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DIAPER HOLDER

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This invention relates to diapering devices and holders for diaper pads, more particularly to a holder which is especially adapted to hold inexpensive diaper pads which are disposed of after one use.

The present invention contemplates a diaper pad holder which is adapted to hold a somewhat flimsy, but highly absorbent disposable pad snugly in position on a baby without stretching the pad unduly, tearing it, or otherwise destroying its effectiveness as a diaper; and the diapering device which comprises a disposable pad of this type in such a holder.

The rear half of the diaper pad holder of this invention is extensible and elastic so that the holder may be fitted tightly around the baby. The front end of the holder is relatively inextensible and adapted to hold the front end of the pad securely in position without slippage during use. Since the rear half of the holder is extended during use, the rear end of the pad is positioned in the holder in such a way that it may slip in the direction of its length to avoid stretching or tearing the pad, itself.

Other features and advantages of the invention will be apparent from the following description and claims taken together with the drawings wherein:

FIGURE 1 is a plan view of a diaper pad holder according to one embodiment of the invention with the extensible rear half of the holder in relaxed condition.

FIGURE 2 is a similar plan view of the holder of FIGURE 1 with the rear half of the holder extended to its full dimension.

FIGURE 3 is an enlarged broken sectional view along the line 3—3 of FIGURE 2.

Referring to the drawings, there is shown a waterproof diaper pad holder which is roughly T-shaped in its full dimension, or when it is fully extended, as shown in FIGURE 2. The line A—A passing approximately through the mid-point of the crotch portion of the holder divides the holder into a front part 11 and a rear part 12 which will be referred to sometimes hereinafter in the specification and claims as a front half and a rear half; the front half 11 being that below the line A—A in the figures, and the rear half 12 being that above the line. Thus, the front half of the holder at the base of the T is relatively elongated and narrow, while the rear half of the holder is much wider across the top of the T.

The rear half of the holder is gathered when the holder is relaxed, as shown in FIGURE 1, to provide the required extensibility. The rear part 12 of the holder body is gathered adjacent its top edge 13 and secured to elastic means 14 such as an elastic tape by zig-zag stitching or an equivalent technique to provide an extensible and elastic rear waist embracing portion 15. Somewhat concave leg embracing portions 16 are provided along each edge of the holder about the line A—A in the area of the crotch portion of the holder. As shown in FIGURE 1, the holder body is gathered above the line A—A in the leg embracing portions 17 of the rear half of the holder and secured to extensible elastic means 18 by stitching or the like. Thus, both the rear waist embracing portion 15 and the rear leg embracing portions 17 of the holder of FIGURE 1 are extensible and elastic. Generally speaking, the elastic means 14 on the waist embracing portion will be quite resilient to assure that the holder stays in position and does not slip down from the baby's waist.

In contrast, the waist embracing portion 21 of the front half of the holder is not gathered and therefore only as extensible as the material of the holder body. Preferably, the body of the holder is formed from a sheet of relatively inextensible waterproof material, such as vinyl sheeting, or the like, with the result that the front half 11 of the holder is relatively inextensible. Preferably, also, a relatively inextensible reinforcing band 22 is provided, for strength purposes, along the waist embracing edge of this half of the holder.

For convenience in manufacturing and to reinforce the leg embracing portions 23 of the front half of the holder, the elastic means 18 of the leg embracing portions 17 of the rear half of the holder may be extended over and secured to the leg embracing portions of the front half, as shown in the drawings. However, the body of the holder in these areas is gathered only slightly, if at all, so that the leg embracing portions of the front half of the holder are, at best, relatively inextensible. The elastic means 18 could be confined to the rear leg embracing portions, in which case it would be preferable to reinforce the leg embracing edges of the front half of the holder by some other means, such as reinforcing strips or the like.

Fastening devices are provided on each side of the front and rear halves of the holder beyond their respective leg embracing portions. A set of three spaced snap halves 25 is positioned adjacent the edge of the holder along each side, at the front and rear thereof. Reinforcing strips 26 are stitched to the body of the holder in these areas to prevent the snap halves 25 from loosening or pulling out. Preferably, male halves on the outer side of the rear half 12 of the holder enter and cooperate with female snap halves on the inner side of the front half 11 of the holder. However, this arrangement may be varied with the male halves being on the front half 11 of the holder and the female halves being on the rear half 12, or with the snap halves facing opposite sides of the same half of the holder.

Pad securing means in the form of a front strap 27 is provided adjacent the waist embracing portion 21 of the front half of the diaper holder. This strap 27 extends across the holder and is secured at each of its ends by stitching, or the like, to the reinforcing strips 26 along the sides of the front half of the holder. A rear strap 28 is secured to the rear half of the holder through a heat sealing ring 28A which surrounds the strap. The ends of the strap are integral with corresponding portions of the heat sealing ring and the ring is heat sealed to the holder adjacent these portions in such a way that the unattached length of the strap between its ends is approximately equal to that of the front strap 27. Preferably, the unattached length of the rear strap 28 is at least about as great as the width of diaper pads to be used therewith and the strap is located centrally of the rear half of the holder so that a pad threaded there-through is supported slidably in the rear part of the holder.

In use, the front end 31 of an elongated absorbent pad 30 is inserted under the front strap 27, then the body of the pad is folded over the strap 27 and the rear end of the pad is threaded under the rear strap 28, while the holder is relaxed, as shown in FIGURE 1.

The baby then is placed on the rear half of the pad 30 and the front half of the holder is folded over the baby's abdomen with the leg embracing portions of the holder between the baby's legs. The rear half 12 of the holder is stretched around the baby so that corresponding snaps 25 on the front and rear halves may be secured to one another when the front half of the holder is pulled up in position. A snug fit is obtained around the baby's waist by virtue of the elastic waist portion 15 of the rear

half of the holder. This snug fit prevents the front end of the pad 31 from becoming dislodged from the front strap 27. The rear half of the pad 30 is held in position by the generally close fit of the holder around the baby's body.

Even though the front end 31 of the pad is positively secured to the front half 11 of the holder by folding the end of the pad around the front strap 27, the front half of the pad is not stretched appreciably as the holder is fitted around the baby because the front half of the pad is relatively inextensible. Thus, the front half of the pad and the front half of the holder retain their relative positions. Since the rear half 12 of the holder is extended as it is stretched around the baby's body, the rear strap 28 is designed to allow the rear end of the pad 30 to slide therethrough to avoid placing undue tension on the pad as the rear half 12 of the holder is extended. The relative motion between the rear half of the holder and the rear half of the pad is illustrated in the comparison between FIGURES 1 and 2, before and after stretching of the holder, respectively. Thus, the absorbent pad may be relatively flimsy or at least of low tensile strength. This allows the use of cheaper yet highly absorbent materials, such as fluffed woodpulp, other flocky absorbent materials, and the like.

It is preferred that the elastic strips 14 and 18 at the waist and leg encircling portions of the holder be sheathed with an open netting 32 of a durable, preferably hydrophobic material such as nylon, or the like. Since this sheathing is positioned about the elastic when it is fully extended, it will become shirred or pleated in the relaxed condition of the holder as shown in FIGURE 1. The sheathing 32 improves the appearance of the holder and provides a cushioning effect between the elastic strips and the baby's body.

The reinforcing strips 26 in the front and rear of the holder may be extended up beyond the waist embracing edges thereof to provide tabs 33 which may be used for opening the top snaps or pinning the holder to the baby's undershirt.

The body of the holder may be formed from a single sheet of a vinyl polymer or copolymer, either pigmented for opacity or relatively clear and transparent. It is preferred that the sheet be opaque and white and embossed with a fine pattern to provide a textile-like texture to the holder. In the above-described structure, vinyl sheeting approximately 4 mils thick has given good results. Of course, any one of various similar materials may be employed for this purpose.

The front waist band 22, the reinforcing strips 26, and the front and rear straps 27 and 28 each may be formed from a single layer of 4 mil vinyl sheeting folded upon itself twice to provide a 3-ply strip, 12 mils thick. A single layer 12 mils thick, or a like structure, may be employed with equal advantage. Similarly, although stitching has been mentioned for use to secure the various parts of the holder together, with the exception of the back strap 28 which has been described as heat sealed, heat sealing may be employed throughout, or an adhesive, or the like, may be used.

Having now described the invention in specific detail and exemplified the manner in which it may be carried into practice, it will be readily apparent to those skilled in the art that innumerable variations, applications, modifications, and extensions of the basic principles involved may be made without departing from its spirit or scope.

The claims are:

1. A diaper pad holder comprising a crotch portion, leg embracing portions and waist embracing portions, said holder being divided by an imaginary median line passing approximately through the mid-point of the

crotch portion into a front half and a rear half, the leg embracing portions and waist embracing portion of the holder to the rear of said median line being extensible and elastic and the entire leg embracing portions and the waist embracing portion to the front of said median line being inextensible and non-elastic, which further comprises pad securing means in front half of said holder beyond the leg embracing portions thereof, and fastening devices along the sides of each of said front and rear halves beyond their respective leg embracing portions, whereby the front end of an elongated diaper pad may be fixed to the pad securing means in the front half of the holder and the rear end of the diaper pad may be slidably positioned in the rear half of the holder and the holder bearing the pad may be fitted on a baby by placing said leg embracing portions between a baby's legs and stretching the extensible rear half of the holder around the baby and securing it to the inextensible front half by said fastening devices without stretching the pad where it is fixed in the front half of the holder.

2. A diaper pad holder according to claim 1 wherein the pad securing means is in the form of a front strap extending across and secured at its ends to the front half of the holder beyond the leg embracing portions thereof, whereby the diaper pad may be fixed to the strap by passing the pad through and over the strap and stretching the waist embracing portion of the holder around the baby.

3. A diaper pad holder according to claim 1 wherein pad guiding means is centrally located in the rear half of said holder, whereby the rear end of the pad may be threaded through the guiding means for slidable movement therewith.

4. A diaper pad holder according to claim 3 wherein the guiding means is in the form of a rear strap extending across and secured at its ends to the rear half of the holder.

5. A diapering device comprising, in combination; a diaper pad holder which in turn comprises a crotch portion, leg embracing portions, waist embracing portions, said holder being divided by an imaginary median line passing approximately through the mid-point of the crotch portion into a front half and a rear half, the leg embracing portions and waist embracing portion of the holder to the rear of said median line being extensible and elastic and the leg embracing portions and the waist embracing portion to the front of said median line being relatively inextensible and non-elastic, fastening devices along the sides of each of said front and rear halves, beyond their respective leg embracing portions, a front strap extending across and secured at its ends to said front half adjacent the waist embracing portion of said half, and a rear strap extending across and secured at its ends to the rear half of said holder; and an elongated disposable diaper pad having its front end inserted under said front strap and the remainder of the pad folded over the front strap and threaded under said rear strap, whereby said pad is attached to the relatively inextensible front half of the holder and is slidably positioned on said extensible rear half, and the holder bearing the pad may be fitted on a baby by placing said leg embracing portions between a baby's legs and stretching the extensible rear half of the holder around the baby and securing it to said front half by said fastening devices without stretching the pad where it is fixed in the front half of the holder.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

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It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 4, under the heading, "UNITED STATES PATENTS" add the following:

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Signed and sealed this 3rd day of April 1962.

(SEAL)

Attest:

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