

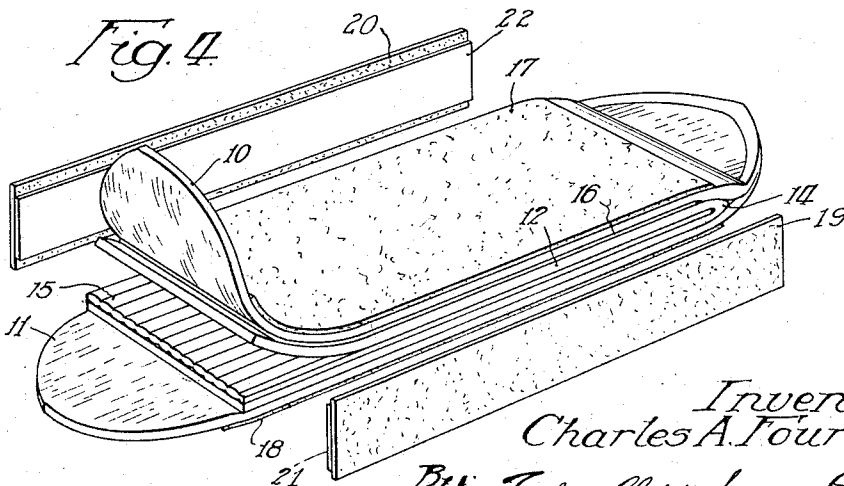
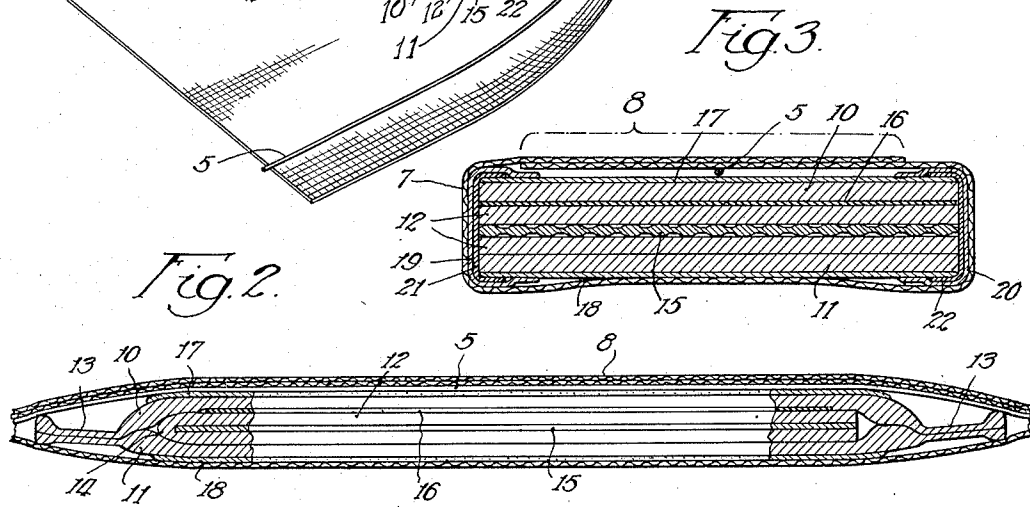
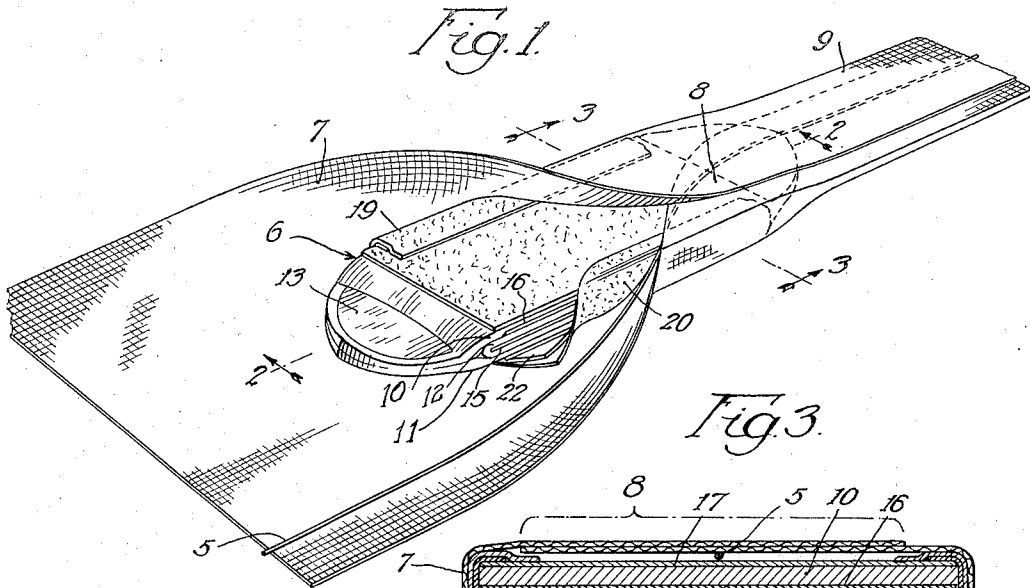
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SANITARY NAPKIN

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SANITARY NAPKIN

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This invention relates to an improvement in a sanitary napkin and it has for its main objects the provision of a sanitary napkin having improved anti-chafing and body-fitting properties, high but controlled absorbent capacity, and clothing protection features. A further object is that of providing a sanitary napkin construction which attains the foregoing objects in an inexpensive and commercially practicable manner.

In general, it is the object of the invention to provide an improved sanitary napkin and other specific objects and advantages will be understood by reference to the following specification and accompanying drawing, wherein there is disclosed a sanitary napkin embodying the improved construction.

In the drawing:

Figure 1 is a perspective of the improved sanitary napkin, the same being partly opened up to reveal the construction thereof;

Figures 2 and 3 are sections respectively on the lines 2—2 and 3—3 of Figure 1; and

Figure 4 is an exploded perspective of a portion of the napkin.

Referring now to the drawing, the improved sanitary napkin comprises an absorbent pad body 6 and a wrapper 7. The wrapper 7 may conveniently be made of woven gauze material or any other material suitable for the purpose, and, as shown in Figure 1, it is considerably longer than the pad 6 so that it extends beyond the ends of the pad. The wrapper is formed from a web of material which is wider than the width of the pad body, and the web is folded longitudinally around the pad in such a way that marginal side portions of the wrapper overlap each other on one face of the pad, as indicated at 8. Incident to the extra length of the wrapper, tabs such as indicated at 9 are formed at each end of the pad, the same serving to facilitate attachment of the napkin to a sanitary belt or the like for holding the napkin in place when worn. If desired, a colored thread such as indicated at 5 may be positioned on one of the overlapping marginal portions of the gauze, said threads being visible through the overlapping gauze portions 8 and serving to indicate which side of the pad should be worn away from the body. Preferably, the colored thread is disposed on the inside of the margin which is first folded over the pad, so that said thread is inside of both folded margins of the gauze.

The absorbent pad part 6 comprises outer layers or sections 10 and 11, respectively, and an

intermediate layer or section 12, preferably formed of a plurality of relatively superposed plies of creped tissue paper, although not necessarily restricted to such material. As clearly shown in Figure 2, the intermediate section 12 is considerably shorter than the outer sections and the projecting end portions of the outer sections are pressed together as indicated at 13 under sufficient pressure to unite said end portions. Such union requires no adhesive material but may depend solely upon the interlocking of fibres of the material of the respective sections when subjected to sufficient pressure. By thus uniting the end portions of the outer sections, the said intermediate section 12 is more or less locked in place between said sections, so that it may not shift longitudinally. The pressing together of said end portions incidentally causes the said outer sections 10 and 11 to more or less clamp between them the said inner section, so that the inner section is thereby to some extent at least held against sidewise shifting between said outer sections.

Said intermediate section 12 is of substantially the same width as the outer sections as clearly shown in Figure 3, and it is preferably formed of material which is folded upon itself as indicated at 14, the folding being located approximately mid-way between the ends of the web of material, constituting the inner section.

The relative lengths of the intermediate and outer absorbent sections is subject to considerable variation. For practical purposes, it is preferred that the outer sections extend beyond the ends of the inner section a distance of approximately one-half the width of the pad or perhaps a little more than one-half such width. Such relationship between the intermediate and outer pad sections provides an adequate capacity for fluid absorption and it locates the folded end of the intermediate section in a desirable position where the inherent stiffness of the fold produces certain form-maintaining effects in the napkin. As shown, the extended end portions of the outer sections are preferably rounded. It will be evident that the described relationship is not a critical one but that it may be changed materially without substantially impairing the advantages of the structure.

Between the folds of the inner section 12 there is provided an insert element 15 which may be formed according to the teaching of Patent No. 1,863,333 to Heitmeyer, for controlling the spread of the absorption in the pad. A baffle element 16 may if desired be interposed between one side

of said inner section 12 and the adjacent outer section 10, to prevent the penetration of absorption from one face of the napkin to the other. As shown in the drawing, the baffle 16 should be located adjacent that side of the pad on which the overlapping gauze portions 8 occur, which is normally the outside of the pad, i. e., the side worn away from the body.

To impart anti-chafing and comfort characteristics to the napkin, the opposite faces of the pad body may be covered with thin but soft webs or layers 17 and 18 of cotton or other cushioning material, and the pad edges may be enclosed in relatively narrow strips 19 and 20 of cotton folded around said edges and overlapping, relatively narrow marginal side portions of the pad body. Desirably, moisture-proof strips 21 and 22 are interposed between said edge cushion strips and the edges of the pad body, so as to prevent absorption from appearing on the outside of the pad edges. As shown, the cushion edge strips 19 and 20 are somewhat wider than the moisture-proof strips 21 and 22, so that marginal side portions of the cushion strips extend beyond the edges of the moisture-proof strip and contact directly the cotton-covered faces of the pad body. Such contact, whether or not the cotton facings are present on the pad body, is effective to attach the cushion edge strips to the pad body, whereby the said edge strips become effective to hold the moisture-proof strips 21 and 22 in place. It will be understood that the moisture-proof strips 21 and 22 are made of soft material but which, because of its moisture-proof quality, has little or no tendency to cling or attach itself to the material of the pad body, wherefore the anchoring effect of the cushion strips is a desirable advantage.

In one practical embodiment of the described structure, the two outer sections 10 and 11 may be a ten-ply creped tissue paper construction, and the folded intermediate section may also be formed from a ten-ply web folded upon itself to thereby provide twenty plies in said intermediate section.

The napkin structure above described embodies adequate comfort-giving features including the anti-chafing or cushioning effects of the edge strips 19 and 20, and the facings 17 and 18. In addition, the compressed end portions 13, 13 of the outer sections 10 and 11 impart to said end portions a flatness or stiffness which assists in maintaining said end portions in flat, body-hugging condition as is highly desirable. Furthermore, the folded inner section construction supplies, in the folded end 14 of said inner section, some additional stiffness which assists to prevent "roping" of the napkin and increases the tendency of the adjacent pad end portion to remain in flat, body-hugging condition when the napkin is worn. Such end is preferably arranged to be the front end of the napkin where the flat, body-hugging characteristics are somewhat more important than at the rear end. This may be determined by making one of the attachment tabs 9 shorter than the other, the shorter end usually designating the front end of the napkin.

The described location of the baffle 16 is such that even though the napkin is applied with the wrong face next to the body, a certain capacity for absorption is provided so that no serious difficulties will occur before the error may be discovered.

In some instances a baffle element may be disposed intermediate the folds of said folded insert

section 12 instead of the absorption-controlling element 15, the baffle 16 being then preferably omitted. In such a construction, the continuity of the folded insert provides a wick-like connection between the two folds which are respectively on opposite sides of the baffle. Such wick-like connection tends to transmit excess fluid from one fold to the other fold, whereby the latter fold and the adjacent outer absorbent layer constitutes, in effect, a reserve of absorbent capacity.

Various changes in the described structure may be made without departing from the spirit of the invention, of which the foregoing disclosure is merely illustrative or exemplary and not necessarily of an essential form of the improved structure.

I claim:

1. In a sanitary napkin, an elongated, absorbent pad comprising a pair of outer sections and an intermediate section, the intermediate section being shorter than said outer sections, the outer sections having end portions projecting endwise, in mutually overlapping relation, beyond the ends of the intermediate section, said intermediate section comprising a transversely folded strip of absorbent pad material, said folded intermediate section serving to impart to the pad, increased resistance to lengthwise folding and transverse compacting whereby there is imparted to the pad an increased tendency, when being worn, to maintain sealing contact with the legs of the wearer.

2. In a sanitary napkin, an elongated absorbent pad comprising a pair of outer sections and an intermediate section, the intermediate section being shorter than said outer sections, the outer sections having end portions projecting endwise, in mutually overlapping relation, beyond the ends of the intermediate section, said intermediate section comprising a strip of absorbent material folded transversely substantially mid-way of its ends, said folded intermediate section serving to impart to the pad, increased resistance to lengthwise folding and transverse compacting whereby there is imparted to the pad an increased tendency, when being worn, to maintain sealing contact with the legs of the wearer.

3. In a sanitary napkin, an elongated absorbent pad comprising a pair of outer sections and an intermediate section, the intermediate section being shorter than said outer sections, the outer sections having end portions projecting endwise, in mutually overlapping relation, beyond the ends of the intermediate section, said intermediate section comprising a transversely folded strip of absorbent pad material, the fold in said intermediate section being disposed at one end thereof, said folded intermediate section serving to impart to the pad, increased resistance to lengthwise folding and transverse compacting whereby there is imparted to the pad an increased tendency, when being worn, to maintain sealing contact with the legs of the wearer, the fold in said intermediate section also serving to impart to the adjacent projecting end portion of the pad, a tendency to remain flat so as to be capable of assuming an inconspicuous, body hugging position on the wearer.

4. In a sanitary napkin, an elongated absorbent pad comprising a pair of outer sections and an intermediate section, the intermediate section being shorter than said outer sections, the outer sections having end portions projecting endwise, in mutually overlapping relation, beyond the ends of the intermediate section, said intermediate

section comprising a transversely folded strip of absorbent pad material, said outer and intermediate sections being formed of soft, readily compressible and pressure-moldable absorbent material, and an insert element between the folds of said intermediate section, said insert element being of absorbent material of substantially firmer body than said outer and intermediate section and serving, in cooperation with said folded section, to impart to the pad, increased resistance to lengthwise folding and transverse compacting, whereby the pad has an increased capacity when worn to maintain sealing contact with the legs of the wearer.

5. A sanitary napkin pad according to claim 1 wherein the thickness of the intermediate section is greater than the thickness of each of the outer sections.

6. In a sanitary napkin, an elongated absorbent pad comprising a pair of outer sections and

an intermediate section, said sections being formed of a plurality of relatively superposed plies of crepe tissue paper, the intermediate section being shorter than said outer sections, the outer sections having end portions projecting endwise, in mutually overlapping relation, beyond the ends of the intermediate section, said intermediate section comprising a transversely folded strip of absorbent pad material, and an element inserted between the folds of said intermediate section and embodying a plurality of plies of crepe paper tissue compacted more tightly than are the plies of said outer and intermediate sections, the projecting ends of said outer sections being brought together in face to face relation and subjected to sufficient compression to unite the same, whereby said outer sections clampingly hold between them said intermediate section and inserted element.

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