United States Patent

Schaar

[15] **3,650,273**

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[54] BABY PANTY

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[21] Appl. No.: **63,509**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 41,377, May 28, 1970.

[52] **U.S. Cl.** **128/287**

[51] **Int. Cl.** **A61f 13/16**

[58] **Field of Search** 128/284, 286, 287

[56] **References Cited**

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[57] **ABSTRACT**

A panty comprising a sheet of drapable, water-impervious material having at least one tuck in the central portion thereof, in order to define an expandable crotch area is disclosed.

4 Claims, 7 Drawing Figures

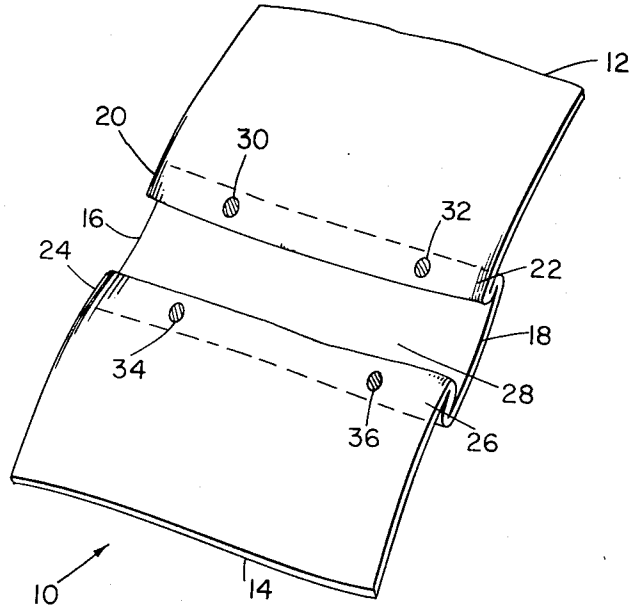


FIG 1

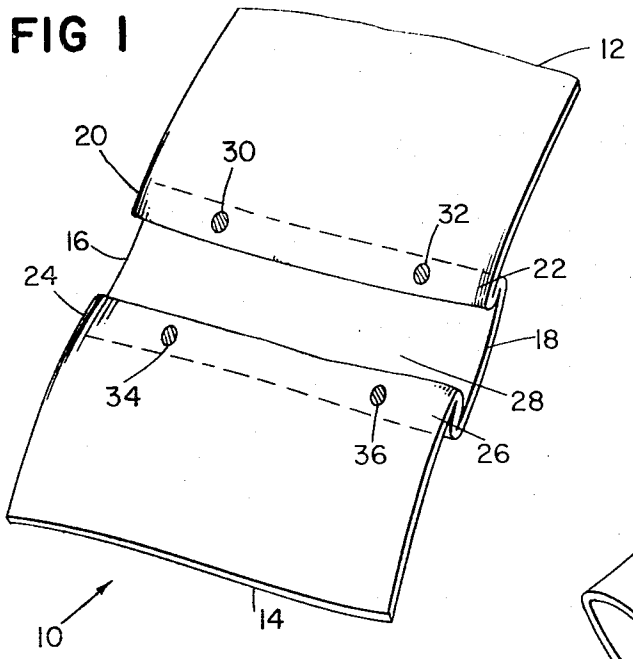
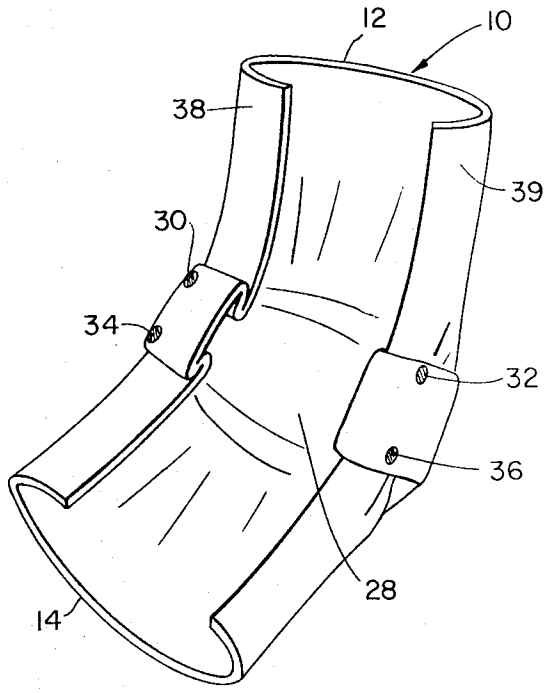


FIG 2



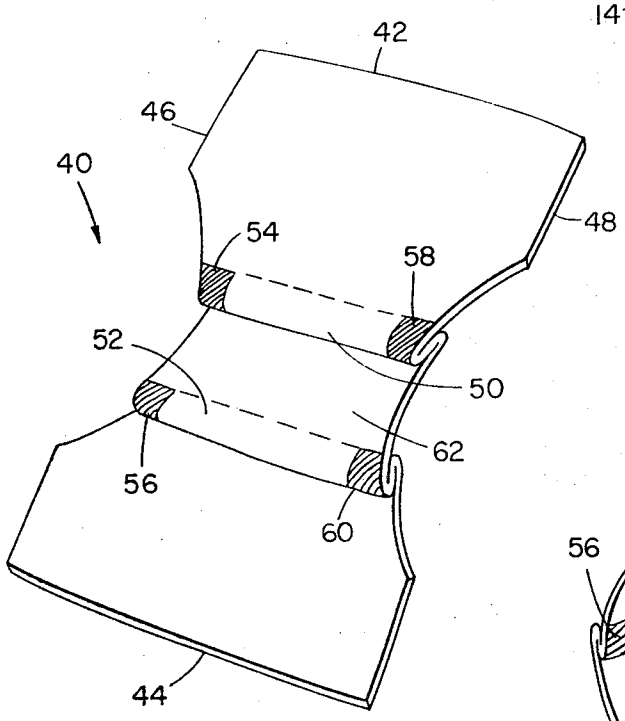


FIG 3

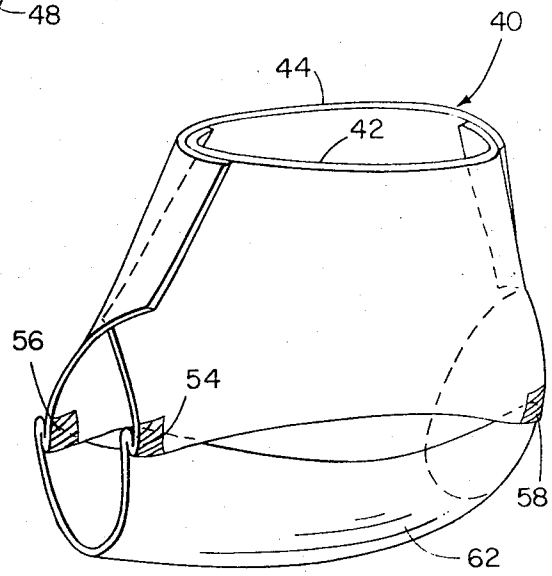
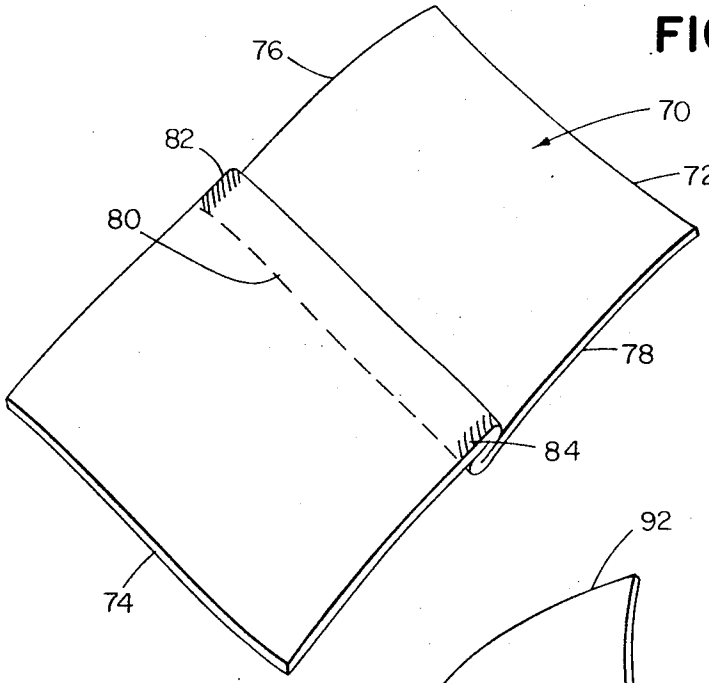


FIG 4

FIG 5



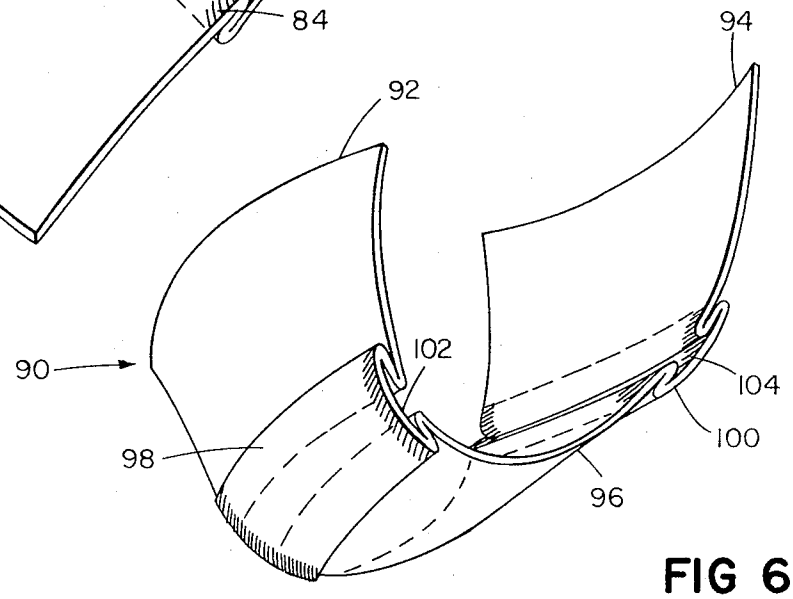


FIG 6

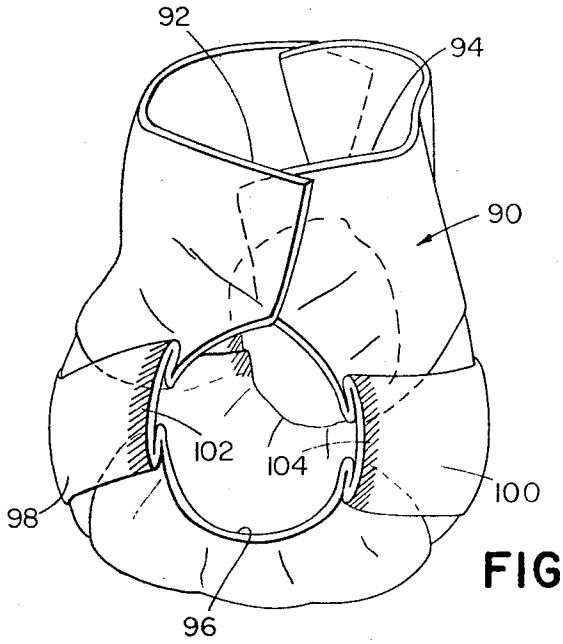


FIG 7

BABY PANTY

This application is a continuation-in-part of copending application Ser. No. 41,377, filed May 28, 1970.

This invention relates to a baby panty, and more particularly to a waterproof panty suitable for use over either a cloth diaper or a disposable absorbent pad.

Conventional "rubber pants," which are now commonly made of plastic, generally have a gathered, elasticized construction around the leg and waist portions. While this type of panty has gained widespread acceptance, it is costly to manufacture, and a more economical article would be highly desirable. Furthermore, elasticized rubber pants must be made in different sizes to accommodate babies of varying weights, and even the provision of a range of sizes does not preclude an improperly fitting garment. Thus, the degree of elasticity around the baby's legs must be sufficient to prevent leakage without cutting into or binding the skin.

To obviate this problem, rubber pants comprising a single sheet of material which is snapped together in the stomach and waist regions of the baby have been introduced. While eliminating the problems of discomfort associated with elasticized pants, it will be apparent that the fluid retention properties around the leg portions are poor in such a construction.

In accordance with this invention, a panty having excellent conformability to the limbs of a baby and enhanced comfort is provided. The structure and fit of this panty is such that one size can be used for babies of widely varying weights. Furthermore, the construction of this panty is so economical that it can be provided as either a disposable or a re-usable product.

More in detail, the panty of this invention comprises a sheet of drapable, water-impervious material having top, bottom and side edges, each of said side edges having at least one tuck in the central portion of said sheet, said tucks being in substantial alignment with each other.

The structure of this panty will be better understood by reference to the following description of the invention and the accompanying drawings in which:

FIG. 1 is a plan view of the top of one form of the panty of this invention prior to expansion.

FIG. 2 is a perspective view of the article of FIG. 1 after expansion.

FIG. 3 is a plan view of the top of another embodiment of the invention prior to expansion.

FIG. 4 is a perspective view of the panty of FIG. 3 assembled as it would appear if worn by a baby.

FIG. 5 is a plan view of the top of another form of panty according to this invention.

FIG. 6 is a perspective view showing the leg encircling portion of another embodiment of this invention.

FIG. 7 is an end view of the panty of FIG. 6 assembled as it would appear if worn by a baby.

Referring to FIG. 1, there is shown a panty which comprises a generally rectangular sheet **10** of a drapable, water-impervious material, which has top and bottom edges, **12** and **14** respectively, and side edges **16** and **18**. The side edges have tucks at points **20**, **22**, **24** and **26**. As will be apparent from the drawing, tucks **20** and **24** are in alignment with tucks **22** and **26** respectively, forming an expandable area generally designated as **28**. While the tucks form a box pleat in this embodiment, the term "tuck" is used in the claims and specification herein to include any construction that shortens or diminishes the length of the panty to provide an expandable area. Thus the term "tuck" excludes gathering, which could not form an expandable portion extending transversely of the panty. The tucks are secured at areas **30**, **32**, **34** and **36** by any suitable fastening means such as crimping, adhesive, double-faced pressure-sensitive adhesive tabs, stapling, combinations thereof, etc. Areas **30**, **32**, **34** and **36** are shown for purposes of illustration only; fastening can be achieved at other locations in the area adjacent to the side edges of the panty.

In order to use the panty illustrated in FIG. **1**, one can grasp the top and bottom edges and pull in a direction parallel to the longitudinal axis of the panty, along a line offset from a line passing through the fastened portion running in the direction of pull, or hold the panty at any convenient point and tap it in the central region, thereby obtaining the article shown in FIG. **2**, wherein areas **38**, **40** represent flaps formed by folding the sides of the panty inwardly. Alternately, one can apply the panty illustrated in FIG. **1** directly to the baby, expanding it in the process. In an alternate embodiment of the construction shown in FIG. **1**, tucks **24**, **26** can be wider than **20**, **22**; when the edges in such a panty are folded inwardly, the area in the region of the wider tucks is narrower than the rest of the panty, providing a panty having a defined front portion.

FIG. **3** illustrates a panty comprising a sheet of drapable, water-impervious material **40** having top and bottom edges **42** and **44** respectively, and side edges **46** and **48**. In this embodiment the tucks are in the form of edge pleats **50** and **52**; they are retained by heat sealing to the adjacent sheet in areas **54**, **56**, **58** and **60**. The side edges are trimmed to define an arcuate configuration thereby forming a central area **62** of reduced width. This panty is prepared for use in the same manner as described for that of FIG. **1**; in FIG. **4**, it is shown as it would appear if worn by a baby.

FIG. **5** depicts another form of the panty of this invention comprising a sheet of drapable, water-impervious material **70** having a top edge **72**, a bottom edge **74** and side edges **76** and **78**. Only a single edge pleat **80** is defined by the tucks in this embodiment; the tucks are retained by means of heat sealing at areas **82** and **84**. The expandable area in this panty is the edge pleat.

In FIG. **6**, a panty comprising a sheet of drapable, water-impervious material **90** and having top and bottom edges **92** and **94** respectively, and a side edge **96** is shown. In this structure, the tucks form two box pleats at **98** and **100**; the tucks are retained by heat sealing at areas **102** and **104**. FIG. **7** illustrates an end view of the assembled panty of FIG. **6** as it would appear if worn by a baby.

Any drapable, water-impervious material may be employed in constructing the panty of this invention. Preferably, a thermoplastic material such as polypropylene film, polyethylene film, ethylene-acrylate copolymer film, ethylene-propylene copolymer film, vinyl chloride polymer and copolymer films, etc., are employed. In the preferred embodiment of this invention, 1 to 2 mil sheet of polyethylene is employed.

While panties of various dimensions can be constructed, a panty approximately 13 inches wide by 17 inches long will be suitable for most babies.

The panty is applied over, or in combination with a gauze diaper or a disposable, absorbent pad. It is secured by any conventional means, such as safety pins, double-faced pressure-sensitive adhesive tapes, etc.

The panty of this invention is highly advantageous in that it presents an economical means of effectively preventing leakage around the legs of the baby. Thus, the tucks provide a cusping effect, insuring a snug, yet comfortable fit.

What is claimed is:

1. A panty comprising a sheet of drapable, water-impervious material having top, bottom and side edges, each of said side edges having at least one tuck in the central portion of said sheet, said tucks being in substantial alignment with each other and being retained so as to provide an expandable area extending transversely of said sheet.

2. The panty as claimed in claim **1** wherein said sheet is a drapable, water-impervious thermoplastic material and said tucks are retained by means of heat sealing.

3. The panty as claimed in claim **2** wherein said tucks form a box pleat.

4. The panty as claimed in claim **2** wherein said sheet has arcuate side edges defining an area of reduced width in the central portion thereof.

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