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J. D. HAZEN

2,301,277

BABY DIAPER

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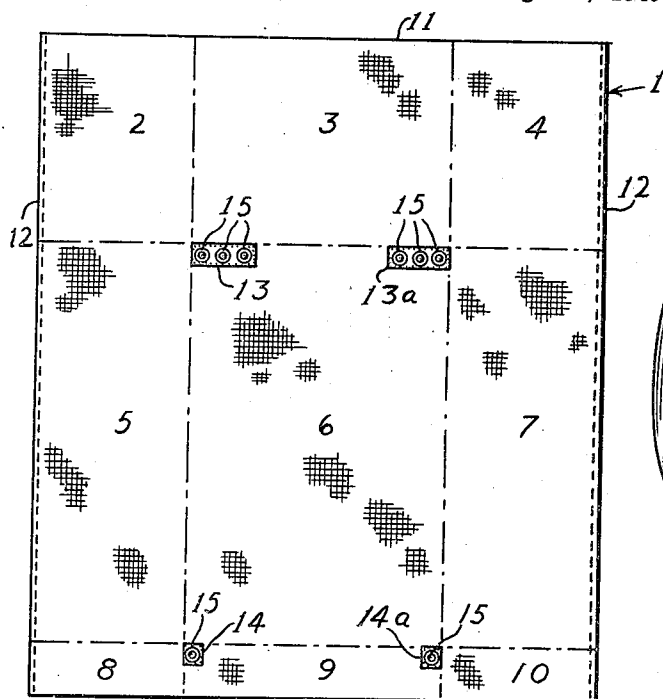


FIG. 1

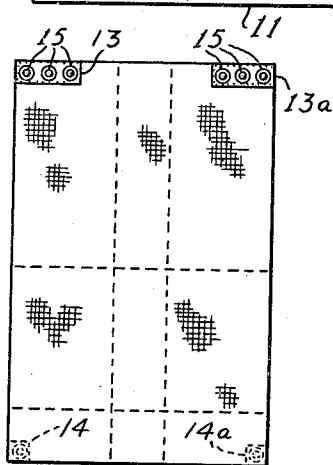


FIG. 2

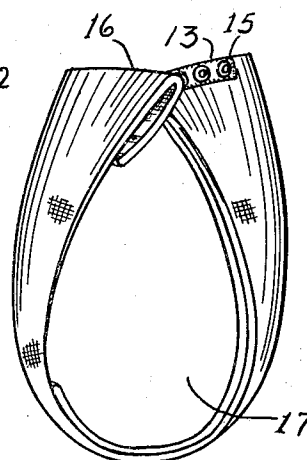


FIG. 3

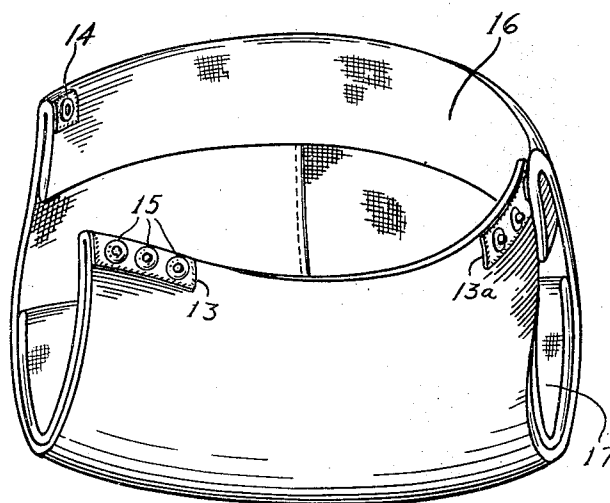


FIG. 4

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BABY DIAPER

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8 Claims. (Cl. 128—283)

My invention relates to baby diapers and has for its specific object the provision of diapers which can be securely fastened in place without the aid of pins, tie strings, or other types of inconvenient or hazardous fastening devices, and yet each can be folded to convenient form to provide a plurality of plies for absorbing moisture and can be unfolded to a single ply so that it can be easily washed.

A further object of my invention is to provide a diaper of this character which can be made of inexpensive material, one which is strong and will withstand frequent washing, one which may be readily run thru the rolls of a wringer without injuring the parts thereof, one which will dry quickly, and one which may be folded conveniently to proper form with guide markers thereon arranged to define the folded form and with fastening devices arranged in the proper locations when said diaper is thus folded for conveniently fastening said diaper comfortably about an infant's body.

A more general object of my invention is to provide a diaper of this character which may be made and sold inexpensively and one which resembles rectangular diapers which have been more or less standard for many years past.

Further and incidental features of my invention and the structural details thereof are hereinafter described with reference to the accompanying drawing, in which:

Fig. 1 is a plan view of the body of a diaper embodying my invention shown extended as it will be arranged when it is being washed, the fold lines being indicated thereon;

Fig. 2 is an elevation of said diaper folded with the marginal panel portions overlapping the central portion to provide a plurality of plies;

Fig. 3 is a perspective view showing the manner in which said diaper is arranged when it is adapted to be placed upon an infant's body; and

Fig. 4 is an elevation looking at one side of said diaper showing the manner in which the front and back portions are arranged and secured together in place.

A diaper embodying my invention comprises a fabric body portion 1 preferably of rectangular form and made of a material absorbent to moisture. My invention is particularly adapted for using sections of diaper material such as are in general use, being a so-called flannel or gauze material approximately 30 inches square. Said fabric body portion is adapted to be divided into nine panels when folded and these panels are numbered 2 to 10, inclusive, in Fig. 1. Said pan-

els are arranged in three rows of three panels each. Thus the upper row of panels is numbered 2, 3, 4; the middle row is numbered 5, 6, 7; and the lowermost row comprises panels 8, 9, and 10. It is to be noted that these panels 8, 9, and 10 are substantially narrower than panels 2, 3 and 4, and the latter are substantially narrower than panels 5, 6, and 7. The central panel of the middle row, namely, panel 6 is thus bounded at its sides, ends and at the corners by the other panel portions of said fabric body. Thus no edge of panel 6 extends to the selvage edges 11 of the body or to the hemmed edges 12, thereof.

Arranged at the two uppermost corners as viewed in Fig. 1 are two relatively strong strips of fabric or tape. Said strips of fabric or tape are numbered 13 and 13a.

Two other smaller tabs 14 and 14a, strips of fabric or tape, are secured immediately exteriorly of the lowermost corners of said central panel 6. Said tabs and strips are secured to the body of the diaper by being stitched thereto by marginal stitching. I preferably select a heavy grade of tape because it resists tearing and wear. To said strips of fabric or tape 13 and 13a, 14 and 14a, I secure fastening devices 15. I preferably provide two-piece snaps, one piece having a stud or post struck up from its center and the other piece a socket adapted detachably to engage said stud. I secure one piece of each snap adjacent one end of panel 6 upon one of said strips of fabric or tape, and secure the other piece in a similar manner to the opposite end of said panel.

I have found it convenient to arrange the stud or post halves of said fastening devices on the strips 13 and 13a and I preferably provide a plurality of them on each strip so that some measure of adjustment can be had to define the size of the waist opening when the diaper is arranged as is illustrated in Fig. 3. I have illustrated three such studs secured to each of the tape sections 13 and 13a and these are preferably spaced apart a distance approximately three-quarters of an inch or an inch. Said fastening device halves are adapted to be riveted to cloth and I thus rivet said fastening devices to the strips of fabric or tape and then sew the tape to the body portion of the diaper. I have found that said strips of fabric or tape and the fastening devices riveted thereto will outwear the diaper body portion, and if a diaper becomes worn unduly, said strips of tape and the fastening devices secured thereto can be detached by ripping out said stitching and may be thereafter sewed to other diapers

not provided with said fastening devices and their associated strips.

Said strips 13 and 13a, 14 and 14a are arranged at the corners of the central panel section 6, the strips 13 and 13a are arranged to lie immediately within the bounds of said panel section. One of the elongated edges of each of said strips defines one end of said panel section and the relatively narrow outer end of each of said strips of fabric define the marginal edges or fold lines for the sides of said central panel 6. The relatively smaller strips 14 and 14a which carry the single socket halves of the snaps are arranged preferably to lie immediately outwardly of the other end of the panel section 6. This is illustrated in Fig. 1. Said strips of fabric or tabs 14 and 14a define the outer edge of said panel 6 and the marginal edges as well, because said marginal edges are preferably defined by fold lines and said fold lines which divide panels 5 and 7 from panel 6 likewise define the marginal edges and separate panels 2 and 4 from panel 3 in the first row and panels 8 and 10 from panel 9 in the third row.

I do not deem it essential that body portion be made of a single piece of cloth in which the panels are defined by fold lines. Said body portions could be made of sections of material which are joined at the margins, but I deem it preferable that said body portion be made of a single piece of cloth because the margins of the central section 6 thus are formed by folds and there are no rough edges or seams which might irritate an infant's tender skin. The marginal panels, which are those other than panel 6, may be folded inwardly and provide plural plies for comfort and for increasing the degree to which a diaper of this character can absorb moisture. The diaper will then be arranged in the manner illustrated in Fig. 2. The relatively narrow panels 8, 9 and 10 fold inwardly only a short distance, and as is indicated in Fig. 3, and form virtually an untacked hem, defining a belt about the waist opening 16 when the diaper is formed, as is indicated in Fig. 3. This tends to prevent the diapers from stretching unduly because of said double thickness and folds. When the diaper is folded as is illustrated in Fig. 4 the edge portions of said elongated panel 6 define leg holes 17, while the end or narrow portions of said rectangular panel 6, form the margins of the waist opening, 16.

I deem it of substantial value and importance that the tabs or strips of fabric which are formed to the body of the diaper and to which the snaps are riveted, be sewed to said body at a point spaced substantially inwardly of the marginal edges of the body. If said strips are sewed directly to the marginal edges such as to the selvage edge or to the hemmed edge, 11 and 12 respectively, the continued use and hard wear due to washing will cause said strips to pull loose, the snaps to tend to be pulled out, and the stitching to become frayed, while this tendency is substantially minimized when said tabs or strips of fabric are stitched to portions spaced inwardly from said edges 11 and 12. I have also found that snaps of the character illustrated in the various figures of the drawing are the most satisfactory, because they do not tend to become crushed in the wringer rolls and they do not become easily detached because they lie quite flat upon the strips of fabric or tape and do not present any outstanding corners or edges which

might become snagged to pull said fasteners from said strips.

I claim:

1. A diaper of the character described comprising a fabric body portion defining an elongated panel and relatively flat snap fasteners comprising two detachable halves, one half of each snap fastener being secured at one end and wholly within the bounds of said elongated panel and the other half being similarly secured at the opposite end and opposite side of said elongated panel, the ends of said elongated panel when secured together by said fasteners defining the waist hole for said diaper and the sides thereof forming the leg holes therefor.

2. A diaper of the character described comprising a fabric body portion defining an elongated panel, marginal panels arranged in overlying arrangement to define with said central panel a plurality of plies, and relatively flat snap fasteners comprising two detachable halves, one half of each fastener being secured at one end and wholly within the bounds of said elongated panel and the other half being similarly secured at the opposite end of said elongated panel to a marginal panel, the ends of said elongated panel when secured together by said fasteners defining the waist hole for said diaper and the sides thereof forming the leg holes therefor, said marginal panels lying inwardly of the waist and leg holes respectively.

3. A diaper of the character described comprising a fabric body portion having a central rectangular panel defined therein, flexible fabric tabs stitched flatwise upon the body adjacent the opposite ends of said central section, being spaced in their entirety inwardly from the margins of said body portion, and relatively flat fasteners comprising two detachable halves, one half of each fastener being secured to said flexible tabs at one end of said rectangular panel and the other half of each of said fasteners being secured only to the flexible tabs at the opposite end of said rectangular panel.

4. A diaper of the character described comprising a fabric body portion having a central rectangular panel defined therein, flexible fabric tabs stitched flatwise upon the body adjacent the opposite ends of said central section, being spaced in their entirety inwardly from the margins of said body portion, and relatively flat fasteners comprising two detachable halves, one-half of each fastener being riveted only to said flexible tabs at one end of said rectangular panel and the other half of each of said fasteners being riveted only to the flexible tabs at the opposite end of said rectangular panel.

5. A diaper of the character described comprising a fabric body portion having a central rectangular panel defined therein, other panels disposed about the margins of said central panel and adapted to be folded into overlying relation with said central panel to form a plurality of lapping plies with said central section, flexible fabric tabs stitched flatwise upon the body adjacent the opposite ends of said central section, being spaced in their entirety inwardly from the margins of said body portion when said plies are in lapping arrangement, and relatively flat snap fasteners comprising two detachable halves, one half of each fastener being secured to said flexible tabs at one end of said rectangular panel and the other half of each of said fasteners being secured to the flexible tabs at the opposite end of said rectangular panel.

6. A diaper of the character described, comprising a rectangular fabric body portion, said body portion comprising nine panel sections arranged in alined rows of three panel sections each, the central panel section of the middle row thus being bounded at all of its marginal edges by other panel sections, flexible fabric reinforcing sections stitched flatwise upon said body portion, with one marginal edge of each tab defining a fold line for the end margin and another marginal edge of each of said tabs defining a fold line for the edge margin of said central panel, said fold lines separating each of the panels from the adjacent panel sections, said body portion being adapted to be folded inwardly about said fold lines in lapping arrangement with said central panel to form, when thus folded, a diaper of a plurality of overlying plies, and relatively flat snap fasteners comprising two detachable halves, one half of each fastener being secured to said reinforcing section at one end of said central panel and the other half secured to the reinforcing section at the opposite end of said central panel.

7. A diaper of the character described, comprising a rectangular fabric body portion, said body portion comprising nine panel sections arranged in alined rows of three panel sections each, the central panel section of the middle row thus being bounded at all of its marginal edges by other panel sections, flexible fabric reinforcing sections stitched flatwise upon said body portion, with one marginal edge of each tab defining a fold line for the end margin and another marginal edge of each of said tabs defining a fold line for the edge margin of said central panel, said fold lines separating each of the panels from the adjacent panel sections, said body portion being adapted to be folded inwardly about said

fold lines in lapping arrangement with said central panel to form, when thus folded, a diaper of a plurality of overlying plies, and relatively flat snap fasteners comprising two detachable halves, one half of each fastener being riveted only to said reinforcing section at one end of said central panel and the other half riveted only to the reinforcing section at the opposite end of said central panel.

8. A diaper of the character described, comprising a rectangular fabric body portion, said body portion comprising nine panel sections arranged in alined rows of three panel sections each, the central panel section of the middle row thus being bounded at all of its marginal edges by other panel sections, flexible fabric reinforcing sections stitched flatwise upon said body portion, with one marginal edge of each tab defining a fold line for the end margin and another marginal edge of each of said tabs defining a fold line for the edge margin of said central panel, said fold lines separating each of the panels from the adjacent panel sections, said flexible reinforcing sections at one end of the central panel lying within said panel bounds and the flexible reinforcing sections at the other end thereof lying immediately without said panel bounds, said body portion being adapted to be folded inwardly about said fold lines in lapping arrangement with said central panel to form, when thus folded, a diaper of a plurality of overlying plies, and relatively flat snap fasteners comprising two detachable halves, one half of each fastener being secured to said reinforcing section at one end of said central panel and the other half secured to the reinforcing sections at the opposite end of said central panel.

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