

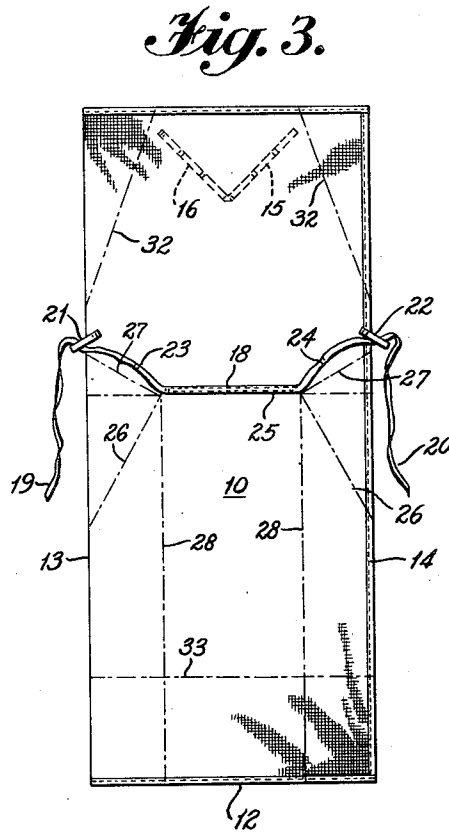
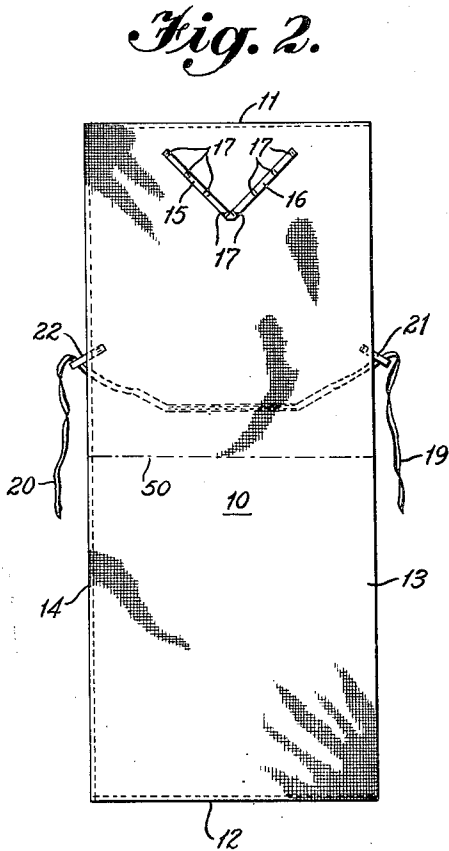
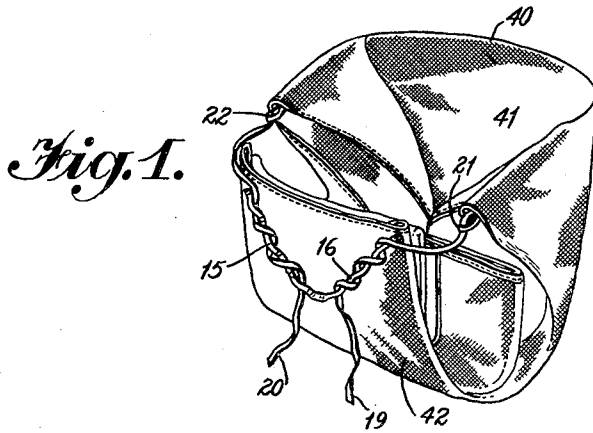
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DIAPER CONSTRUCTION

2,630,806

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2 SHEETS—SHEET 1



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2,630,806

## DIAPER CONSTRUCTION

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3 Claims. (Cl. 128-284)

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This invention relates to a novel construction of a baby's diaper having means, forming a part of the diaper, for fastening the diaper around the body of the baby without the necessity of employing pins or buttons.

The use of pins or buttons with diapers results in a variety of well recognized dangers. For example, there is the danger of a pin becoming unhooked and scratching the baby. In order to obviate the use of pins or buttons this invention presents a diaper of simple construction having as a part thereof its means for fastening.

It is an object of this invention to provide a buttonless and pinless diaper wherein its means for fastening will be an integral part of the diaper structure. The fastening means is such that it greatly facilitates laundering of the diaper.

An additional object of this invention is to provide a diaper which possesses the feature of adjustment to permit its size to be diminished or enlarged to fit babies of different ages and sizes. Accordingly, the diaper can be worn by a young infant or a baby of more advanced age, as desired.

It is a further object of this invention to provide a diaper which can quickly and easily be applied or removed and which can be fitted smoothly and tightly to the body of a baby particularly around the legs.

A still further object of the invention is to provide a multi-ply diaper which eliminates the necessity of employing rubber pants or similarly protective waterproof coverings. Also the diaper is prepared from a generally rectangular piece of single ply diaper cloth by means of a novel standard fold arrangement. By virtue of the fold arrangement that portion of the diaper which constitutes the crotch thereof is smooth so as not to cause discomfort of the baby.

Other and further objects of the present invention will become readily apparent from a detailed consideration of the following description when taken in conjunction with the drawings in which:

Figure 1 is a view in perspective of the diaper of the present invention;

Figure 2 is a view in plan of one side of the diaper cloth of the present invention;

Figure 3 is a view in plan of the reverse side of the diaper cloth;

Figure 4 is a view of the cloth folded in half;

Figure 5 is a view of the cloth partially folded in at the sides prior to the next folding step;

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Figure 6 is a view of the folded diaper ready for use;

Figure 7 is a view in section taken along line 7-7 of Figure 5; and

Figure 8 is a view in section taken along line 8-8 of Figure 6.

Referring to the drawings in detail and first with reference to Figures 2 and 3, there is shown a generally rectangular sheet of material 10 having, of course, two long edges and two short edges and having transverse marginal end portions 11 and 12, and longitudinal side portions 13 and 14. The respective marginal portions, except portion 13, are folded over and hemmed. Between the transverse axis 50 of the sheet 10 and transverse marginal end portion 11 on one side of sheet 10 is located a pair of tapes 15 and 16, said tapes arranged as a V opening toward marginal portion 11. Each tape 15 and 16 is sewn to sheet 10 at spaced intervals as indicated at 17. It will be noted that the tapes 15 and 16 lie closer to marginal portion 11 than to the transverse axis 50 of sheet 10 and in fact lie adjacent marginal portion 11.

On the opposite side of sheet 10 is transversely sewn the mid-section of a tape 18, the tie ends 19 and 20 of which are left free. The tape 18 is sewn to the sheet 10 between the transverse axis 50 of sheet 10 and marginal portion 11 and lies closer to the former than the latter. In fact tape 18 lies adjacent the transverse axis 50 in the same manner that tapes 15 and 16 lie adjacent marginal portion 11. Loops 21 and 22 laterally offset in the direction of marginal portion 11 are secured to marginal side portions 13 and 14. Each of the free ends 19 and 20 of tape 18 pass through one of loops 21 and 22. At a point intermediate the mid-section of tape 18 and each loop 21 and 22 the free ends 19 and 20 are tacked to sheet 10 as indicated at 23 and 24.

The sheet 10 is provided with a transverse fold line 25 offset from the transverse axis 50. The first step in folding the diaper is to double sheet 10 over itself about fold line 25. The sheet 10 is shown after the first folding step in Figure 4. It will be noted that marginal end portion 12 extends over portion 11, tapes 15 and 16 lie on the outer surface of the underneath part of sheet 10, tape 18 lies between the folds of sheet 10, and loops 21 and 22 are attached to the underneath part of sheet 10. The sheet 10 is then ready to be folded as shown in Figure 5. This is accomplished by folding each marginal side portion 13 and 14 inwardly along fold lines 26, 27 and 28. It

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will be noted that this produces an elongated central strip 29 out of the upper part of sheet 10 of 2-ply thickness and leaves exposed side panels 30 of the underneath part of sheet 10. Further fold lines 27 cooperate with fold line 25 to produce a contouring of the top edge of the folded sheet to facilitate its placement about a curved surface such as the waist of an infant. Fold lines 26 and 27 and marginal side portions 13 and 14 produce at the top of the folded sheet triangular portions 31.

The next folding step is shown in Figure 6. The marginal side portions 13 and 14 of panels 30 are obliquely folded inwardly along fold lines 32 so that the marginal end portion 11 of each panel 30 lies beneath the elongated central strip 29. Thereafter, the elongated central strip 29 is folded on fold line 33 to bring marginal end portion 12 inward. The sheet 10 is then completely folded and ready for use as a diaper. It will be noted that the diaper is of 5-ply thickness over the area where central strip 29 is folded over itself and of 6-ply thickness where panels 30 are folded beneath the central strip 29. The thickness of the diaper over these portions provides sufficient absorbency to enable the diaper to be used without rubber pants or other waterproof covering.

The diaper in its position of use is shown in Figure 1. The top edge 40 of the back of the diaper is contoured as explained with reference to Figure 5. The free ends 19 and 20 of tape 18 pass through loops 21 and 22 respectively. The back part 41 of the diaper is applied to the backside of the infant and the front part 42 of the diaper is brought between the infant's legs and applied to the front side of the infant. The free ends 19 and 20 of tape 18 are thereafter brought to the front and woven with the tapes 15 and 16. It is apparent that the circumference of the top edge of the diaper can be varied by modifying the degree of weaving of the free ends 19 and 20 and the extent to which they are pulled through the loops formed by tacking tapes 15 and 16 as explained in Figure 2. The legs of the infant extend between the front part 42 and back part 41 of the diaper and by virtue of the folding arrangement hereinbefore described, the diaper fits smoothly and snugly in the infant's crotch.

The sheet 10 can be of any suitable material that possesses the appropriate qualities of absorbency and softness. Each of the tapes 15, 16 and 18 and the loops 21 and 22 can be of a quick-drying material such as nylon or the like.

The sheet 10 can be modified by dividing tape 18 into two portions and placing each portion adjacent the marginal side portions 13 and 14 on the same side of the sheet 10 as V-shaped tapes 15 and 16. Each portion of tape 18 can be sewn to sheet 10 at one end and tacked at spaced intervals to provide one or more loops. This construction eliminates loops 21 and 22 as the portions of tape 18 lie on the outer surface at the back 41 of the diaper. By means of this arrangement, the free end of each portion of tape 18 can be directly woven with the corresponding tape 15 or 16 or alternately woven between the loops in tape 15 or 16 and the loops in tape 18 adjacent its attachment to sheet 10.

Also the sheet 10 can be modified by providing pockets for the free ends 19 and 20 of tape 18. This can be accomplished by folding over the marginal side portions 13 and 14 and sewing them

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onto sheet 10 adjacent where tape 18 is sewn to sheet 10. Another way of doing this is to utilize small patches of material and suitably sew them to sheet 10 at the proper places. The function of these pockets is to facilitate laundering of the diaper. The free ends of the tape or tapes are tucked into the pockets prior to laundering to prevent their intertwining and interlocking.

Although the present invention has been described and shown in a single embodiment, nevertheless various changes and modifications obvious to one skilled in the art are within the spirit, scope and contemplation of the present invention.

What is claimed is:

1. An article to be folded into a garment for a baby that comprises a rectangular single ply sheet of diaper cloth, a first tape fastening means tacked at spaced intervals to one side of said sheet adjacent a short edge, said first tape fastening means being arranged on said sheet in the shape of a V opening toward said edge, a second tape fastening means transversely attached to one side of said sheet intermediate the transverse axis of said sheet and said first tape fastening means, the ends of said second tape fastening means being free to engage with a leg of said V shaped first tape fastening means in fastening relationship when said sheet is folded.

2. An article to be folded into a garment for a baby that comprises a rectangular single ply sheet of diaper cloth, a pair of fastening tapes tacked at spaced intervals to one side of said cloth adjacent one of its short edges, said pair of tapes being arranged in the shape of a V opening toward said edge, another fastening tape transversely attached to said cloth between said pair of tapes and the transverse axis of said cloth, said other tape being attached to said sheet on the opposite side from said pair of tapes, the ends of said other tape being free, and a loop fastened to each long edge of said sheet laterally offset from said other tape in the direction of said pair of tapes, said free ends being received in said loops to engage with said pair of tapes in fastening relationship when said cloth is folded.

3. An article to be folded into a garment for a baby that comprises a rectangular single ply sheet of diaper cloth, a first pair of fastening tapes tacked at spaced intervals to one side of said sheet adjacent one of its short edges, said first pair of tapes being arranged in the shape of a V opening toward said edge, and a second pair of fastening tapes each having one end attached to said sheet adjacent a long edge thereof between the transverse axis of said sheet and said first pair of tapes, the other end of each of said second pair of tapes being free to engage with one of said first pair of tapes in fastening relationship when said sheet is folded.

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