

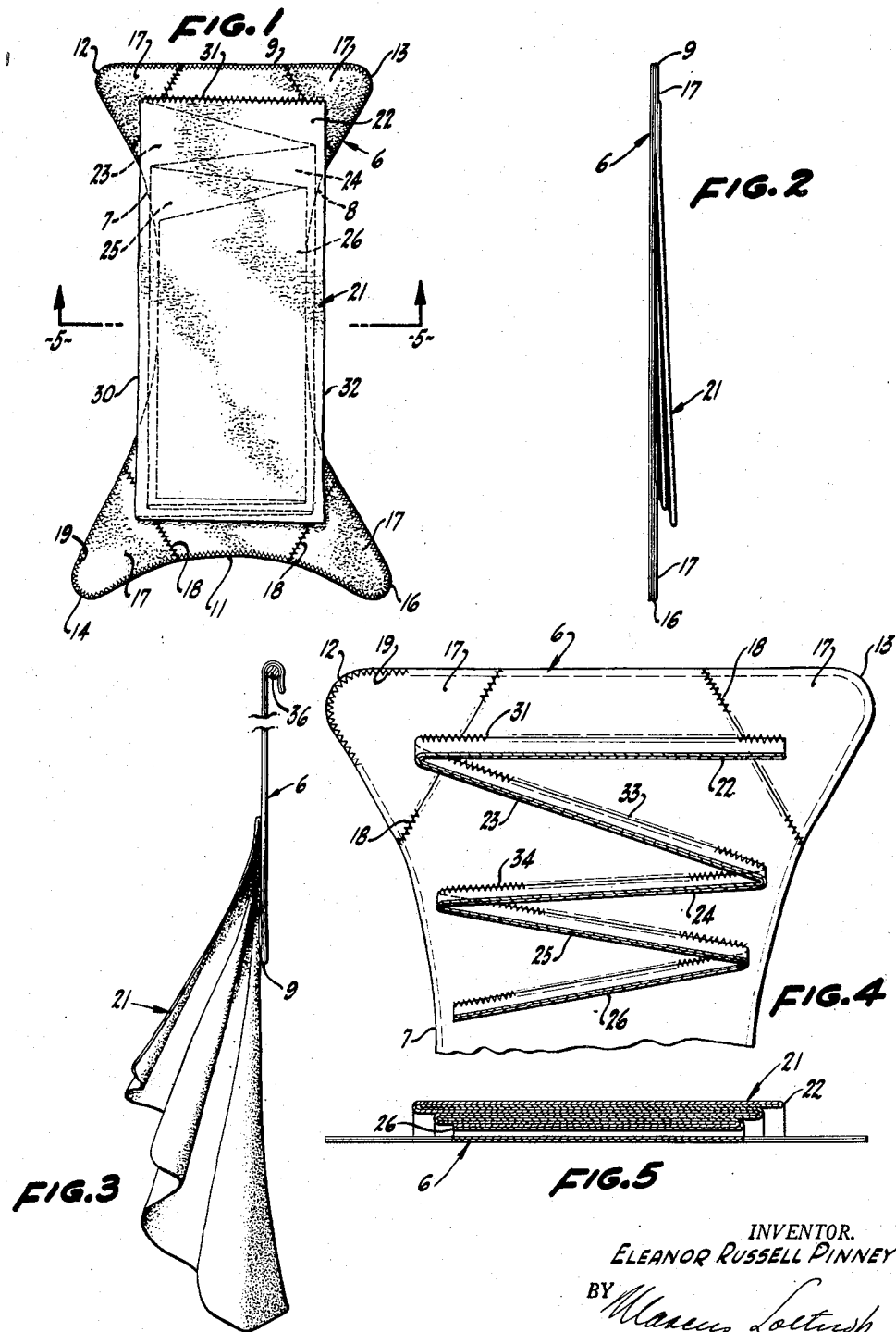
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DIAPER

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DIAPER

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My invention relates primarily to diapers for infants and is especially concerned with an improved diaper which is comfortable for the infant, is effective for its general purposes and is easy to handle, launder and prepare for reuse. Many varieties of diapers have been proposed and are used including some having several separate portions which are assembled for use, including others which have to be rather laboriously folded and prepared for use and including additional kinds which are utilized only once but are relatively expensive.

It is an object of my invention to provide a diaper which is readily reused, is easily prepared for reuse, is initially and always economical and is comfortably worn by the infant.

Another object of my invention is to provide a diaper of substantially standard materials and type of workmanship so that it can be readily fabricated on conventional machinery and from the usual supply of material yet which will produce considerably improved results, particularly a reduction in the amount of preparation required prior to utilization of the diaper.

Another object of my invention is to provide a diaper which can be readily stored and worn without excessive bulk or dimension yet which is highly absorptive and effective in use.

Other objects, together with the foregoing, are attained in the embodiment of the invention described in the accompanying description and illustrated in the accompanying drawings, in which,

Figure 1 is a plan of a diaper constructed in accordance with my invention, the diaper being laid out flat for storage.

Figure 2 is a side elevation of the diaper of Figure 1, showing the diaper as it is suspended from one end prior to use.

Figure 3 is a side elevation of the diaper suspended from the opposite end and showing the diaper as it is hung during the drying operation, part being broken away to reduce the size of the figure.

Figure 4 is an enlarged detail showing one end of the diaper with the adjacent portions of the attached layers of the inner packet, the view being partly broken away to reduce the size and being partly in cross section, the plane of which is spaced slightly away from the general plane of the outer panel of the diaper.

Figure 5 is a cross section, the plane of which is indicated by the line 5—5 of Figure 1, the scale of the section being enlarged from that of Figure 1 to correspond to that of Figure 4.

While the diaper of my invention can be embodied in numerous different forms and is subject to variations in size, contour, and matters of arrangement, it is conveniently fabricated or embodied as shown in the accompanying drawings. In this arrangement there is provided an outer panel 6 of textile material. While the precise nature of the material is not rigorously important, the term "textile" is utilized to refer

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to the customarily utilized cloth material having an appropriate degree of softness and proper absorbency for the comfort of the wearer.

The panel 6 is preferably made of two identical, superposed layers registering in outline and is shaped to form an elongated quadrilateral figure. The panel has a pair of longitudinal sides 7 and 8 that are concave. The narrowest width is adjacent the center part of the length of the sides which flare out at the two ends of the panel to merge with smooth curves into a rearward end 9 which is substantially straight and a forward end 11 which is somewhat concave. The panel so formed provides two corner tabs 12 and 13 at the junction of the sides 6 and 7 with the rearward end 9 and two corner tabs 14 and 16 at the junction of the sides 7 and 8 with the forward end 11. The various tabs are not particularly critical in their outline and shape nor in their length but depend largely upon the size of the infant for whom the diaper is intended.

In any event, the tabs are additionally reinforced, preferably by tips 17 overlying the material of the panel 6 and secured thereto not only by cross lines 18 of stitching but also by peripheral stitching 19. Conveniently, the stitching 19 extends entirely around the periphery of the outer panel 6 and serves not only to secure the tips 17 in place but also to secure the two layers of the outer panel 6 in fixed relationship.

The contour of the outer panel, as described, is designed so that when it is put upon an infant, the forward tabs 14 and 16 slightly overlap the rearward tabs 12 and 13 at the sides of the waist of the infant. With the tabs pinned together properly, the narrowest width of the panel is disposed between the infant's legs. The concave sides 7 and 8 are shaped so as not to produce any extra bulk but rather so as to conform neatly to the infant's contours. Similarly, the concave forward end 11 prevents any excess bulk over the infant's stomach and conforms generally to that portion of the bodily contour.

Particularly in accordance with my invention, I provide means in addition to the outer panel to serve as part of the diaper. For that reason there is afforded a multifold inner packet 21 of textile material similar in nature, preferably, to that of the outer panel 6 although, because of different functions, the materials can be varied. The inner packet 21 is preferably an integral piece of textile material originally doubled to afford two thicknesses throughout and is then folded, substantially as shown in Figure 1, to afford a plurality of layers 22, 23, 24, 25 and 26 constituting what may be termed an "accordion" fold. Each of the layers is approximately, although not exactly, an elongated rectangle.

The dimensions of the various layers are such that the layers or inner panels are of progressively increasing size as they extend from one to the other, the increase in size being not only in length but being also in width. Preferably, also, each

of the inner panels is somewhat larger than its supposed neighbor. This is accomplished by appropriate, somewhat zigzag folding as illustrated especially in Figures 1 and 4, the actual folds, such as 30 and 32, being approximately parallel to each other along the longitudinal sides of the panels. The resulting packet affords a plurality of layers of absorbent textile material with their folds or edges displaced from each other so that no concentration of bulk occurs. Rather, there is an effect a feathering or gradual diminution of the thickness of the packet around its periphery. The overlapping relationship is exaggerated adjacent one end of the packet as shown particularly in Figure 4 so that the ends of the packet are widely spaced apart in a zigzag fashion.

The zigzag end of the packet is preferably superposed on the outer panel 6 with the topmost, innermost and largest layer 21 near but somewhat spaced from the rearward end 9 and located symmetrically between the tabs 12 and 13. This end of the packet is secured in position on the outer panel 6 by a transverse line 31 of stitching. Similarly, the adjoining continuations of the rearwardly directed edges of the packet are secured by inclined lines, such as 33 and 34, of stitching in a zigzag fashion. The arrangement of the packet is such that the smallest panel 26 is next to or immediately in contact with the outer panel 6 whereas the largest panel 22 is spaced farthest from the outer panel 6 and is normally exposed. With this relationship, the smooth inner panel 22 of the packet is next to the infant and no folds or seams of the packet material are immediately in contact with the infant.

While the length of the packet is slightly less than that of the outer panel 6, the width of the various layers of the packet varies slightly although it is approximately equal to the narrowest width of the outer panel 6. Preferably, the nethermost layer 26 is almost exactly the same width as the narrowest part of the outer panel 6 whereas the superposed layers are slightly wider as they depart from the outer panel.

The diaper so formed is applied to the infant as previously described with the packet 21 next to the infant's body. This affords a multilayer, central protection feathering to a thinner bulk all around the outer edges and furnishes a comfortable, practical and safe garment. After use, the diaper is readily cleaned in the ordinary way by washing. The laundering is greatly facilitated since the inner packet 21, due to the agitation of the washing machine or of manual handling, opens automatically into a flared, virtually single layer arrangement, as shown in Figure 3. Every portion of the previously folded material is therefore laid open for thorough cleaning and for exposure during subsequent drying. The washed diaper is suspended by its forward edge 11 from a clothes line 36, for example. The action of hanging the inner packet 21 lets all of the various folds fall by gravity so that they readily open and separate from each other and so dry readily even in all of the fold areas.

In contradistinction to the normal process, when the washed and dried diaper is again to be utilized, it is merely necessary that it first be suspended from the rearward end 9, as shown particularly in Figure 2. If it is shaken or snapped when so held or suspended, the various folds of the packet 21 automatically fall into proper position by gravity and afford a diaper

ready to utilize again, as shown in Figures 1 and 2. The hanging or folding is entirely automatic although it can be supplemented by some hand smoothing or ironing if desired. But that is not essential. The laborious hand folding necessary with many previous styles of diapers is entirely or substantially eliminated and a generally improved and superior garment is attained.

What is claimed is:

1. A diaper comprising an elongated, quadrilateral outer panel of textile material including a rearward area and a forward area, the longitudinal sides of said panel being concave, the forward end of said panel being concave and the rearward end of said panel being substantially straight, a multifold integral inner packet of textile material including a plurality of superposed layers of progressively increasing size longitudinally and transversely, the smallest of said layers being of a width approximately the same as the least width of said outer panel and the largest of said layers being of a length nearly as great as the length of said outer panel, and stitching securing said multifold inner packet at one end only to said outer panel in said rearward area thereof.

2. A diaper comprising an elongated outer panel of textile material including a rearward area and a forward area, the longitudinal sides of said panel being concave, a multifold integral inner packet of textile material including a plurality of superposed layers of progressively increasing size, and stitching securing said multifold inner packet at one end only to said outer panel in the rearward area thereof and with the layer of smallest size next to said outer panel and approximately meeting said sides.

3. A diaper comprising an elongated quadrilateral outer panel of textile material including a rearward area and a forward area, a multifold integral inner packet of textile material including a plurality of superposed layers of progressively increasing size, and stitching securing said multifold inner packet at one end only to said outer panel in the rearward area thereof and with the layer of smallest size next to said outer panel.

4. A diaper comprising an elongated outer panel of textile material including a rearward area and a forward area, a packet of textile material including a plurality of superposed layers of progressively increasing size, and stitching securing said packet at one end only to said outer panel in the rearward area thereof and with the layer of smallest size next to said outer panel.

5. A diaper comprising an outer panel of textile material including a rearward area and a forward area, a packet of textile material including a plurality of superposed layers, and stitching securing said packet at one end only to said outer panel in the rearward area thereof.

6. A diaper comprising an outer panel of textile material including a rearward area and a forward area, a packet of textile material including a plurality of superposed layers of progressively increasing length, and zigzag stitching securing said packet at one end only to said outer panel in the rearward area thereof and with the shorter length next to said outer panel.

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