and harsh, and has a definite tendency to chafe the wearer.

Some attempts have heretofore been made to overcome the objectionable harshness of gauze by applying layers of cotton or other suitable fibrous cushioning material to the pad body or in some cases to one surface of the gauze. In applying cotton to the gauze, it has been the practice to apply loose or free cotton fibres to the gauze in such a way that the cotton fibres become more or less intermingled with the threads of the gauze and extend through the interstices thereof, so as to be more or less frictionally anchored to the gauze but free of positive attachment thereto.

According to the present invention, cotton or like fibrous material in the form of a carded web is positively attached to an unusually wide or open-mesh gauze so as to combine the tensile strength of such gauze material with the softness and anti-chaffing properties of a cotton web of predetermined thickness.

The wrapper 7 as herein contemplated comprises a web of woven textile material, preferably very wide or open-mesh gauze 9, which may embody as few as eight or ten threads to the inch in both directions, and a garnetted or carded web 10 of cotton or like fibres, of predetermined thickness and softness, is adhesively secured to the gauze web 9 by means of starch or latex, or other suitable adhesive. The gauze and cotton or like fibrous material webs may be assembled by means of apparatus such as typified by that shown in Figure 3, wherein there is indicated a supply roll 11 of garnetted cotton from which the web is unwound and delivered to a conveyor 12. There is also shown a supply roll 13 of gauze from which the web is drawn over apparatus indicated at 14 by means of which the latex or other adhesive is applied to the under surface of the gauze. The gauze web 9 and cotton web 10 are passed together under a pressure roller 15 which serves to press the two webs together with sufficient pressure to effect intimate engagement between the

two webs and sufficient penetration of the gauze-carried adhesive material into the cotton web to effect secure adhesive inter-connection of the two webs.

When the covering material made as above-described is employed for the purposes of a wrapper on a sanitary napkin, the gauze material is preferably placed on the inside so that the cotton web will form the exterior surface of the napkin. the thickness of the cotton web should be adequate, of course, to provide the desired cushioning and anti-chafing effect. The cotton web will necessarily have a substantial bulk or body which will extend into the attachment tabs such as 8, so that the latter, instead of being mere flimsy gauze tabs, will also have a desirable body which facilitates attachment either by pinning or by means of clips or buckles to a sanitary belt, and further, prevents "stringing" or gathering and hence aids in maintaining the pad end portions in flat condition in which they may be maintained in inconspicuous, flatwise, body-hugging condition.

Owing to the inherent tendency of cotton fibres to attach themselves to woven material such as gauze and to other cotton fibres, the overlapping marginal portions of the wrapper as indicated in Figure 1 will attach themselves to each other much more securely than is the case with plain gauze wrappers. Hence when the napkin is constructed as herein described, the width of the overlapping margins of the wrapper may be considerably narrower than when plain gauze is employed, without sacrificing any of the security of the pad within the wrapper. Accordingly, a narrow web of wrapper material may be employed with consequent saving in gauze. Furthermore, the cost of the improved wrapper material can probably be maintained at about the same cost for ordinary gauze which could be used for wrapping purposes with equal effectiveness, excepting, of course, the comfort characteristics peculiarly advantageous to the improved material. The low cost of the improved material results from the possibility of employing a very wide or open-mesh gauze and a narrower width thereof as compared with the much closer weave and wider surgical gauze required for present conventional napkin structures.

It will be apparent that instead of employing woven gauze, threads may be employed, some extending lengthwise and some crosswise of the wrapper material, such threads imparting their tensile strength to the cotton web to effect the same strengthening of the cotton as does the

woven gauze. Also, it will be apparent that if preferred, cotton webs may be applied to both sides of the reinforcing gauze web and that other changes may be made in the described structure of the cotton web, it being preferable, however, that the cotton web be of such character that it has at least some degree of self-sustaining ability. Instead of a carded or garnetted web, the web could be formed by blowing loose fibres in a screen to form the desired web. Fibres so formed into a web are arranged haphazardly and become more or less interlocked so as to form a web of satisfactory character.

Other changes may be made without departing from the spirit of the invention, the scope of which should be determined by reference to the following claims, the same being constructed as broadly as possible, consistent with the state of the art.

I claim:

1. A sanitary napkin comprising an absorbent pad and a wrapper therefor, said wrapper comprising a film or web of soft, fibrous material characterized by a lack of substantial tensile strength, said wrapper including a portion extended beyond an end of the pad and constituting a tab adapted to be used for supporting the napkin by attachment of the tab to a belt or other supporting medium, and a multiplicity of threads some extending transversely of others, secured to said film on the inside thereof for reinforcing the same to enable said film to withstand the forces tending to break the film when the napkin is supported through the agency of said extended portions thereof.

2. A sanitary napkin comprising an absorbent pad and a wrapper therefor, said wrapper comprising a film or web of soft, fibrous material characterized by a lack of substantial tensile strength, said wrapper including a portion extended beyond an end of the pad and constituting a tab adapted to be used for supporting the napkin by attachment of the tab to a belt or other supporting medium, and a multiplicity of threads, some extending transversely of others and having adhesive material applied thereto and thereby secured to said film on the inside thereof, said threads serving to reinforce said film to enable the film to withstand the forces tending to break the film when the napkin is supported through the agency of said extended portions thereof.

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