

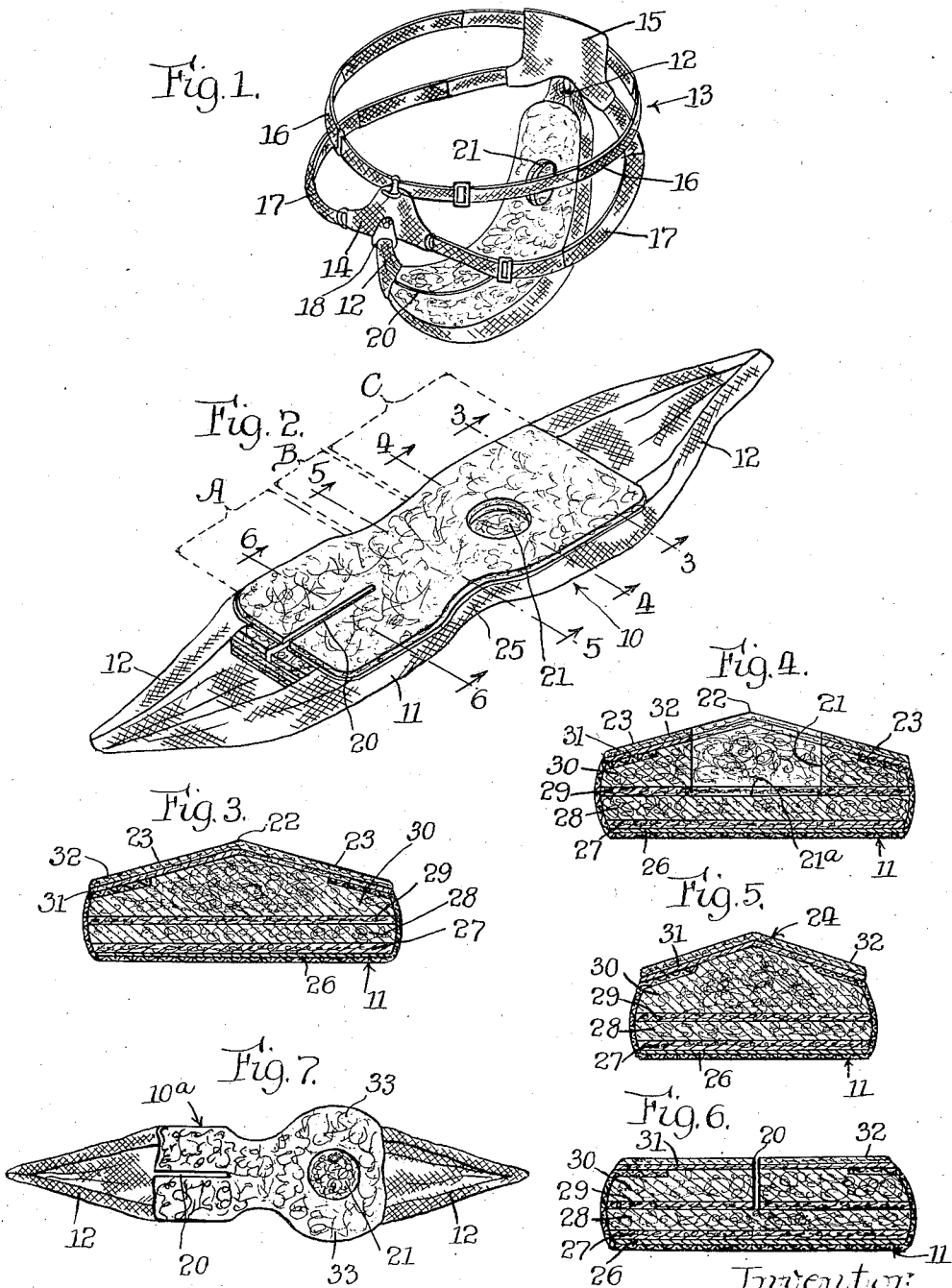
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SANITARY PAD

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SANITARY PAD

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The invention relates generally to sanitary pads and more particularly to pads of this character adapted to be employed as diapers for infants.

5 The primary object of the invention is to provide such a pad which is capable of economical manufacture and is so formed and constructed as to permit of ready disposal after use.

10 Another object is to provide such a pad constructed to facilitate use and changing thereof through the provision of means to retard or prevent intermingling of the evacuated stool and eliminated urine.

15 Another object is to provide such a pad formed to prevent discomfort of the infant.

20 Another object is to provide such a pad which, by virtue of its shape, conforms with the body contour of the infant so as to facilitate application thereof and insure proper positioning at all times.

25 A further object is to provide such a pad embodying a pocket to receive the eliminated stool, and providing for relatively broad surface contact with the infant's body about the pocket so as to effectually seal the pocket.

Other objects and advantages will become apparent from the following description, taken in connection with the accompanying drawing, in which:

30 Figure 1 is a perspective view of a pad embodying the features of the invention and associated with one form of supporting means.

Fig. 2 is an enlarged perspective view of the pad.

35 Fig. 3 is an enlarged cross sectional view of the pad taken along the line 3—3 of Fig. 2.

Fig. 4 is an enlarged cross sectional view of the pad taken along the line 4—4 of Fig. 2.

40 Fig. 5 is an enlarged cross sectional view of the pad taken along the line 5—5 of Fig. 2.

Fig. 6 is an enlarged cross sectional view of the pad taken along the line 6—6 of Fig. 2.

45 Fig. 7 is a plan view of an alternative form of the pad embodying the invention.

50 For purposes of disclosure, I have illustrated in the drawing and will hereinafter describe in detail the preferred embodiment of the invention together with one alternative embodiment, with the understanding that I do not intend to limit my invention to the particular construction and arrangement shown, it being contemplated that various changes may be made by those skilled in the art without departing from the spirit and scope of the appended claims.

55 In the preferred form of the invention illus-

trated in Figs. 1 to 6 of the drawing, the invention is embodied in an elongated relatively broad body having an elongated pad member 10 formed mainly from soft absorbent and readily disposable material, and held together by a fabric wrapper 11 which extends beyond both ends to provide attachment flaps 12. The body thus formed is adapted for use as a substitute for the conventional type of diaper, and throughout the present specification is termed a "diaper" 10 even though it differs in form and function from the devices to which this term is conventionally applied. When in use, the diaper is stretched and bent, as shown in Fig. 1 of the drawing, so as to extend between the thighs of the infant in resilient but firm contact with the adjacent body surfaces. 15

Such positioning of the diaper is obtained through suitable attachment or anchoring of the flaps 12. As one form of diaper-supporting means, 20 I have illustrated, in Fig. 1 of the drawing, a harness 13 having front and rear attachment members 14 and 15 respectively, held yieldingly in predetermined relation to the infant by upper and lower side straps 16 and 17 respectively, 25 formed in part from elastic textile or tape and adapted to fit respectively above and below the upper portions of the two hip bones or crests of the ilia. By means such as buckles 18, the end flaps 12 of the diaper may be secured to the 30 attachment members 14 and 15.

When placed on an infant in the manner described, the forward end of the pad is located upon the lower central portion of the abdomen so that the forward section or zone indicated by the 35 reference letter A in Fig. 2 extends downwardly and rearwardly over the genital organs, a slot 20 being provided if desired to accommodate the male organ. It will be evident that the zone A of the pad member has a relatively large upper 40 or inner surface area which is held yieldingly but firmly against the contacted body surface to insure proper and complete absorption of the eliminated urine.

The second or middle portion of the pad member, as herein shown, forms a zone B (Fig. 2) 45 which, in the applied diaper is positioned immediately between the thighs of the infant in contact with the perineum, while the third or rear end of the pad member forms an absorption zone 50 C, which extends upwardly over and past the anus and in close broad surface contact with the adjacent body surfaces in the region of the buttocks cleft.

In the upper surface of the rear absorption 55

zone C of the pad member 10, the present invention provides a recess or pocket 21 of such a size transversely as to be spaced a substantial distance from the lateral edges of the pad as well as from the rear edge thereof. This pocket 21 has for its purpose the reception of the eliminated stool and the pocket is, of course, properly positioned to accomplish this end. The broad upper surfaces provided on the pad member about all sides of the pocket 21 serve to contact the perineal and adjacent body surfaces and thus effectually seal the pocket 21.

As a further aid in securing an effectual seal of the pocket 21 about its upper edge, the pad 10 in the zone C is formed to provide a longitudinal ridge 22 extending medially of the pad along its upper surface, this ridge being extended entirely to the rear end of the pad member as shown in Figs. 3 and 4 of the drawing. This ridged formation provides sloping surfaces 23 which conform with or match the body surfaces which form the fold or cleft between the buttocks immediately adjacent to as well as rearwardly of and above the anus.

The ridged formation of the rear absorption section C is important not only in its function as an effectual sealing means, but is also of material value in assuring proper positioning of the diaper in the median line of the body by virtue of its inherent interlock with the body contour.

Sealing of the pocket 21 is, of course, highly important forwardly as well as rearwardly of the pocket, and to this end the middle zone B of the pad member is also formed to provide a ridged upper surface 24 as illustrated in Fig. 5. This ridged form insures substantially continuous surface contact with the perineum between the genitalia and the anus and prevents passage of the eliminated stool between the body and pad surfaces to the region covered by zone A of the pad. This feature is, from a hygienic viewpoint, highly important because of its effectiveness in obviating contamination of the genital organs.

The middle section or zone B is preferably formed so as to be rather narrow as shown in Figs. 2 and 5, this formation providing slots or indentations 25 to accommodate the infant's thighs and thereby prevent discomfort. The indentations 25, being in effect interlocked with the infant's thighs, also serve as a guide and positioning means in determining and maintaining the proper median axial location of the diaper.

As hereinbefore pointed out, it is desirable from a medical standpoint to prevent confluence of the eliminated stool and urine, or in any event to prevent passage of the stool to the forward zone A of the diaper. In accomplishing this end the broad surface contact of the ridged surface 23 with the perineum has a buffer action, and in addition, I prefer to form the zone B so as to act throughout its entire cross-section as a buffer or barrier tending to prevent the passage of fluids in either direction lengthwise of the pad. This end is attained in the present embodiment by compressing material of the pad member in formation of the indentations 25 of the zone B. Further compression of this zone takes place as the diaper is bent into its applied position. By this compression the fluid-absorption and transmission characteristics of the material of zone B are altered so as to impart to the body of the material of this zone the desired buffer or retarding action.

In practice, the particular material used to form the major portion of the pad member 10

is relatively unimportant so long as it is soft and pliable, possesses the desired liquid-absorption characteristics, and is readily disposable in a convenient manner. Thus in the present instance the pad member 10 is illustrated as formed from a plurality of layers of material having different characteristics which are deemed desirable. Immediately above the fabric wrapper 11 a sheet or layer of liquid repellent paper 26 (Fig. 3) is provided, above which there is a compressed layer 27 of fiberized alpha pulp which retards absorption and transmission of liquids downwardly toward the lower or fluid repellent layer 26. Over the absorption-retarding layer 27, a relatively thick layer 28 of comparatively loose fiberized alpha pulp is provided, this layer having high absorption characteristics. A second compressed layer 29 is then placed above the layer 28, this layer being similar to the layer 27, over which a relatively thick layer 30 of loosely packed, highly absorbent material similar to layer 28 is provided. It is in the cross-sectional form of the layer 30 that the desired ridged formation of the zones B and C is obtained.

Over the lateral edges of the layer 30 the edges of the wrapper 11 are folded as shown in Figs. 2 to 6, after which a layer of thin tissue paper 31 carrying a soft downy upper surfacing 32, preferably fiberized alpha, is secured to the top of the layer 30 and the edge portions of the wrapper 11. Adhesive or other suitable means may be employed to hold the paper 31 in place, or if desired, the folding of the flaps 12 in the packing of the diapers may serve to hold the paper in place until the diapers are removed from the package for use, after which the natural adherence of the materials will in most instances be sufficient.

As shown in Fig. 4, the pocket 21 terminates in a bottom 21^a which is formed by the upper surface of layer 28. Thus the highly absorptive material of layers 28 and 30 may serve to take up such liquid as may be deposited in pocket 21 while layers 26, 27, and 29 prevent its transmission to the outer or lower surface of the diaper. The slit 20 also terminates above the layer 28, and it will be noted that the zones A and C both have relatively large liquid absorption capacities.

In the middle zone B, these characteristics of fluid absorption and transmission are, of course, reduced by the compressing action above described so as to obtain in this section the desired buffer or barrier action.

Fig. 7 illustrates an alternative form of construction wherein the pad member 10^a is laterally extended on the zone C as shown at 33, this form being used where an additional lateral seal is desired for the pocket 21. This form is of particular utility where the infant's clothing is such as to hold the extensions 33 firmly against the body. As to other characteristics of form and construction the diaper of Fig. 7 may, of course, embody such features of the preferred embodiment as may be deemed advisable.

I claim as my invention:

1. A diaper comprising an elongated relatively flat pad member formed of soft absorbent material, a layer of liquid repellent material along the lower surface thereof, a wrapper for holding said layer and said pad together and providing attachment flaps extending from the ends of the pad, said pad member having a pocket recess in its upper side adjacent to one end thereof but spaced from said end and the lateral edges of the pad and bordered about its open upper end

by the broad absorbent upper surface of the pad member, said pocket recess extending downwardly into said pad and terminating short of said liquid repellent layer and being defined on its sides by the soft absorbent material which forms the pad member.

2. A diaper comprising an elongated pad member formed from soft absorbent material, one relatively broad face of said member being adapted to constitute the upper face when applied to an infant, said member having a pocket recess in said upper face adjacent to one end thereof but spaced from said end and the lateral edges of said member and bordered about its open upper end by the broad absorbent upper face of the pad member, said pocket recess extending downwardly into said pad member and terminating short of the under broad face of the member, and said pocket recess being defined about its sides by the soft absorbent material which forms the pad member, said one end of the pad being adapted to constitute the rear end of the diaper when applied to an infant, said pad, rearwardly of said pocket, being provided with a longitudinally extending ridge substantially midway between the lateral edges of the pad whereby said rear end of the diaper when in use interlocks with the body contour of the infant to insure proper lateral positioning of the diaper.

3. A diaper comprising an elongated pad member formed from soft absorbent material with one broad face of said member being adapted to constitute the upper face when applied to an infant, and said member having a pocket recess in said upper face adjacent to one end thereof but spaced from said end and the lateral edges of said pad and bordered about its open upper end by the

broad absorbent upper face of the pad member, said pocket recess extending downwardly into said pad member and terminating short of the under broad face of the member, and said pocket recess being defined about its sides by the soft absorbent material which forms the pad member, said one end being adapted to constitute the rear end of the diaper when applied to an infant, said pad member, rearwardly of said pocket recess, being formed with a longitudinally extending ridge substantially midway between the lateral edges of the pad whereby said one end of the diaper when in use interlocks with the body contour of the infant to insure proper lateral positioning of the diaper, and said pad member, substantially midway between its ends, being provided with a narrow portion forming side opening slots to engage the infant's thighs and act as guide and positioning means in determining and maintaining the longitudinal position of the pad member.

4. A diaper comprising an elongated relatively flat pad member formed of soft absorbent material with one relatively broad face adapted to constitute the upper face when applied to an infant, said pad member having a pocket recess in said upper face adjacent to one end thereof but spaced from said end and the lateral edges of the pad and bordered about its open upper end by the broad absorbent upper face of the pad member, said pocket recess extending downwardly into said pad and terminating short of the under broad face of the pad, and said pocket recess being defined on its sides by the soft absorbent material which forms the pad member.

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