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E. E. WOODWARD

2,910,982

EXPANSIBLE CONTOUR DIAPER

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FIG. 1.

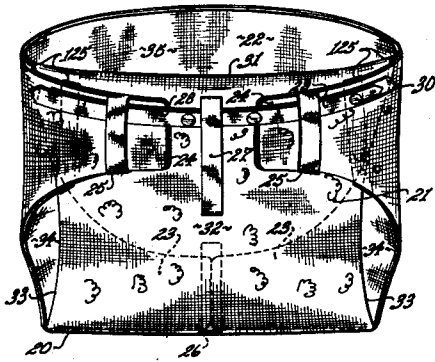


FIG. 2.

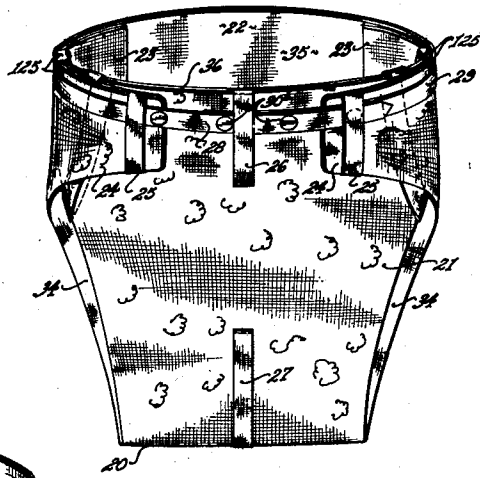


FIG. 3.

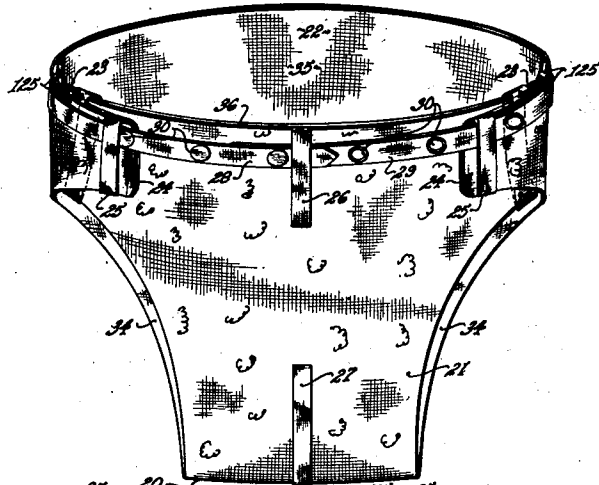


FIG. 4.

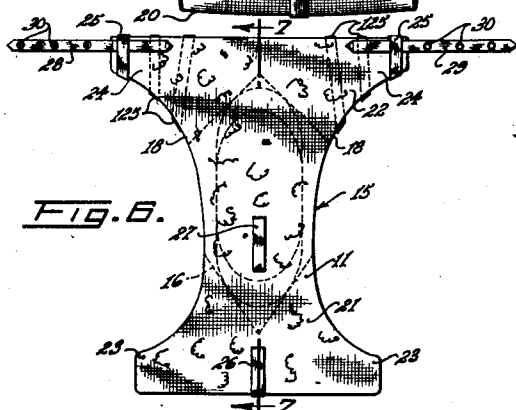
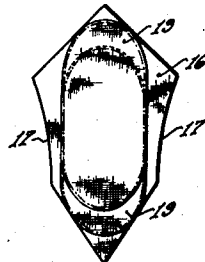


FIG. 5.

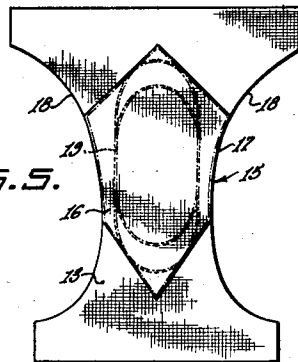


FIG. 6.

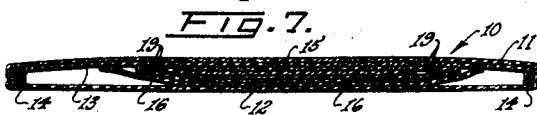


FIG. 7.

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EXPANSIBLE CONTOUR DIAPER

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9 Claims. (Cl. 128—284)

This invention relates generally to infant clothing, and more particularly has to do with an improved baby diaper characterized as being expansible so as to continuously fit an infant from its birth to around its third year, the improved diaper also having a number of other associated features which contribute to the increased utility of the article.

Speaking generally with respect to the design of conventional diapers, I have observed that their rectangular shape possesses disadvantages when it comes to folding such diapers to fit different sized infants. Furthermore, conventional diapers are prone to bunch or gather between the infant's legs presenting the danger of bowing the latter as a result of continued use of such diapers. Finally, the large sized pins commonly holding together the sides of conventional diapers are often caused to inadvertently prick the infant's skin and thereby presenting added danger to the baby.

Accordingly, I have developed the present expansible diaper in an effort to solve all of the above discussed problems and to add to the convenience of the parent fitting the diaper on the infant I have designed the articles so as to be very easily and quickly fitted on the infant and adjustable so as to "grow" with the baby. My new diaper may be characterized as an expansible contour diaper, and it comprises when extended flat a series of superimposed layers of outing flannel having their edges turned inward and sewed together, and having multiple outing flannel padding sewed within the diaper body.

When folded to fit the smallest size infant, the diaper comprises an upwardly folded upright body of soft absorbent material having front and rear body panels. The latter form an upward opening for the infant's trunk and two opposite side openings to receive the infant's legs. The front body panel is folded downwardly so that a front portion thereof faces outwardly and the terminal remainder thereof is confined behind that front portion, a pair of opposite side ears on the terminal remainder being folded toward one another to overlie the front panel while concealed at the inside of the diaper. The rear panel has a pair of opposite side ears folded toward one another to overlie the front panel above the level of the side openings so that the latter are completely defined by the front and rear panels and the rear panel ears. Finally, means are provided for releasably holding the rear panel ears folded over the front panel, critically located belt loops and snap tapes being provided for this purpose.

As a result of this diaper construction, the front panel is downwardly adjustable after releasing the snap tape so as to lower the upward fold, thereby enlarging the leg openings of the diaper. After downward adjustment of the front panel has continued so as to eliminate the downward fold, the snap tape is again connectible through another belt loop on the front panel so as to hold the rear panel side ears to the front panel thereby holding the

diaper in its intermediate expanded condition. Finally the snap tape is again releasable to permit relative spreading of both the front panel and rear panel ears to enlarge the trunk opening at the top of the diaper, and thereafter the snap tape is again connectible through the belt loop on the front panel to hold the diaper in its completely expanded condition.

These and other features and objects of the invention, as well as the details of an illustrative embodiment, will be more fully understood from the following detailed description of the drawings, in which:

Fig. 1 is a front view of the expansible diaper folded in its most compact adjusted form;

Fig. 2 is a front view of the diaper in intermediate expanded condition;

Fig. 3 is a front view of the diaper in fully expanded condition;

Fig. 4 shows the diaper padding;

Fig. 5 illustrates the manner in which the padding is connected to the inner liner of the diaper body;

Fig. 6 shows the completely extended outside of the assembled diaper; and

Fig. 7 is a view taken on line 7—7 of Fig. 6.

Referring first to Figs. 4 through 7 of the drawings showing the manner in which the diaper is constructed of outing flannel, the diaper body generally indicated at 10 in Fig. 7 includes three similar shaped sections of outing flannel comprising a figured outside 11, a plain inner side 12, and a plain inner liner 13, all of which have their edges sewed together and turned inward as indicated at 14. Stitched to the inner liner and conforming to the shape of the crotch section 15 thereof is an otherwise diamond-shaped piece of outing flannel 16 the sides 17 of which have been cut away to conform to the concave opposite edges 18 of the inner liner. Alternately overlapping smaller pieces of outing flannel 19 are sewed to section 16 so as to be carried between the latter and the inner liner 13 all as better shown in Fig. 7, so as to form the padding referred to above.

Referring now to Fig. 6 showing the assembled diaper body in stretched-out condition, the intermediate or crotch section 15 thereof is generally narrowed as indicated so as to remain smooth when folded upwardly at 20 as viewed in Figs. 1 through 3, and as a result there is no bulk between the infant's legs exerting sideward pressure tending to bow the latter. The diaper has front and rear panels 21 and 22 when folded as shown in Figs. 1 through 3, and they merge in the crotch region indicated in Fig. 6. Each of the panels has a pair of opposite side ears 23 and 24 respectively, and these form with the panels the opposite side concavities previously indicated at 18 as shown in Figs. 5 and 6. Furthermore, each of the ears on the rear panel carries a belt loop 25 typically made of twill tape and carried on the figured outside of the diaper, and a pair of loops 125 on the inside of the diaper. Two additional belt loops 26 and 27 are centrally and longitudinally spaced at the outside of the diaper, loop 26 being spaced between loops 25, and loop 27 being carried at the outside of the diaper crotch region.

Referring now to Fig. 1 wherein the diaper is shown in its minimum size condition, the front and rear panels 21 and 22 extend upwardly from the upward fold 20, with the opposite side ears on the rear panel being folded over the front panel and toward one another as shown. In this position two sections of snap tape 28 and 29 carrying male and female snaps 30 are extended through the belt loops 25 on the rear panel ears 24 and also through the belt loop 27 on the front panel so as to hold the ears and the front panel in the relative position shown. The front panel is downwardly folded at 31 so that the front panel forms a front panel portion 32 and an inwardly

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facing terminal remainder carrying the front panel ears folded at 33 inwardly and toward one another in concealed position as indicated by the broken lines in Fig. 1. The diaper folded as shown in Fig. 1 forms relative small leg openings 34 at opposite sides and a trunk opening 35, all of which are adjustable in size as will be explained in connection with Figs. 2 and 3.

In Fig. 2 the upward fold 20 has been lowered by lowering the front panel 21 thereby eliminating the downward fold 31, so that the terminal edge 36 of the front panel is at the same level as the upper edge of the rear panel. The snap tape after having been released from the belt loop 27 to permit lowering of the front panel now extends through the belt loop 26 to hold the front panel and the rear panel side ears 24 in interconnected condition as shown. As a result of such lowering of the front panel the side openings 34 are now considerably enlarged while the trunk opening 35 remains of the same size. Since there are a number of laterally spaced snaps 30 on the two pieces of snap tape 28 and 29, the trunk opening 35 may be gradually enlarged by first releasing the snaps and then connecting them so that the ends of the snap tape are closer together, i.e. are closer to the central belt loop 26 as viewed in Fig. 3.

Such enlargement of the trunk opening 35 is accommodated by the overlapping relation of the front and rear panel ears 23 and 24, the latter being unfolded as shown in Fig. 3 to permit maximum enlargement of the trunk opening. At this time, the belt loops 125 on the rear panel ears will themselves receive the unfolded front panel ears 23, firmly holding them against loosening and thereby maintaining the contour of the leg and trunk openings.

I have thus provided a diaper capable of being fitted to a baby at birth, and which can be continuously fitted to the baby as it grows up through about the third year of life. No pins are needed since the adjustable snap tape holds the diaper firmly on the infant. There is no danger of bulky material between the baby's legs causing bowing thereof, and there is sufficient padding to serve the baby's needs. Finally, the outing flannel at the outside of the diaper is figured so that the diaper in fact is a dress article.

I claim:

1. An expansible contour diaper, comprising an upright upwardly folded sheet-like body of soft absorbent material having front and rear body panels forming side openings adapted to receive an infant's legs therethrough, said front panel being downwardly folded above the level of said upward fold so that a front portion thereof faces outwardly and the remainder thereof is concealed behind said front portion, said rear panel having a pair of opposite side ears folded toward one another to overlie said front panel above the level of said side openings, said front panel being downwardly adjustable to lower said upward fold whereby said leg openings are enlarged, said front panel having a pair of narrow, opposite side ears folded toward one another to overlie said front panel below the level of said rear panel ears, loops carried by said rear panel ears for receiving and supporting said front panel ears after said downward adjustment of the front panel and after unfolding of said front panel ears, and means for releasably holding said rear panel ears folded over said front panel before and after adjustment of said front panel.

2. An expansible contour diaper, comprising an upright upwardly folded sheet-like body of soft absorbent material having front and rear body panels forming side openings adapted to receive an infant's legs therethrough, said front panel being downwardly folded above the level of said upward fold so that a front portion thereof faces outwardly and the remainder thereof is concealed behind said front portion, said rear panel having a pair of opposite side ears folded toward one another to overlie said front panel above the level of said side openings, said front panel being downwardly adjustable to lower said upward fold whereby said leg openings are enlarged, said

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front panel having a pair of narrow opposite side ears folded toward one another to overlie said front panel below the level of said rear panel ears, loops carried by said rear panel ears for receiving and supporting said front panel ears after said downward adjustment of the front panel and after unfolding of said front panel ears, and means for releasably holding said rear panel ears folded over said front panel before and after adjustment of said front panel, the upward extent of said front and rear panels immediately adjacent said upward fold being entirely smooth.

3. An expansible contour diaper, comprising an upright upwardly folded sheet-like body of soft absorbent material having front and rear body panels forming side openings adapted to receive an infant's legs therethrough, said front panel being downwardly folded above the level of said upward fold so that a front portion thereof faces outwardly and the remainder thereof is concealed behind said front portion, said rear panel having a pair of opposite side ears folded toward one another to overlie said front panel above the level of said side openings, said front panel being downwardly adjustable to lower said upward fold whereby said leg openings are enlarged, and means for releasably holding said rear panel ears folded over said front panel before and after adjustment of said front panel, said front panel having a pair of opposite side ears folded toward one another to overlie said front panel below the level of said rear panel ears, said means being releasable to permit elevation of said front panel ears to the level of said rear panel ears and relative spreading of the ears of each pair, and loops carried by said rear panel ears for receiving and supporting said front panel ears after said elevation thereof during different conditions of spreading of said front panel ears relative to said rear panel ears.

4. An expansible contour diaper, comprising an upright upwardly folded sheet-like body of soft absorbent material having front and rear body panels forming an upward opening and two opposite side openings adapted respectively to receive an infant's trunk and legs therethrough, said body including a plurality of superimposed layers of flannel cloth, said front panel being downwardly folded above the level of said upward fold so that a front portion thereof faces outwardly and the terminal remainder thereof is concealed behind said front portion, said rear panel having a pair of opposite side ears folded toward one another to overlie said front panel portion above the level of said side openings so that said openings are completely defined by said panels and ears, said front panel being downwardly adjustable to lower said upward fold whereby said leg openings are enlarged, said front panel having a pair of narrow opposite side ears folded toward one another to overlie said front panel below the level of said rear panel ears, loops carried by said rear panel ears for receiving and supporting said front panel ears after said downward adjustment of the front panel and after unfolding of said front panel ears, and means for releasably holding said rear panel ears folded over said front panel before and after adjustment of said front panel.

5. The invention as defined in claim 4 in which said means are releasable to permit elevation of said front panel ears to the level of said rear panel ears and relative spreading of the ears of each pair during lowering of said upward fold whereby said upward opening is enlarged during enlargement of said opposite side openings.

6. The invention as defined in claim 5 in which said body when completely unfolded and extending in a flat plane has a pair of opposite side concavities formed by said ears and the remainder of said body.

7. The invention as defined in claim 5 in which said means include a belt loop carried by said front panel at the level of said rear panel ears, and interconnected belting carried by said rear panel ears and extending through said loop.

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8. The invention as defined in claim 7 including a second belt loop carried by said front panel portion at the level of said front panel ears and adapted to be elevated with said front panel ears for receiving said belting therethrough.

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9. The invention as defined in claim 7 comprising snap tape carried by each of said ears and interconnected snaps carried by said tape.

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