

United States Patent

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[56]

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[54] **COMBINED DISPOSABLE DIAPER AND BABY PANTY**
6 Claims, 7 Drawing Figs.

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

[50] Field of Search. **128/284,**
286, 287, 296

ABSTRACT: A waterproof infant-conforming outer sheet of material partially encloses a multilayered strip of absorbent material. The waterproof sheet is of a configuration and tacked at certain places so that upon application to the torso of an infant it forms a body-conforming panty.

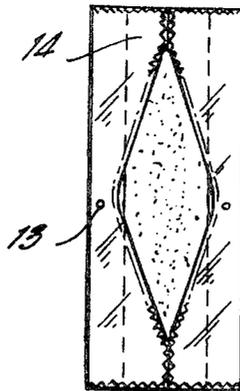


FIG. 1

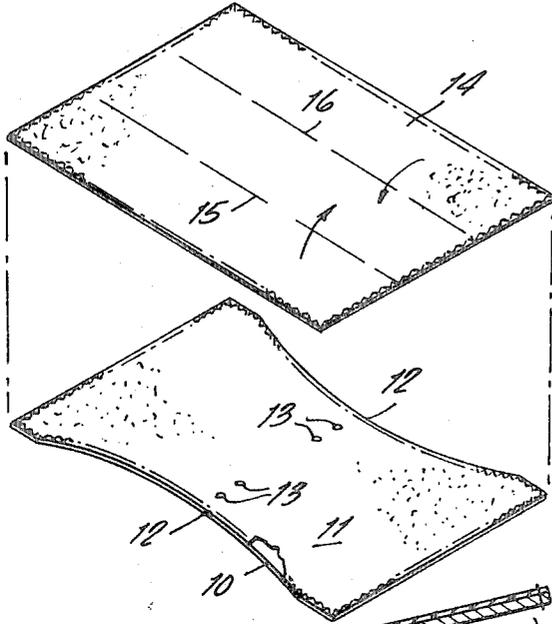


FIG. 2

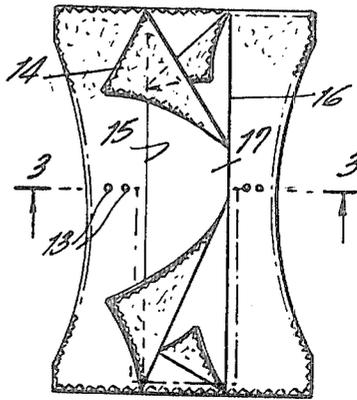


FIG. 3

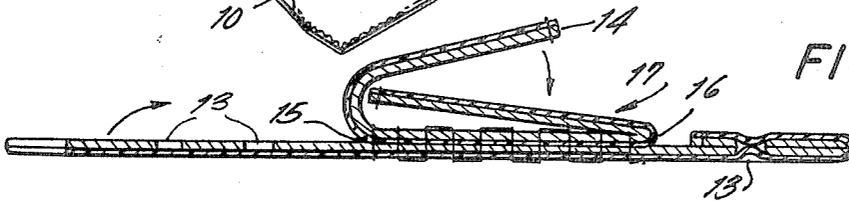


FIG. 4

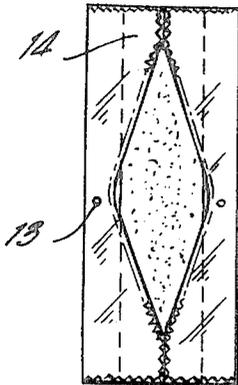


FIG. 5

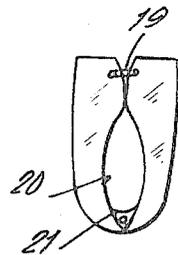
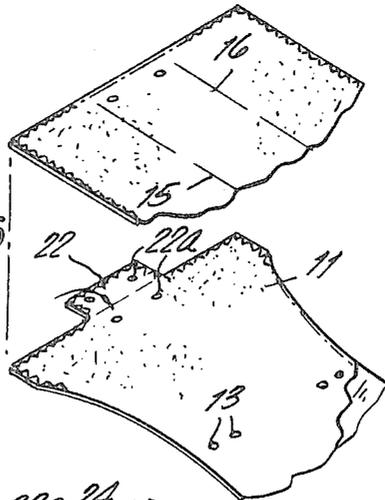
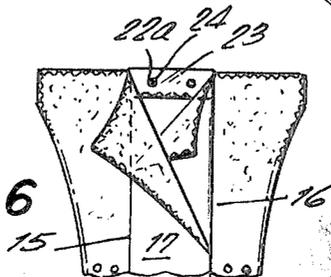


FIG. 7

FIG. 6



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COMBINED DISPOSABLE DIAPER AND BABY PANTY

BACKGROUND OF THE INVENTION

Disposable diapers of absorbent material have been available in many forms. However, these articles require the use of waterproof panties to prevent soaking through. It has therefore become the practice to provide a layer of waterproof material as the outer covering of such garments in an effort to prevent soiling of garments and bedclothes. The waterproof material presently used prevents soaking through, but does not retain the moisture and soil within the diaper in the region around the baby's thighs.

Accordingly, it is an object of the present invention to provide a combined disposable diaper and baby panty which will prevent wetting through and leakage around the infant's thighs.

Another object of the present invention is to provide a disposable diaper of extremely simple and inexpensive construction.

A further object of the present invention is to provide a disposable diaper which is easy to apply to an infant and which will remain in place during use.

An object of the present invention is to provide a disposable diaper which lends itself to rapid, mass manufacture and handling.

SUMMARY OF THE INVENTION

In one preferred embodiment the invention consists of a sheet of waterproof material laterally cut away to provide a somewhat hourglass configuration. A layer of a moisture-absorbent material is secured to the inner face of the waterproof material and conforms thereto in shape. An elongated pad formed of a moisture-absorbing multi-ply sheet folded upon itself to form a pad is axially disposed between the cutout edges of the waterproof sheet and overlying the layer of moisture-absorbent material. The cutaway edges are folded inwardly toward the center of the diaper leaving a somewhat diamond or oval-shaped opening therebetween and parallel outer margins. The outer waterproof sheet is then tacked to itself at a point between the ends of each outer margin and inwardly spaced from the edge thereof.

DESCRIPTION OF THE DRAWINGS

In the accompanying drawing forming a part hereof corresponding members have been given identical reference numerals, in which drawing;

FIG. 1 is a somewhat exploded view of the elements forming the present invention.

FIG. 2 is top plan view of the combined panty and disposable diaper partially assembled.

FIG. 3 is a cross-sectional view somewhat enlarged taken on line 3-3 in FIG. 2 showing a further step in the assembly of the panty-diaper.

FIG. 4 is a top plan view of an assembled panty-diaper according to the present invention.

FIG. 5 is a fragmentary, somewhat exploded view of the elements of a further embodiment of the present invention.

FIG. 6 is a fragmentary top plan view of the panty-diaper of FIG. 5 in an assembled form.

FIG. 7 is a view in side elevation of a panty-diaper made in accordance with the present invention showing its configuration when applied to an infant.

DESCRIPTION OF THE INVENTION

Referring to the drawing and particularly to FIGS. 1, 2, and 3, 10 indicates a sheet of some suitable waterproof plastic material such as vinyl, polyethylene or the like. A thin sheet 11 of a water-absorbent material such as paper or creped cellulose wadding is placed upon the waterproof sheet 10 and secured thereto by stitching, gluing or any suitable means.

Both the waterproof sheet 10 and the absorbent sheet 11 are cut away at their opposed edges as indicated at 12 to give them a somewhat hourglass configuration (best shown in FIG. 1).

The absorbent sheet 11 may be provided with two pairs of spaced holes or openings 13 disposed along the horizontal axis of the sheet 11. The purpose of the holes 13 will be hereinafter more fully set forth.

A multi-ply sheet 14 of creped cellulose wadding or some other water-absorbing material having a substantially rectangular shape completes the panty-diaper. The sheet 14 is placed upon the combined sheets 10, 11, as shown in FIGS. 2 and 3, and the central portion of the multi-ply sheet 14 is secured to the central portion of the sheets 10, 11, at the top and bottom thereof by stitching, gluing or in the manner shown in FIGS. 5 and 6. The sheet 14 is then folded inwardly upon itself along the fold lines 15, 16, in the manner shown in FIG. 2 to form a longitudinally extending pad 17 of moisture-absorbing material.

The outwardly extending portions of the sheets 10, 11, are then folded inwardly upon themselves until the spaced holes 13 on either side of the pad 17 are brought into register as shown in FIG. 3. The plastic sheet 10 can then be tacked to itself through the holes 13 by gluing, heat sealing or the like. The panty-diaper will then have the appearance shown in FIG. 4.

As a result of the construction hereinabove set forth, it will be seen that when the combined disposable diaper and baby panty is placed upon the body of an infant, it will assume the shape shown in FIG. 7. The two short sides of the rectangular diaper are pinned together as indicated at 19 and the legs of the infant will extend through the openings 20. By reason of the tacking of the plastic sheet through the holes 13, a small flap 21 is created, which becomes a partially upstanding flap when the diaper is applied to the body of the infant to form a small moisture and soil-retaining chamber within the diaper. This flap 21 prevents escape of these materials from the diaper around the legs of the infant.

It will be also observed, that the soft absorbent portion of the sheet 14 and the pad 17 are disposed against the body of the infant, whereas a waterproof panty encloses the moisture-absorbing portion of the diaper.

Referring to FIG. 5 there is shown a further embodiment of the present invention in which tabs 22 are formed on the plastic sheet 10 and the water-absorbing sheet 11 at each end thereof for the purpose of securing the said sheets together. In this embodiment holes 22a are provided in the absorbent sheet 11 following which the tabs are folded over as shown in FIG. 6 at 23. The plastic sheet 10 is then tacked to itself through the holes 22a as indicated at 24 in FIG. 6. In this manner, the absorbent sheet is secured in place without the need of additional stitching, although said stitching has been shown in FIGS. 5, and 6. In addition, the pad 17 may be secured to the assembly at the same time by interposing it between the flap 21 and the absorbent sheet 11 before the sealing is accomplished and providing corresponding holes (not shown) in the pad 17 which are in register with the tab holes 22a.

The effect of the construction in FIGS. 5 and 6 is to greatly reduce the cost of the combined baby panty and disposable diaper by eliminating the need for extensive stitching. The operation of the second embodiment is the same as the first, including the tacking of the combined sheets 10 and 11 by means of the holes 13 as hereinabove more fully described.

After the diaper has been used, it is a simple matter to tear the pad 17 away from the panty-portion of the assembly and dispose of it by flushing it down a water closet.

From the foregoing it will be seen that there has been provided a combined disposable diaper and baby panty, which is simple in construction, capable of preventing leakage during use, and which will not present a plastic surface to the body of the infant during use. The simplified construction lends itself to economical and mass production and the body conforming configuration makes it easy to apply.

While the above device has been described in connection with use for babies, it is to be understood that it is within the purview of the present invention to use it for incontinent adults, hospital purposes and the like.

Having thus fully described the invention, what is claimed as new and desired to be secured by Letters Patents of the United States, is:

I claim:

1. A combined disposable diaper and baby panty comprising a first sheet of waterproof plastic material, a second sheet of water absorbent material overlying the plastic sheet said first and second sheets being of substantially the same size and shape and having opposed parallel margins, and opposed inwardly curved margins to give them an hourglass configuration, the second sheet having pairs of spaced opening along the horizontal axis thereof spaced inwardly of the curved margins, means to secure the first sheet to itself through the said spaced openings and inwardly fold the curved margin portions of the first and second sheets to provide a somewhat diamond-shaped opening therebetween and an elongated pad member formed of a multiply water absorbing material secured to the first and second sheets along the vertical axis thereof and at

their parallel margins.

2. A device according to claim 1 in which the first and second sheets are secured together along their edges.

3. A device according to claim 1 in which the first sheet is secured to itself through the second sheet opening by heat-sealing means.

4. A device according to claim 1 in which the inner curved portions of the first and second sheets between the sheet-securing openings and the curved margins are free.

5. A device according to claim 1 in which each of the parallel margins is formed with an outwardly extending tab and in which the portion of the second sheet comprising part of the tab and the portion of the second sheet adjacent said tab is provided with openings whereby the tab may be folded inwardly upon the said second sheet and the first sheet received to itself through the said openings.

6. A device according to claim 5 in which the pad member is also provided with openings in the second sheet adjacent the tab and disposed upon the second sheet whereby the pad member can be secured in place upon the second sheet by the first sheet tabs.

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